

# **COCHISE COLLEGE**

**1996-1997 CATALOG**

# COCHISE COLLEGE CATALOG

## 1996/1997



### COCHISE COLLEGE

#### DISTRICT OFFICES

4190 West Highway 80  
Douglas, Arizona 85607-9724  
(520) 364-7943

#### SIEERRA VISTA CAMPUS

901 North Colombo  
Sierra Vista, Arizona 85635  
(520) 515-0500

#### WILLCOX CENTER

1110 West Fremont  
Willcox, Arizona 85643  
(520) 384-4502

#### Toll Free 1-800-966-7943

(Hours 8:00 a.m. to 4:00 p.m. weekdays)

#### GOVERNING BOARD

Mr. Bob Nelson, Chair  
Mr. Natalio Sabal, Secretary  
Mrs. Jeanne Aughenbaugh, Member  
Mrs. Jan Guy, Member  
Mr. Fred Dunsmore, Member

#### ARIZONA STATE COMMUNITY COLLEGE BOARD

Mr. Ted Fichtl, Cochise County Representative

#### PRESIDENT

Dr. Walter S. Patton

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

Published: April 1996.

Cochise College is an equal opportunity, affirmative action employer and educational institution committed to excellence through diversity. Please turn to page 226 for further information.

# ACADEMIC CALENDAR

## 1996-97

### FALL SEMESTER 1996

AMT, Phase I, III, V begins	July 8
Avionics begins	July 8
Professional Pilot begins	July 29
Fall Registration (SVC only)	August 5
Fall Registration	August 6-8
Faculty return	August 12
Fall registration	August 13-16, 19, 20
Residence Halls Open	August 18
Classes begin	August 21
Last day for adding classes	August 28
Friday/Saturday classes will meet	August 30, 31
Labr Day Holiday	September 2
Last day to change subject level	September 18
Faculty In-Service (No day or evening classes)	September 24
AMT, Phase I, III, V ends	September 26
Avionics ends	September 26
AMT, Phase II, IV begins	September 30
Avionics begins	September 30
Graduation filing deadline for diplomas & certificates (Dec. grads)	October 4
Mid-semester exams	October 7-11
Friday/Saturday classes will meet	October 11,12
Columbus Day Holiday	October 14
Last day to drop classes without academic penalty	October 18
Last day to change to audit status	October 18
Friday/Saturday classes will meet	November 8, 9
Veterans' Day Holiday	November 11
Thanksgiving recess	November 28-30
Final exams (once a week only classes)	December 3-9
(all other classes)	December 10-16
AMT Phase II, IV ends	December 19
Avionics ends	December 19
Professional Pilot ends	December 20
Christmas recess (all staff)	December 20-January 6

### Fall Eight-Week Sessions

First Session	August 21-October 16
Last day to add classes	August 23
Last day to change subject level	September 4
Last day to drop classes without academic penalty	September 20
Second Session	October 21-December 16
Last day to add classes	October 25
Last day to change subject level	October 31
Last day to drop classes without academic penalty	November 15

### SPRING SEMESTER 1997

Faculty and Staff return	January 7
AMT Phase I, III, V begins	January 7
Avionics begins	January 7
Spring registration	January 8-10, 13, 14
Residence Halls Open	January 12

Professional Pilot begins	January 1
Classes begin	January 15
Friday/Saturday classes will meet	January 17, 18
Martin Luther King Holiday	January 20
Last day for adding classes	January 23
Last day to change subject level	February 12
Friday/Saturday classes will meet	February 14,15
Presidents' Day Holiday	February 17
Graduation filing deadline for diplomas & certificates (May graduates)	February 28
UA/ASU priority financial aid application deadline	February 28
Mid-semester exams	March 10-14
Last day to drop classes without academic penalty	March 21
Last day to change to audit status	March 21
Spring recess	March 24-28
AMT Phase I, III, V ends	March 27
Avionics ends	March 27
AMT, Phase II, IV begins	March 31
Avionics begins	March 31
NAU priority financial aid application deadline	April 15
Annual Awards Ceremony	
Sierra Vista campus	May 6
Douglas campus	May 7
Final exams (once a week only classes)	May 6-12
(all other classes)	May 7-12
Cochise College priority financial aid application deadline	May 15
Commencement (Friday)	May 16
Memorial Day Holiday	May 26
Professional Pilot ends	June 13
AMT Phase II, IV ends	June 19
Avionics ends	June 19

### Spring Eight-Week Sessions 1997

First Session	Jan 15-March 5
Last day to add classes	January 17
Last day to change subject level	January 30
Last day to drop classes without academic penalty	February 14
Second Session	March 6-May 12
Last day to add classes	March 10
Last day to change subject level	March 21
Last day to drop classes without academic penalty	April 15

### Summer Sessions 1997

First Session	May 27-June 26
Second Session	June 30-July 31
Eight-Week Session	May 27-July 17

### English and Spanish Immersion Programs 1997

To be announced in  
Spring Schedule '97

# CONTENTS

<b>ACADEMIC CALENDAR</b>	2
<b>GENERAL INFORMATION</b>	5
History of the College	5
Mission/Philosophy/Guidelines	5-6
General Education Mission Statement	
Accreditation and Affiliation	6
Governance	6
Community Services	7
The Cochise College Foundation	7
<b>COCHISE COLLEGE</b>	9
Douglas Campus	9
Sierra Vista Campus	9
Willcox Center	9
The Community Campus	9
Credit Classes	10
Non-Credit Classes	10
Center for Professional Development Program	10
The Small Business Development Center	10
Non-traditional Programs	11
Adult Education	11
Conference Center	11
Prison Education Program	11
Libraries	12
Campus Maps	13
<b>ADMISSION</b>	15
Policies/Procedures	15
Aviation/Nursing Programs	16
International Students	16
Residency Requirements/Regulations	17
Placement Assessment	19
<b>STUDENT COSTS</b>	21
Payment of Fees Schedule	21
Tuition Waiver Programs	22-23
Refunds	24
Board/Room	24-25
<b>FINANCIAL AID, SCHOLARSHIPS AND GRANTS</b>	27
<b>STUDENT SERVICES</b>	29
Student Development Center	29
Individual Vocational Education Program	29
Single Parent Program	29
Health Services	29
Athletics	30
Student Activities/Organizations	30
Housing and Dining	30
Student Responsibilities/Code of Conduct	31
<b>ACADEMIC REGULATIONS</b>	33
Grading System	33
Scholastic Honors	34
Unit Load Limitations	34
Probation/Suspension/Dismissal	35
Repeating Courses	35
Add/Drop Classes	36
Withdrawal From College	36
Credit by Examination	36
College Level Examination Program (CLEP)	37
USAFI/DANTES and Military Service Schools	37
Independent Study	38
Final Examinations	38
Transcripts	39
Transfer to/from Cochise College	39-40
Attendance Policy	40
Veterans Policies	40
Graduation Requirements	40
<b>DEGREES AND PROGRAMS</b>	43
University Parallel Programs	43
Occupational -Vocational Programs	43
Tech Prep	44
Academic Skills	44
Career Action Center	45
Summer Spanish/English Immersion Programs	45
Serviceman's Opportunity College for	
Active Duty (SOCAD)	46
General Education Transfer Requirements	46
Associate of Arts Degree (AA)	47
Associate of Science Degree (AS)	48
Associate of General Studies (AGS)	48
Associate of Applied Science Degree (AAS)	49
Certificate of Completion	49
<b>PROGRAMS OF STUDY</b>	51-90
Pre-Professional Programs of Study	51
Degree Programs	52-78
Certificate Programs	78-90
Arizona Department of Corrections	81
<b>COURSE DESCRIPTIONS</b>	91-211
<b>ADMINISTRATION</b>	212
<b>FACULTY AND PROFESSIONAL STAFF</b>	213-220
<b>ASSOCIATE FACULTY</b>	220-222
<b>INDEX</b>	223-224

# GENERAL INFORMATION

## **COCHISE COLLEGE - THREE DECADES OF GROWTH**

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

Cochise College has come a long way from its humble beginnings when the administration offices were first housed in the Gadsden Hotel. The opening of the College doors in September 1964 can be attributed to the efforts of the dedicated citizens of Cochise County. From the first semester, the College has been committed to serving citizens throughout the county offering classes in Willcox, Benson, Bisbee, Fort Huachuca, Sierra Vista, Douglas, and outlying areas. During the first decade the College's enrollments increased steadily as the faculty and administration worked to develop new and innovative programs.

The growth of population at Fort Huachuca and Sierra Vista and the increased interest in higher education created a need for a second campus in the western part of the county. The campus in Sierra Vista evolved from a handful of temporary buildings at Buena High School in the early 1970's to the full-fledged separate campus which opened its doors to classes in 1978 at its present location on North Colombo northwest of the city of Sierra Vista. This facility now comprises fourteen buildings which include a new Library and a new Science building.

The Willcox Center, located in a historic ranching and farming area in northern Cochise County, offers classes to the residents of the area under the supervision of the Community Campus, which provides a variety of programs and services throughout the county and region.

The development of college programs and services has included the Center for Professional Development, Small Business Development Center, Career Action Center, Conferences and Elderhostel Program, Prison Education Program, Single Parent and Individual Vocational Education Programs, Adult Education, Binational Education Programs and Fort Huachuca Military Education Programs.

Under the leadership of Dr. Walter S. Patton, Cochise College continues to provide quality educational opportunities to the people of Cochise County, Arizona and specific populations in the southwestern United States.

## **MISSION**

The primary mission of Cochise College is to provide education to the citizens of Cochise County. Central to this mission are teaching and learning. The College also offers educational services outside the County when these services provide benefits to the College's primary community and are compatible with the philosophy of Cochise College.

## **PHILOSOPHY**

Cochise College provides post-secondary education and educational support services to students interested in and capable of benefiting from programs of higher education.

The College prepares students for a successful life beyond college by promoting the principles of general education as set forth in the College's General Education Mission Statement. Students should leave Cochise College with varied learning experiences and an understanding of the diversity of life.

The College makes students aware of their ethical responsibilities to the community, the environment, and their fellow human beings.

The College provides educational opportunities, resources, and programs tailored to changing social, economic, and technological needs.

## **GUIDELINES**

In following its philosophy the College must:

- have a qualified faculty and staff with the ability and skills to develop and implement educational programs which meet the needs of the community.
- provide the faculty and staff with the means for development and growth.
- provide opportunities for all students to improve their skills in written and oral communication, critical thinking and reading, and information processing.
- provide curriculum for transfer degree programs, career preparation, job training, and life-long learning.
- encourage student success in an environment that promotes intellectual growth in college and beyond.
- cooperate with business, government, and other educational institutions, and participate in the economic life of the community.
- work with students and other members of the community in a candid, impartial, and ethical manner.
- strive to provide current and accurate information and resources to students and the community.
- provide equal access to instruction and student support services.
- maintain a program of developmental education as necessary.

## **GENERAL EDUCATION MISSION STATEMENT**

General Education at Cochise College provides students with knowledge, information, and technical skills essential for a successful life. To help students acquire these, Cochise College stresses the importance of self-esteem, self-confidence, independent learning, and the ability to adapt to a changing environment. In its desire for excellence the College

emphasizes the importance of students establishing realistic goals.

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

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

## **ACCREDITATION AND AFFILIATION**

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

## **GOVERNANCE**

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

## **COMMUNITY SERVICES**

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

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

## **THE COCHISE COLLEGE FOUNDATION**

The Cochise College Foundation, incorporated March 20, 1967, supports the educational objectives of Cochise College. It has a county-wide membership of fifteen men and women interested in promoting the goals of the College. The Foundation, having received Internal Revenue Service qualification, is a recognized avenue for the receipt of money, property or other items of value bequeathed or donated for the benefit of the College.

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



# COCHISE COLLEGE

## DOUGLAS CAMPUS

The seventeen-building Douglas campus serves approximately 1,300 students each semester with a diverse curriculum of general education, liberal arts, and occupational programs including Administration of Justice, Agriculture, Aviation Maintenance, Pro-pilot, Avionics, Business, Computer Science, Media Arts, Motor Transportation, Nursing, and Office Education. The campus includes a student union, residence halls for men and women, apartments for married students, a rodeo arena, and a physical education facility including an Olympic-sized swimming pool, wellness center and weight room. In addition, the campus has an on-campus airport, a new Macintosh lab to complement the existing computer lab, a theater, and classrooms and laboratories for both occupational and liberal arts programs.

The campus also includes a Student Development Center, athletic facilities, and the College Administration building. The Charles Di Peso Library provides resources and facilities for students, staff and the community.

## SIERRA VISTA CAMPUS

The Sierra Vista campus is located just off Charleston Road at the eastern edge of Sierra Vista, approximately one mile northeast of the junction of State Highways 90 and 92. The Sierra Vista campus serves approximately 3,000 students each semester in the greater Sierra Vista/Fort Huachuca area, with a diverse curriculum of general education, liberal arts, and occupational programs including Administration of Justice, Computer Science, Drafting and Design, Electronics, Office Education, Business, Hospitality, Nursing, Welding, Electronics, and Manufacturing Engineering. Students who cannot attend classes Monday through Thursday may take classes offered only on Fridays and Saturdays.

The Sierra Vista campus has fifteen buildings including a new 22,000 square-foot library and a 16,000 square-foot science building.

The Cochise College office on Fort Huachuca is located in the Army Education Center, Building 52104. This office provides full advising services to military students and their families. Military students may have their military education evaluated for college credit in accordance with the American Council of Education recommendations. The Cochise College office provides assistance in sending for transcripts from other colleges and universities, CLEP, and USAFI/DANTES exams. The Cochise College math/English placement test is administered every Tuesday at 1:00 p.m. at the Army Education Center.

To meet the needs of military students, the College offers classes each semester on post, usually in eight-week sessions.

## WILCOX CENTER

The Cochise College Willcox Center is located at 1110 West Fremont, adjacent to the Willcox Unified School District Offices.

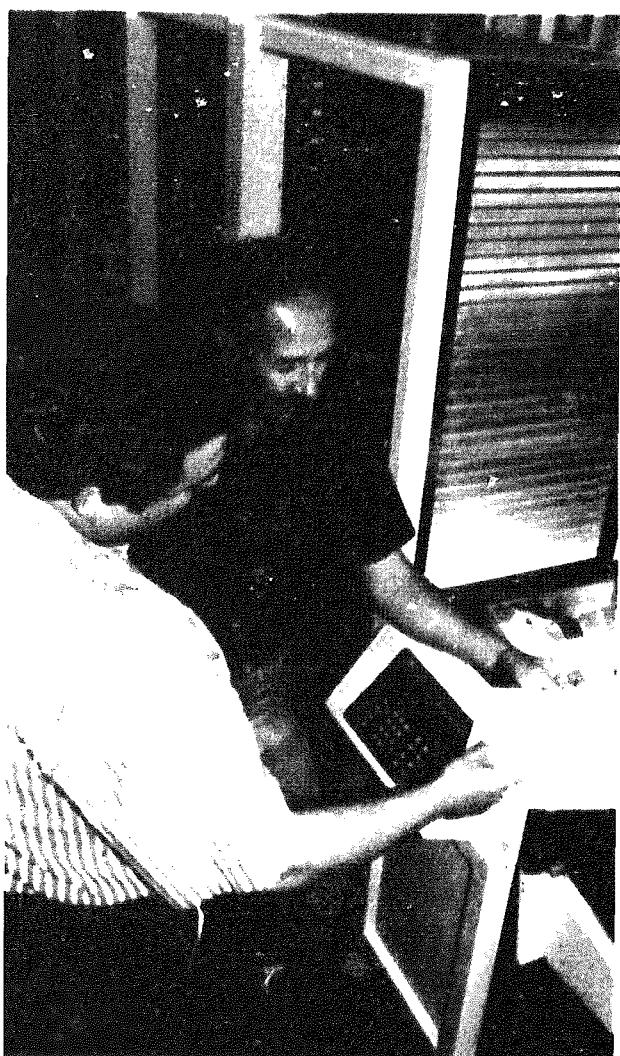
The Center, serving approximately 175 students with day and night classes, has five classrooms, a computer lab and a library. Full-time staff are available to assist students with admissions, registration, placement testing and financial aid.

## COMMUNITY CAMPUS

Bringing college courses and programs to locations where people live and work, the Community Campus provides credit, non credit, and small business development programs throughout Cochise County, and professional development courses and services throughout the Southwest. The Community Campus maintains a center in Willcox and utilizes the facilities in public schools, businesses, and public-sector agencies in communities throughout the County.

## **CREDIT CLASSES**

College classes taught in the Community Campus are equal in content and requirements to those taught at the Cochise College campuses. Classes are taught by both full-time College faculty and associate faculty from business, industry and the public-education sectors. All faculty are certified to teach by the College and the Arizona Community College Board. Credit classes are offered primarily in the evening throughout Cochise County.



## **NON-CREDIT CLASSES**

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

## **CENTER FOR PROFESSIONAL DEVELOPMENT PROGRAM**

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

## **SMALL BUSINESS DEVELOPMENT CENTER (SBDC)**

The Small Business Development Center (SBDC) is a jointly sponsored program of Cochise College and the U.S. Small Business Administration. The SBDC assists small businesses throughout Cochise County in developing skills and procedures to help them succeed. The SBDC works with owners to help them acquire methods and tools to meet the challenges of operating their businesses. The SBDC offers low-cost, practical training sessions on a variety of topics related to starting and running a business. The SBDC also offers free individual consultation in areas of concern to the business owner. Training and

consultation are offered throughout the county. The SBDC has a resource center with books, periodicals, videos and other materials to aid in starting and running successful small businesses.

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

## **NON-TRADITIONAL PROGRAMS**

### **ADULT EDUCATION**

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

### **CONFERENCE CENTER**

The Conference Center organizes conferences, camps and study tours held on and off campus. The Center's Elderhostel program for older adults provides over fifty-five programs per year throughout Cochise County, as well as educational trips to Copper Canyon, Puebla, Kino Bay, La Paz, Guadalajara and the Colonial cities in Mexico. Students receive academic credit for classes which include art, history, literature, humanities, science of the Southwest, Indians of the American Southwest, birding, and photography.

### **PRISON EDUCATION PROGRAM**

This program offers a wide range of developmental, academic, personal development and vocational courses and programs to meet the diverse needs of inmate students. All credit courses are selected from the College catalog and taught by faculty certified by the Arizona Community College Board. Business skills, masonry, general electronics, building maintenance, and horticulture programs are unique to the Prison Education Program, as are classes in pre-release and life success skills.



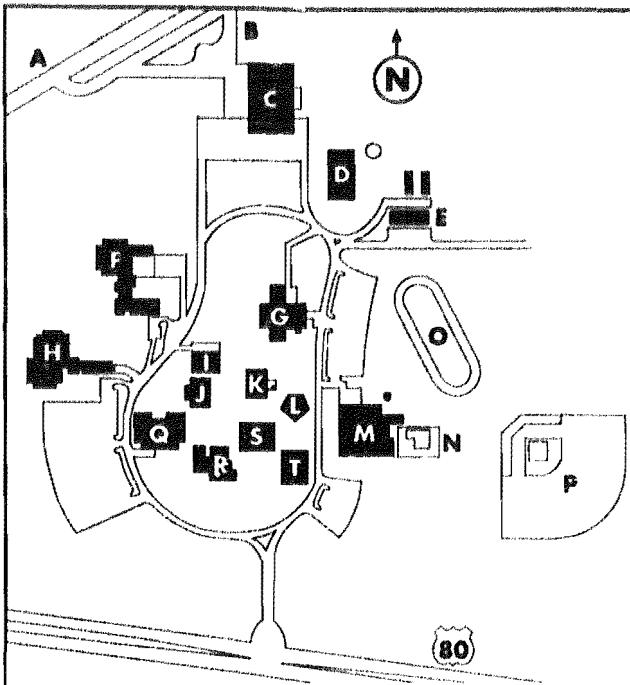


## **LIBRARIES**

Moving into the 21st century, the Cochise College Libraries combine traditional library services with new technologies which include CD-ROM references, faculty/student access to the Internet, a computerized catalog on CD-ROM and laserdisc technology.

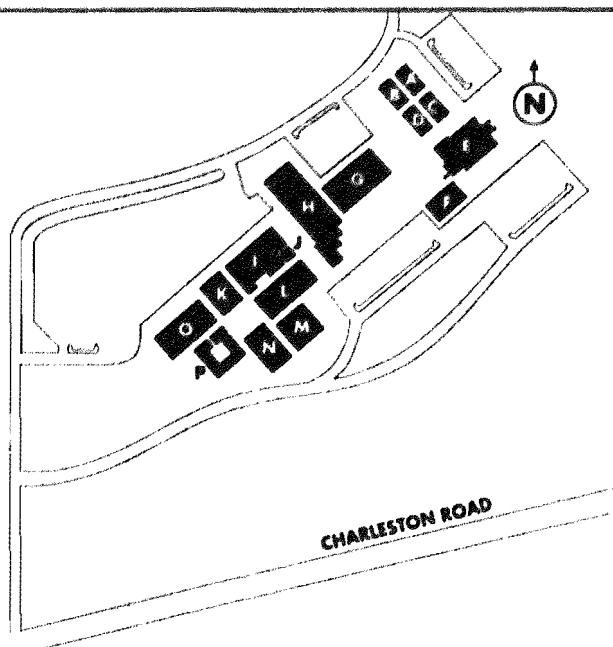
The Charles Di Peso Library, located at the Douglas campus, is a modern 18,000 square-foot library complete with an instructional media studio and classroom facilities. The Andrea Cracchiolo Library, at the Sierra Vista campus occupies a 22,000 square-foot building, containing state-of-the-art library equipment and materials. The Willcox Center also has a small access library.

The Libraries have in excess of 60,000 volumes, 1,200 video titles and 300 periodical subscriptions. Students have access to the catalog and periodical indexes on CD-ROM, as well as a full range of instructional and media software and hardware.



## DOUGLAS CAMPUS

- A Runway
- B Taxiway
- C Technology Center
- D Art & Agriculture
- E Maintenance
- F Chiricahua Hall
- G Science & Math
- H Huachuca Hall
- I Student Services
- J Student Development Center & Communications
- K Music & Bookstore
- L Little Theatre
- M Apache Stronghold Gymnasium
- N Pool
- O Track
- P Baseball Field
- Q Student Union
- R Charles Di Peso Library,  
Languages & Reading Communications
- S Business Education/Computer Labs
- T Administration & Business Office



## SIERRA VISTA CAMPUS

- A Career Action Center
- B Community Services
- C Tutoring Services
- D Math
- E Science
- F Adult Education
- G Technology
- H Andrea Craccholo Library
- I Languages & Music
- J Security
- K Administration & Student Union
- L Computer Labs
- M Student Development Center
- N Student Services
- O English & Social Sciences
- P Art

# ADMISSION

## POLICIES

### ADMISSION AS A REGULAR STUDENT

Admission to Cochise College may be granted to any person who meets one of the following criteria:

1. Is a graduate of a high school which is accredited by a regional accrediting association as defined by the United States Office of Education or approved by the Arizona Board of Education or the appropriate state educational agency.
2. Has a high school certificate of equivalency, such as a GED.
3. Is 18 years of age or older on or before the first day of classes for which application is being made.
4. Is a regular transfer student in good standing from another college or university.

### ADMISSION OF STUDENTS UNDER 18 YEARS OF AGE

Applicants under 18 years of age, should contact the Admissions Office at the Sierra Vista or Douglas campus for details on eligibility for admission.

### RE-ADMISSION

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

## PROCEDURES

### GENERAL ADMISSION

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

1. Application for Admission.
2. \$10 application fee for students classified as out-of-state for tuition purposes.

3. High School Transcripts — All applicants under the age of 18 are required to submit either an official high school transcript or GED certificate with test scores before registration will be permitted. Final high school transcripts or GED certificate is required of all students who apply for any Financial Aid Program offered through Cochise College. High school transcripts must be sent directly by the sending institution to the Transcript Office. Official Transcripts carried by the applicant will not be accepted if previously opened.
4. College Transcripts — Applicants who have attended college elsewhere must submit an official transcript of college work in order for coursework to be considered by Cochise College for graduation purposes. College transcripts must be mailed directly by the sending institution to the Transcript Office. Official Transcripts carried by the applicant will not be accepted if previously opened.
5. Student Health Record: Part II — This self-appraisal form must be completed by all applicants applying for admission to the Aviation or Nursing programs or who wish to live in the residence halls at the Douglas Campus. The College reserves the right to require a physical examination or immunizations when deemed necessary by the College Nurse or by a particular college instructional program.
6. Out-of-County Affidavits — Residents of Apache, Gila, Greenlee and Santa Cruz counties must submit affidavits of residency before registration each semester. Out-of-county tuition will be paid by the county of residence. The in-state tuition is the responsibility of the student. Forms are available at the Admissions Office.

## **DISCLOSURE OF SOCIAL SECURITY ACCOUNT NUMBER**

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

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

## **ADMISSION TO THE AVIATION PROGRAM**

Students seeking admission to the Aviation programs -- Pro-Pilot, Avionics, or Aviation Maintenance Technology -- should contact the Aviation Division well in advance of their planned entry date. The Division will arrange a pre-entry conference and placement test with the student.

## **ADMISSION TO THE NURSING PROGRAM**

While admission to Cochise College is the initial step for entrance into the Nursing program, it does not guarantee acceptance into the Nursing Program. Nursing is a limited-enrollment curriculum which frequently has more applicants than can be accepted.

A student must apply for admission to the nursing program and take the Nursing Entrance Test (NET). The NET is usually given in February and should be taken the same year prior to the fall semester of expected admission to nursing courses.

Contact the Nursing Division for additional information regarding criteria for regular admission, or for special admission to enter second semester freshman courses, or for admission by LPNs (Licensed Practical Nurses) and LVNs (Licensed Vocational Nurses).

## **ADMISSION OF INTERNATIONAL STUDENTS**

All international students must have a high school equivalency or be at least 18 years of age at the time of registration for classes (at least 16 years of age

for summer English Immersion program only). All full-time international students must attend on an F-1 Visa. Part-time enrollment will be permitted only for students who cross daily on a Border Crossing Card.

The Admissions Office will issue a letter of admission and an Immigration Form I-20 only after receiving and approving the following documents:

1. Application for Admission
2. \$10 Application Fee
3. Student Health Record - Part I
4. Student Health Record - Part II (including required laboratory reports)
5. Official High School Transcripts
6. Official College Transcripts (if applicable)
7. Statement of Financial Guarantee
8. Housing Application and deposit (if College housing is desired)

International students must report to the Admissions Office upon arrival at Cochise College. Each student must maintain full-time status for both the fall and spring semesters. This requires completion of a minimum of twelve units for each semester.

English proficiency testing will be required of all international students whose first language is not English. The student may be required to enroll in intensive English courses. Those students who place in an advanced level may take classes outside of the English as a Second Language (ESL) program in addition to their required English classes. International students are expected to meet the same graduation requirements as any student applying for graduation.

All international students must maintain up-to-date records with the International Advisor and the Registration Office which indicate a current living address and admission number. International students may not work off campus. On-campus employment may be authorized under certain conditions.

## **STUDENTS WITH SPECIAL NEEDS**

Students with a documented physical, emotional, or learning disability who would like information about accommodations provided by the College, should contact the ADA Coordinator.

## **RESIDENCY REQUIREMENTS**

### **RESIDENCY REGULATIONS**

Each student applicant shall have legal residency determined prior to the time of registration and payment of fees. It is the responsibility of the applicant to register under the correct residence determination. Enforcement of residence requirements and regulations shall be the responsibility of the Chief Executive Officer of each community college district.

Appeal of residency interpretation or judgments rendered by the College administration shall be handled through appeal channels as established by the District Governing Board in accordance with the Arizona Revised Statutes which determine classification for tuition purposes.

Published below are the Arizona Revised Statutes. (ARS 15-1801 et seq.) and Cochise College Policy definitions which determine classification for tuition purposes.

### **DEFINITIONS**

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

**Armed Forces of the United States** means the Army, the Navy, the Air Force, the Marine Corps, the Coast Guard, the Commissioned Corps of the United States Public Health Services and the National Oceanographic and Atmospheric Association. (ARS 15-1801)

**Continuous attendance** means enrollment at an educational institution in this state as a full-time student, as such term is defined by the governing body of the educational institution, for a normal academic year since the beginning of the period for which continuous attendance is claimed. Such person need not attend summer sessions or other such intersession beyond the normal academic year in order to maintain continuous attendance. (ARS 15-1801)

**State resident** means a person who is domiciled in the State of Arizona for not less than one year (365 days). (ARS 15-1802)

**County resident** means a person who is domiciled in the State of Arizona for not less than one year and who has been physically present in the county for at least fifty (50) days prior to the first day of classes of the semester. (R7-1-23)

**A dependent** is any person (son, daughter, or legal ward) who receives over half of his/her support for the calendar year from a parent or guardian, as documented on the federal income tax form, who is domiciled in Arizona

**Domicile** means a person's true, fixed and permanent home and place of habitation. It is the place where he/she intends to remain and to which he/she expects to return when he/she leaves without intending to establish a new domicile elsewhere (ARS-15-1801)

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

**Emancipated person** means a person who is neither under a legal duty of service to his/her parent nor entitled to the support of such parent under the laws of this state (ARS-15-1801)

**Parent** means a person's father or mother, or if one parent has custody, that parent, or if there is no surviving parent or the whereabouts of the parents are unknown, then a guardian of an unemancipated person if there are 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 (ARS 15-1801)

## **IN-STATE STUDENT STATUS**

Except as otherwise provided in this article, no person having a domicile elsewhere than in this state is eligible for classification as an in-state student for tuition purposes. (ARS 15-1802)

A person is not entitled to classification as an in-state student until he/she is domiciled in this state for one year, except that a person whose domicile is in this state is entitled to classification as an in-state student if he/she meets one of the following requirements:

1. His/her parent's domicile is in this state, for no less than one year, and his/her parent is entitled to claim him as an exemption for state and federal tax purposes.
2. He/she is an employee of an employer which transferred him/her to this state for employment purposes or he/she is the spouse of such employee.
3. The domicile of an unemancipated person is that of such person's parent. Any unemancipated person who remains in this state when such person's parent, who had been domiciled in this state moves from this state is entitled to classification as an in-state student until attainment of the degree for which currently enrolled, so long as such person maintains continuous attendance.
4. A person who is a member of the Armed Forces of the United States stationed in this state pursuant to military orders or who is the spouse or dependent child as defined in section 43-1001 of a person who is a member of the Armed Forces of the United States stationed in this state pursuant to military orders is entitled to classification as an in-state student. The student while in continuous attendance toward the degree for which currently enrolled, does not lose in-state student classification.
5. A person who is member of an Indian tribe recognized by the United States Department of the Interior, whose reservation land lies in this state and extends into another state and who is a resident of the reservation, is entitled to classification as an in-state student.

## **STUDENT STATUS REGULATIONS**

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

### **CONCURRENT ENROLLMENT: NONRESIDENT TUITION**

- A. It is unlawful for any non resident student to register concurrently in two or more public institutions of higher education in this state, including any university or community college, for a combined student credit hour enrollment of more than six semester hours without payment of nonresident tuition at one of such institutions.
- B. 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 and who is not subject to nonresident tuition at any of such institutions shall pay the nonresident tuition at the institution of his/her choice. The amount will be equivalent to nonresident tuition at such institution for the combined total of semester hours for which the nonresident student is concurrently enrolled. (ARS 15-1807)

## **PROOF OF RESIDENCY: IN-STATE**

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

At least three (3) of the following items shall be used to establish proof of residency:

1. Filing of state income tax report for the previous year.
2. Current registration of motor vehicle in Arizona.
3. Current registration as a voter in the state.
4. Arizona driver's license issuance date.
5. Graduation from Arizona high school.
6. Bank statement (checking or savings) from an Arizona Banking institution.
7. Source of support (Employer).
8. Dependency as indicated on federal income tax declaration (for dependents).
9. Notarized statements of landlord and/or employer.

## **PLACEMENT ASSESSMENT**

Success in college depends upon placement in courses best suited to a student's academic skill levels. **Applicants must complete placement assessment before registering for any course with an academic skills prerequisite.**

A degree- or certificate-seeking student must complete placement testing prior to initial enrollment or no later than at the completion of seven units. Students who believe that the assessment process has inaccurately measured their academic skills proficiency may:

1. repeat the same or alternative College approved assessment test(s), a maximum of one time per semester or;
2. submit a written appeal to the Vice President for Instruction or designee following established guidelines. The decision of the Vice President of Instruction is final.

## **REGISTRATION INFORMATION**

New and returning students in good academic standing can register for classes during early registration as well as regular registration periods. Late registration is allowed through the first week of classes.

## **DISCLOSURE OF EDUCATION RECORDS**

Cochise College shall not permit the disclosure of information from educational records or personally identifiable information contained therein other than Directory Information of students without the written consent of the student to any individual, agency, or organization other than in specific situations as outlined by the Family Educational Rights and Privacy Act of 1974, its amendments and the final rule of the U.S. Department of Education. Students may withhold disclosure of any Directory Information by submitting written notification to the Records Office prior to the first day of classes each semester. Failure on the part of any student to specifically request the withholding of Directory Information, indicates individual approval for disclosure.

Cochise College designates the following items as Directory Information: student name, address, telephone number, date and place of birth, major field of study, participation in officially recognized activities and sports, weight and height of members of athletic teams, dates of attendance, degrees and awards received, and most recent previous school attended.

# STUDENT COSTS

## TUITION AND FEES

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

## PAYMENT OF FEES SCHEDULE

All students must have sufficient funds to defray their immediate expenses at the time of registration. All fees are payable as the final step in the registration process. Cochise College accepts checks for the total amount due for tuition and fees.

Past due accounts may be turned over to a collection agency, and the student will be liable for collection/attorney fees incurred.

For specific registration and payment dates, please consult the fall or spring class schedule.

In the event a check is returned unpaid by the bank, a \$20 service fee may 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 may be dropped from all classes. All remaining charges must be paid in full prior to any future registration.

All book purchases will be on a cash-only basis with the exception of Vocational Rehabilitation Education students, Veteran's Vocational Education and qualified veterans.

## MISCELLANEOUS FEES

Credit by Examination	
(non-refundable) per unit .....	\$8
(may require additional special lab fee)	
Senior "Golden Apache" Tuition Fee	
(60 years or older, resident of Cochise County)	
One-time application fee .....	\$5
Regular credit courses only (per unit) .....	\$13
CLEP General and Subject Examination	
per test .....	\$45
Transcript fee - Official .....	\$3
Unofficial .....	\$3
Returned check fee	
(for each returned) .....	\$20
EMT insurance (subject to change) .....	\$35
Nursing insurance (subject to change) .....	\$12
ID cards .....	\$3
Replacement of ID card or meal card .....	\$5
Drop/Add Courses .....	\$7.50
Graduation fee .....	\$20
Out-of-state application fee .....	\$10
Co-Op Education Courses (per credit hour) .....	\$13.50
<b>DEPOSITS</b>	
Residence Hall Housing .....	\$100*
Family Housing Apartments .....	\$150*
*Required with housing application and does not apply toward room and board fees.	
Professional Pilot .....	\$ 90+
Airframe and Powerplant .....	\$ 90+
+A non-refundable deposit which will be applied to aviation tuition and/or fees.	

## **STUDENT FEE INFORMATION FOR 1996/97 FISCAL YEAR**

### **I. Tuition - Regular/Summer and Professional Pilot**

**Registration Fee**  
(Non-refundable) ..... \$ 15 per student

#### **Regular/Summer**

In-State ..... \$ 26 per unit  
Out-of-State-1-6 unit ..... \$ 39 per unit  
over 6 units ..... \$158 per unit  
(retroactive to 1 unit)

#### **Pro-pilot**

In-State Flight Courses ..... \$127 per unit  
Out-of-State Flight Courses ..... \$158 per unit

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

**If Financial Aid is pending, 100% of fees are due at time of registration.**

All registration, tuition and lab fees are 100% payable at time of registration.

### **II. Tuition - Aviation Maintenance Technology**

#### **In-State**

Phase I = 19 units ..... \$509  
(\$26 per unit + \$15 regis. fee)

Phase II, III, IV, V = 17 units ..... \$457  
(per phase)  
(\$26 per unit + \$15 regis. fee)

#### **In-State Lab Fee**

Phase I, II, III, IV, V ..... \$210

#### **Out-of-State**

(includes room/board/tuition & fees)

Phase I = 19 units ..... \$3,485

Phase II, III, IV, V = 17 units ..... \$3,151 (per phase)

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

#### **A. Regular Students - 17 weeks**

	Semester	Private Room Add'l
** Room	\$ 545	\$250 per semester
** Board	\$ 958	
Total	\$1,503	

Apartments are \$285 per month, payable monthly in advance.

### **B. Professional Pilot - 21 weeks**

	Semester	Private Room Add'l
** Room	\$ 673	\$309 semester
** Board	\$1,184	
Total	\$1,857	

Apartments are \$285 per month, payable monthly in advance.

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

	Semester	Private Room Add'l
** Room	\$ 385	\$177 semester
** Board	\$ 676	
Total	\$1,061*	

Apartments are \$285 per month, payable monthly in advance.

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

**Note to Financial Aid Students:** When financial aid has been approved and applied to student's account, any balance will be refunded to the student. Any amount unpaid after the financial aid has been applied will be due and payable by the student. Installment payments can be accepted only for room and board. Prior approval by the Business Office or a designated person is required. One-half of room and board is due at registration; the balance of room and board is due in five weeks. A promissory note signed by the student is required. All other fees for the semester must be paid in full at time of registration.

### **NEW MEXICO TUITION WAIVER PROGRAM**

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

## **GOLDEN APACHE TUITION WAIVER PROGRAM**

Arizona residents who live in Cochise County, and are sixty years of age or older, may qualify for the Golden Apache Tuition Waiver Program. To apply, the student must complete an Application for Admission, Golden Apache Waiver Application, and remit a one-time fee of \$5.00. All requests must be received prior to registration. No waivers will be accepted retroactively. Tuition charges will be fifty percent of the regular in-state tuition cost. Special tuition and registration fees, lab fees, bookstore charges, AMT tuition, flight tuition and fees, co-op and non-credit courses are not included in this discount.

The requirements are:

- Sixty years of age or older.
- Resident of Cochise County.
- Acceptance to Cochise College.
- Half-time student status at Cochise College (enrollment of six units or less).
- Maintenance of a 2.0 GPA or above.

For more information contact the Admissions Office.



## **GRADUATION FEES**

Every candidate applying for an associate degree is required to pay a graduation fee of \$20, to be paid prior to the return of the graduation application to the Student Development Center. Those completing certificate programs are not required to pay the fee.

## **FLIGHT TRAINING FEES**

Please consult the Aviation Division for current flight fees. All flight fees are subject to change without notice. For refunds of unused flight fees, see refund section.

## **LABORATORY FEES**

Lab fees are charged for those classes requiring special equipment, facilities, etc. Lab fees range from \$5 to \$400 per course. For courses charging lab fees and the amount charged, please consult the current Lab Fee Schedule.

All student lab fees are due at registration.



## **REFUNDS**

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

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

The refund schedule begins with the first day of classes 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 canceled by the college will receive a full refund of all fees for the canceled class(es). Checks will be issued for canceled classes within three weeks after the end of registration. These fees may be applied to other courses.

## **BOARD**

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

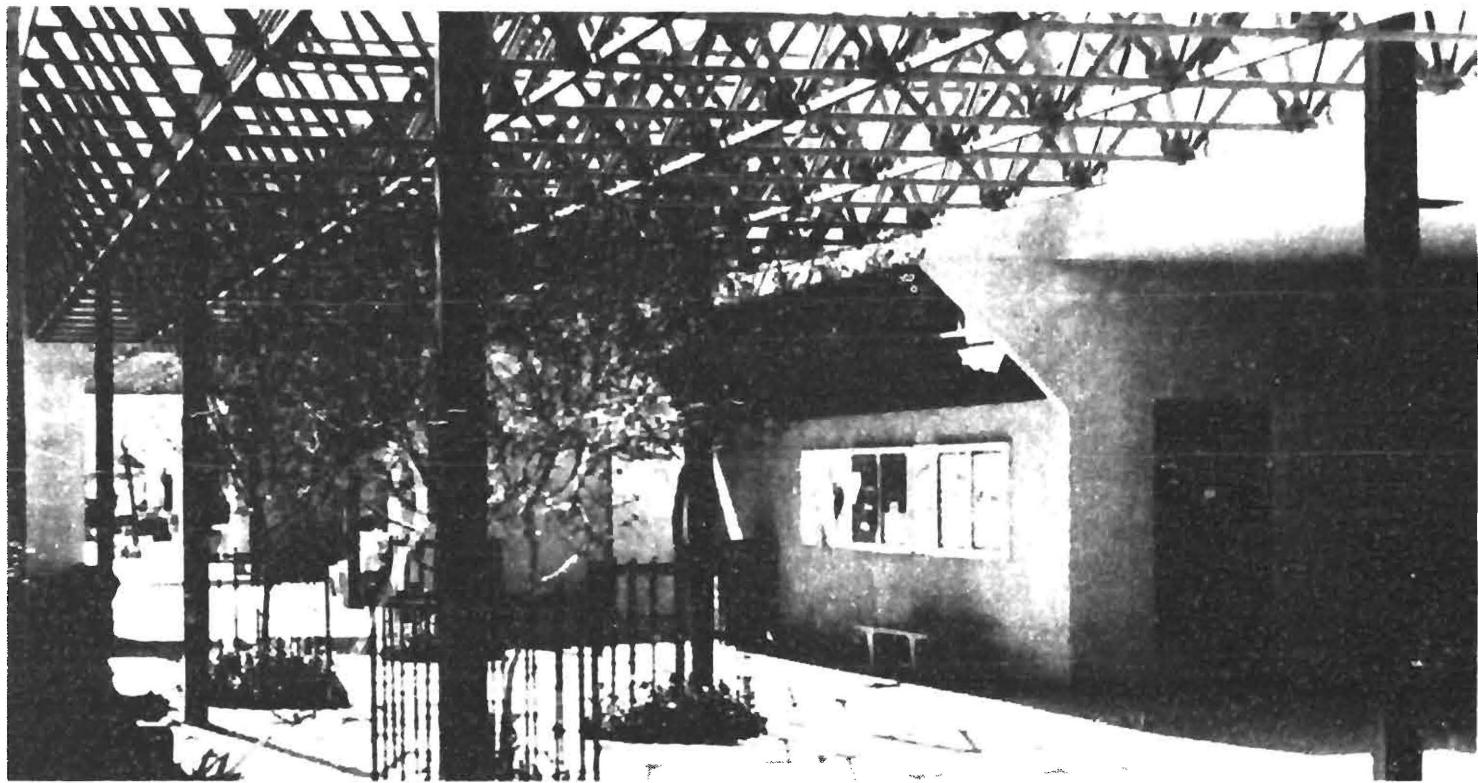
## **ROOM**

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

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

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

Students withdrawing from college or residence halls after having officially registered into a hall are not entitled to a refund of room rent. Should a student withdraw because of a legitimate medical emergency



or other unusual circumstance, the unused portion of room rent through the end of the applicable semester may be refunded with the approval of the Vice President for Student Services or designee.

#### **APARTMENT AND ROOM DEPOSITS**

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

**PLEASE NOTE:** All refunds of 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.

Cochise College provides to its students access to a full range of federal, state, and privately donated financial aid funds through the Financial Aid Office (FAO). Assistance is available to students based on financial need, academic merit, and program of study. The application process for financial aid begins with the completion of a Free Application for Federal Student Aid (FAFSA).

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

# **FINANCIAL AID, SCHOLARSHIPS AND GRANTS**

## **FEDERAL AID PROGRAMS**

### **PELL GRANTS**

The Pell Grant Program is funded by the federal government as a primary financial resource for students. Eligibility is established by the federal government and students are funded at the level appropriate to their dependency status, living accommodations, and enrollment level. The base of funding begins with the Pell Grant Program.

### **SUPPLEMENTAL EDUCATION OPPORTUNITY GRANTS**

The SEOG Program gives direct grants to undergraduate students demonstrating exceptional financial need. Eligibility is determined by the Financial Aid Office.

### **GUARANTEED STUDENT LOANS\***

The Guaranteed Student Loan Program is available to meet educational expenses. Loans are made through banks, credit unions, and other financial institutions. Applications and additional information are available from the Financial Aid Office.

### **COLLEGE WORK-STUDY\***

College Work-Study Program jobs may be career related, offering both valuable experience and income to the student. The recipient may work up to sixteen hours per week in an on-campus placement.

Various departments on campus employ students in work-study positions to perform a variety of functions. The employing department decides on the selection of the student. Under certain circumstances, a student's financial aid package may require adjustment in order to coordinate the earnings with other offers of aid. Students are interviewed after being declared eligible and then placed in jobs through the Career Action Center.

## **SCHOLARSHIPS**

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

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

\*Must be enrolled in a minimum of six units

# STUDENT SERVICES

## STUDENT DEVELOPMENT CENTER

An advising program in the Student Development Center on each campus offers students ongoing help with program planning and course placement assessments in writing, reading and mathematics. Students may sign up for peer and professional tutoring in any subject. Disabled students should contact the SDC for assistance. Personal counseling, career counseling and related testing are also available.

## ADVISING PROGRAM

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

## COUNSELING

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

## INDIVIDUAL VOCATIONAL EDUCATION PROGRAM

Individual Vocational Education Program (IVEP) is a federally funded grant program which provides spe-

cial services to students who are academically or financially disadvantaged, limited in English proficiency, or physically, emotionally, or learning disabled. Services to qualified students include workshops, special tutoring, career planning, and the provision of auxiliary aids (note-taking assistance, interpreters, and other aids as needed). In addition, the IVEP office will act as a liaison with faculty, staff, and outside agencies. Students must be enrolled in a vocational major to qualify for services. Information concerning eligibility for services can be obtained in the IVEP office in the Student Development Center.

## SINGLE PARENT PROGRAM

The Single Parent Program provides guidance and support to single parents and displaced homemakers at the Sierra Vista and Douglas campuses. Vocational programs, financial assistance, networking with other single parents, aid in problem solving, and effective referral are available to help both men and women become successful at school and in their chosen careers.

## HEALTH SERVICES

The College offers a health center at the Douglas campus directed by a registered nurse. In cases of illness or injury, students are referred to a local doctor of their choice for diagnosis and treatment.

## HEALTH INSURANCE

Student health insurance is available to all students on a voluntary basis through private health insurance companies.



## **STUDENT UNION, DOUGLAS CAMPUS**

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

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

## **ATHLETICS, DOUGLAS CAMPUS**

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

## **STUDENT ACTIVITIES**

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

## **ORGANIZATIONS**

Student organizations attempt to meet special student needs and interests. Students with similar interests may form a club in which fellow students can participate in specialized activities. Organizations are available for student participation.

## **STUDENT PUBLICATIONS**

The *Mirage*, a student literary magazine, is published once a year. A student newspaper is published periodically throughout each semester.

## **HOUSING, DOUGLAS CAMPUS**

### **HOUSING AND DINING**

The on-campus living program is designed to encourage personal growth and development. The standards of behavior established by the Department of Housing are intended to comply with and help maintain the academic environment of the College. All full-time, unmarried students not residing with parents or other relatives, guardians or friends are encouraged to reside on campus and participate in the dining program. Housing and dining services are combined. Therefore, all residential students are

automatically on the meal plan. Unmarried students reside in Chiricahua Hall (for women) and Huachuca Hall (for men).

The dining program includes three meals each day, Monday through Friday, and two meals each on Saturday and Sunday. Students have the option of taking most meals either in the cafeteria or the Qué Pas snack bar.

### **REGULATIONS**

Each resident must sign a Residence Hall contract, agreeing to all the terms and conditions of occupancy. On-campus residents are expected to comply with applicable rules and regulations as they appear in the Residence Hall and Married Housing contracts and the Student Handbook, as well as local, state and federal laws.

### **APARTMENTS**

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

### **HOUSING APPLICATIONS**

Students interested in on-campus housing are encouraged to apply early—preferably at least 60 to 90 days before the academic term begins. Housing applications will not be processed unless the prospective student has applied for admission to the College. Interested applicants may write to the Housing Office, Cochise College, 4190 W. Hwy 80, Douglas, Arizona 85607-9724 or call (520) 364-0262.

## **STUDENT RESPONSIBILITIES/ CODE OF CONDUCT**

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

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

# ACADEMIC REGULATIONS

## 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 less than 12 units during a semester.

## GRADING SYSTEM

Grades are earned in each course and 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 Falling (WF)** — Indicates withdrawal from the class after Friday of the ninth week with a grade below a C in the course. A Grade of WF is computed in the student's grade point average as an F, or failure.

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

**Incomplete (I)** — Indicates that for a justifiable reason, such as a serious illness, the student failed to complete all requirements for the course. When this happens, the instructor submits an Incomplete Grade Contract to the Registration Office with the

final grade roster. Failure to make up an incomplete during the succeeding semester will result in change from the grade of I to an F on the permanent record unless there is a contract on file in the Director of Admissions and Records Office stating otherwise. The grade of I is not computed in the student's grade point average.

**Audit (AU)** — Registration and fee policies for students who audit a course are the same as those for students who register for college credit. However, the instructor will give priority to students registering in the course for credit. Students who audit classes will not receive grades or credit. The instructor will not require audit students to take examinations or hand in assignments.

A student registering as an auditor may not change to a credit basis later than Friday of the second week of the semester. A student registering for credit may change to audit up through the Friday of the ninth week of the semester. The drop/add procedure is used to effect such changes.

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

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

## GRADE POINT AVERAGE

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 point 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 (3x4) 12 grade points. The total grade points accumulated by a student are divided by the total of units attempted (excluding W, I and AU grades) and the result is known as the student's cumulative grade point average (GPA).

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

## SCHOLASTIC HONORS

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

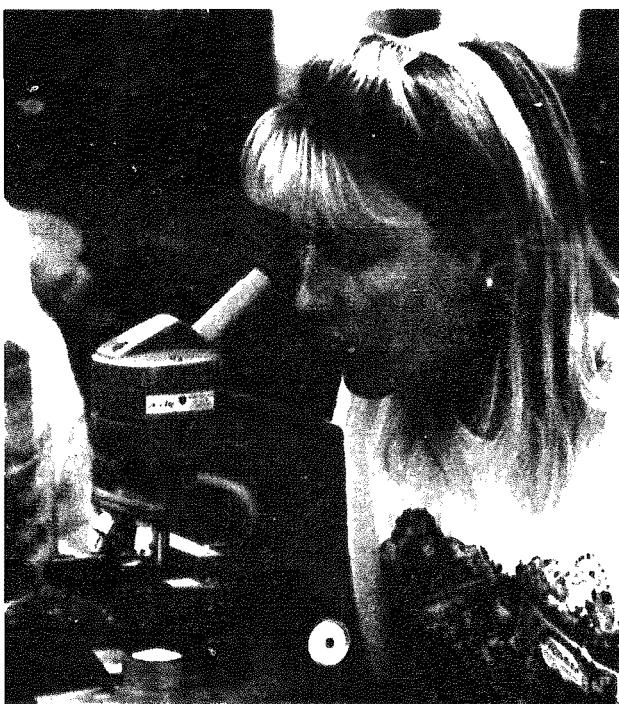
Any student who completes 12 or more units in one semester or phase at Cochise College and maintains a semester GPA of 3.500 to 3.899 will be placed on Academic Honor standing.

## UNIT LOAD LIMITATIONS

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

1. Beginning freshman (first-time college students) .....	18 Units
2. Transfer students from another college with lower than a 2.0 GPA .....	16 Units
3. Continuing students accruing 15 units and above:	
a. With a cumulative GPA of 2.5 or better .....	19 Units
b. With a cumulative GPA of 2.0-2.49 .....	16 Units
c. With a cumulative GPA of 1.6-1.99 .....	12 Units

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



## ACADEMIC PROBATION

The Vice President of Student Services will review the progress of all students at the end of each semester. Students who have not made satisfactory progress will be placed on academic probation for the next semester. A student on academic probation must consult a college counselor to develop a plan to make up deficiencies. Students receiving financial aid must consult the Financial Aid Office.

Students with questions concerning their academic status should consult the Director of Admissions and Records.

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

### NUMBER OF UNITS ACCUMULATIVE GPA

0 - 12 (or first-semester freshman)	1.50
13 - 24	1.75
25 +	2.00

## ACADEMIC SUSPENSION OR DISMISSAL

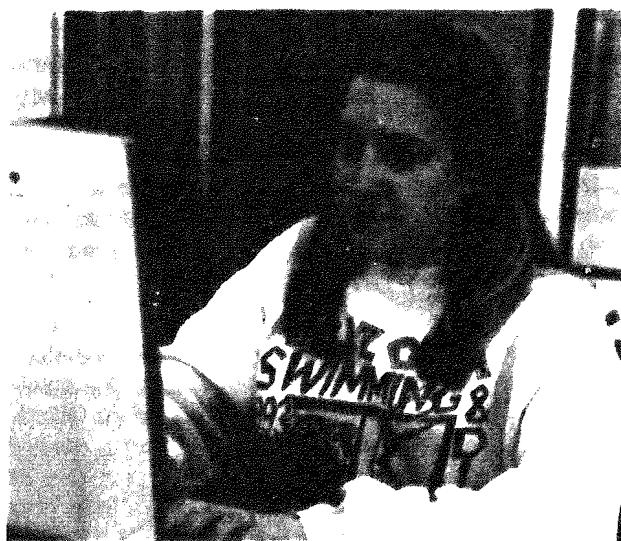
A student on academic probation must maintain an acceptable grade point average or face academic suspension. (See limitations in the academic probation section above.)

The college counselors will evaluate all available factors bearing on the student's academic record before placing the student on academic probation. The Vice President for Student Services may re-admit an academically suspended student after one semester.

## 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 students' parents or guardian. Grade reports of other students are mailed to their home address.



## CHANGE OF GRADE

A grade reported to the Registrar may be changed only upon authorization of the faculty member issuing the grade, the appropriate instructional administrator and the appropriate Vice President.

## 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

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

\* Excepting Emergency Medical Training

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

## **CHANGE OF CLASSES**

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

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

This policy does not apply to aviation programs operating under non-traditional calendar requirements or to special vocational courses officially established under open entry-open exit or short-term conditions or non-traditional semesters.

### **ADD**

1. Drop/add forms are available in the Registration Office or the Student Development Center.
2. Students must obtain the appropriate signature for the classes they wish to drop or add. Questions regarding who is considered appropriate may be directed to the Registrar's Office.
3. Students will turn in the drop/add form to the Registration Office and proceed to the Cashier's Office if there is a charge for the transaction.

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

### **DROP**

1. Instructors may drop those students who have not been attending class by marking through the student's name on the FTSE roster and recording a drop date. There will be no refunds to students for a drop made by the instructor. The student must turn in a drop/add form to be eligible for a refund.
2. No drop/add form 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 Admissions and Records Office. Upon obtaining the appropriate signatures, the form is returned to the Admissions and Records Office.

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

## **CREDIT BY EXAMINATION**

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

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

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

requirements. Credit by examination may be administered by full-time faculty only.

The student may apply for credit by examination by obtaining an application form from the Registration Office on either campus, securing permission and signatures from the appropriate instructor and instructional administrator, registering for the course by the 45th day, and paying the appropriate fees. Fees are non-refundable.

## **COLLEGE LEVEL EXAMINATION PROGRAM (CLEP)**

Cochise College accepts both the General and the Subject examinations of the CLEP for college credit, provided satisfactory scores are attained. Scores of 500 or above on all General examinations will entitle the student to six units of credit in each of the five General examinations: English Composition, Humanities, Mathematics, Natural Sciences (not to include credit for laboratory science requirements), and Social Sciences.

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 sixteen resident hours required for a degree. Three to sixteen units of credit, depending upon the examination, may be earned by scores of fifty or better on the Subject examinations. For a list of tests available and corresponding number of credit hours, please contact the Testing Center.

For students taking CLEP examinations, duplicate credit will not be awarded in subjects at the same level. Students will not be awarded credit through CLEP for courses equivalent to, or at a lower level than, other courses they have already taken through formal course work.

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

## **USAFI/DANTES AND MILITARY SERVICE SCHOOLS**

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

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

Students must complete at least one Cochise College course before credit will be granted for USAFI/DANTES or Military Service courses. Credit earned on any of these may not be used toward the sixteen resident hours required for an associate's degree. A maximum of thirty units will be allowed for credit for non-traditional learning.



## **INDEPENDENT STUDY**

Cochise College recognizes that outstanding scholarship is attained when the student achieves 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 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 chair or dean. **Existing courses may not be taken as independent studies.**

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 chair or dean, 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 take place only during the academic year, excluding summer sessions.

After signing the contract, the student shall complete a drop/add form and submit both documents to the Office of the Director of Admissions and Records. Independent studies are subject to drop fees. Contracts are subject to the same grading stipulations and other procedures set forth by the Office of the Director of Admissions and Records as regular classes.

## **FINAL EXAMINATIONS**

Final examinations serve an important purpose in the academic process. Failure to include a substantive final examination in the process reflects 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 reduces the amount of teaching time called for by academic standards.

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

Should there be a need to request an exception to the final exam schedule, such request must be made in writing to the appropriate chair or dean.

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

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

## **TRANSCRIPTS**

A transcript is a copy of the student's permanent academic record. Transcripts are forwarded by the Director of Admissions and Records Office to educational institutions or perspective employers at the written request of the student. Transcripts to educational institutions will be sent directly by mail. Transcripts given directly to students are marked "Issued to student." Charges for transcripts are listed in the fees section.

## **TRANSFER TO COCHISE COLLEGE**

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

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

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

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

1. Courses for which the student has earned a grade of D or F will not be accepted for credit.
2. Students with an earned GPA below 2.00 may be admitted on academic probation.
3. Students academically dismissed from another college may not attend Cochise College for one full semester after said dismissal.
4. Professional Pilot students who transfer to Cochise College may receive credit for up to 18 hours of aviation course credit for previously earned certificates and ratings, if they complete at least one flight course resulting in a certificate or rating.
5. Grade point averages earned at other institutions are not calculated with GPA's earned at Cochise College.



## **TRANSFER FROM COCHISE COLLEGE**

Students transferring from Cochise College to one of Arizona's state universities and colleges should consult the Transfer Curriculum Guide. This document has been developed by Cochise College in cooperation with the universities and colleges and provides course information for most major areas of study. They are also advised that:

1. Universities may accept up to 72 units of community college coursework.
2. Courses carrying a numerical designation of 0 through 99 are not designed to transfer.
3. Courses in which a student earns less than a C rarely are accepted for transfer at the receiving institution.
4. Students intending to transfer to a four-year institution should discuss transfer with a College instructor, advisor, or counselor.
5. 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 specific attendance criteria for each class and shall communicate the policy to students in writing during the first week of each semester. An instructor may drop a student from class for absences exceeding the limit stated in the instructor's procedures sheet. The instructor may drop the student on a class roster or submit a drop/add form to the Registration Office. Students dropped by instructors will receive no refund. It is the student's responsibility to make up classroom work and assignments missed while excused for College-sponsored trips.

## **VETERANS POLICIES**

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

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

A student receiving VA benefits who consecutively misses more time than the credit hours of the course will be dropped by the instructor. Exceptions will be made for the student who makes written agreement with the instructor for missing class beyond the allocated time. A drop/add form must be processed by the instructor through the registration office when the student exceeds the above time allocation. The Veterans Affairs Office will provide information concerning attendance, benefits and procedures to all veterans.



# **GRADUATION REQUIREMENTS**

## **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.

## **GPA REQUIREMENTS**

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 area of emphasis is required for graduation.

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

## **REGISTRATION FOR PHYSICAL EDUCATION**

A full-time student must complete two units in physical education to fulfill degree requirements. A waiver will be considered only if the student petitions the Dean of Instruction.

A student who is physically unable to participate in physical education must be certified as such by a licensed physician in order to be exempt from physical education activity. Such certification must be renewed each semester. Students with disabilities will enroll in a personal health course or a special adaptive physical education course.

A student twenty-four years of age or older at the time of graduation 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.

## **MINIMUM READING COMPETENCIES**

All AA, AS, AGS, and AAS degree candidates must meet one of the following criteria:

1. 12.0 grade level or equivalent on a College-approved test.
2. Completion of a reading course with a grade of C or better in which competency for the course is 12.0 grade level or higher.
3. 3.00 cumulative GPA for courses at the 100 level or above at time of graduation check.

Non-native speakers of English may meet any of the above criteria or achieve a TOEFL score of 500 or above, including at least a 50 on Section 3.

## **SECOND ASSOCIATE DEGREE**

Candidates for a second associate degree at Cochise College must earn the sixteen 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 APPLICATION**

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

Applications must be filed by the dates listed in the applicable schedule of classes. 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 regarding specific degree information.

# **DEGREES AND PROGRAMS**

## **UNIVERSITY PARALLEL PROGRAMS**

Cochise College offers the first two years of a four-year program for students who wish to earn a bachelor's 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 appropriate catalog to determine lower-division requirements. Catalogs of major universities and colleges are available in the Student Development Center in the Division of Student Services. The counseling staff, in cooperation with various schools and colleges within the three Arizona universities, has developed a Transfer Curriculum Guide. This publication provides curriculum transfer plans for most bachelor's degree programs.

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 college or university to which he or she expects to transfer so requires.
2. Fulfill the general requirements of Cochise College and the college or university which are prescribed for all students.
3. Fulfill the lower-division requirements for an upper-division major.
4. Earn a cumulative grade point average of 2.00 or better.

## **OCCUPATIONAL-VOCATIONAL PROGRAMS**

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

Some occupational courses and programs may transfer to Arizona universities and other educational institutions, depending upon the student's selection of a specific degree. However, if the student intends to transfer to obtain a four-year degree, courses must be carefully selected to ensure transferability before they are taken. For more information on specific transfer options, consult a Cochise College counselor or the university of interest.

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

## **TECH PREP**

Tech Prep is a program that puts education to work for the student's future. It combines academic and technical education to give the student the skills necessary for both entry-level jobs and advanced positions. Tech Prep starts in county high schools, and is completed when the student receives an associate degree. Currently, Tech Prep has programs in Avionics, Hospitality, and Media Communications. For more information on this program, contact the Tech Prep Office.

## **ACADEMIC SKILLS**

Academic skills placement testing in reading, English, and mathematics is mandatory for all entering full-time students (twelve or more units) and all degree or certificate seeking students prior to or upon the completion of seven units.

To ensure that students possess the minimum level of academic skills necessary to succeed in college level coursework, all students must meet academic skill prerequisites for all courses in which they enroll. Students unable to demonstrate college-level academic skills in writing, reading, and/or mathematics will enroll in appropriate developmental education courses or in the appropriate non-credit Adult Basic Education (ABE), General Education Development (GED) or English as a Second Language (ESL) program.

Students seeking to enter a course for which they do not meet the established academic skills prerequisites may request a waiver from the Vice President for Instruction.

## **DEVELOPMENTAL EDUCATION**

Developmental Education is a program of guided study that enables underprepared students to enter college-level courses and programs and to meet personal, occupational, educational and social goals.

After students are admitted to the College, placement assessment identifies those in need of further academic skills preparation in particular areas and requires them to participate in developmental education, ABE, GED, or ESL courses or programs each

semester until they have attained the necessary skill level, approximately 11.0 grade level and above, to enter college level coursework.

In general, academic skills courses numbered 99 and below comprise the Developmental Education program. Such courses are designed to meet the needs of students who score at the 5.9-11.0 grade level in writing, reading, and/or mathematics according to institutional testing procedures. Students placing below the 5.8 grade level in writing, reading, and/or mathematics will be advised to enroll in the non-credit ABE/GED/ESL program.

## **COURSES NUMBERED BELOW 100**

Courses numbered below 100 are not transferable and will not fulfill associate degree requirements.



## **CAREER ACTION CENTER**

The College's Career Action Center consists of three separate, but closely related, services—Cooperative Education, Student Placement, and Career Placement—which are provided by a professional staff.

### **COOPERATIVE EDUCATION**

Cooperative Education (CO-OP) is an educational process that integrates college course work with study-related work experience in business, industry, and government, and is coordinated by college staff. Using "learning objectives" established during each semester of registration, the CO-OP student earns college credit to apply toward program completion requirements. This program is also adaptable for employed adults who are interested in gaining additional job skills for future advancement. Cooperative Education is not a course of study, but is the laboratory component for various programs offered at Cochise College.

Cochise College students enrolled for credit in any College program may elect to participate in the Cooperative Education Program. This is a cooperative arrangement between an employer, the student, and the College to provide part-time, or, in some cases, full-time job placement in training positions related to the student's career interest.

### **STUDENT JOB PLACEMENT/ CAREER PLACEMENT**

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



### **SUMMER SPANISH IMMERSION PROGRAM (DOUGLAS CAMPUS)**

The College offers a summer Spanish Immersion Program that provides intensive, day-long instruction to non-native speakers. The program is designed to provide a basic speaking-listening facility in the Spanish language. Students receive eight units of transferable credit (equivalent to the first year of college Spanish) upon successful completion of the program.

### **ENGLISH IMMERSION PROGRAM (DOUGLAS CAMPUS)**

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



## **SERVICEMAN'S OPPORTUNITY COLLEGE FOR ACTIVE DUTY (SOCAD)**

Cochise College is a member of the Serviceman's Opportunity College for Active Duty (SOCAD) program, which is designed to provide military students with the opportunity to complete college programs without losing credits due to frequent changes of duty station. The Fort Huachuca office can prepare the Cochise College SOCAD contract for students or assist them in completing their contract requirements with other SOCAD school members.

The following kinds of special assistance are offered to members of the military service:

1. Advising, counseling and testing
2. Granting of credit for appropriate education experiences in the armed forces
3. Transfer and reverse transfer of credits
4. Contract for degree option
5. Repository of records.

For more information, contact the Sierra Vista Student Development Center or the Cochise College office at the Army Education Center on Fort Huachuca.

## **GENERAL EDUCATION TRANSFER REQUIREMENTS FOR THE STUDENT WHO PLANS TO TRANSFER TO AN ARIZONA UNIVERSITY**

Cochise College offers a core of 41 semester hours of lower-division general education courses which will transfer to all Arizona public community colleges and universities as a block, without loss of credit, in place of their lower-division general education requirements. This core, however, may not satisfy the general education requirements of an individual college, department, or major. It is intended for students who have not identified the university they plan to attend, or who have not decided on a major area of study. Students must complete the entire 41 units to have an Arizona university accept the General Education Core Curriculum (GECC) block. For a list of university-approved courses, students must see a counselor.

Options will be chosen according to requirements of the university to which the student plans to transfer.

### **GENERAL EDUCATION CORE CURRICULUM**

Minimum Requirements	Credit Hours
English Composition	ENG 101 3
English Composition	ENG 102 3
Mathematics	MAT 151 and above 4
Laboratory Science**	8
Arts & Humanities**	9
Social & Behavioral Science**	9
Intensive Writing/Critical Inquiry**	3
Electives**	2
<b>TOTAL</b>	<b>41</b>

\*\*For a list of university-approved courses, students must see a counselor.

## **DEGREES**

Cochise College grants the degrees of Associate of Arts, Associate of Science, Associate of General Studies, and Associate of Applied Science. Students should review the catalog section on Programs of Study, and consult with a counselor or faculty advisor, for specific requirements for each of these degrees in a specific area of emphasis. A minimum of 64 units are required for each of the AA, AS, AAS and AGS degrees. Cochise College maintains articulation agreements with the University of Arizona, Arizona State University, Northern Arizona University, Western New Mexico State University, University of Phoenix and Western International University to assist the student in preparation for transfer into undergraduate degree programs. The student should carefully select courses which will meet specific university program requirements, as described in the university's catalog and transfer curriculum guide. The student should seek the assistance of an academic advisor in developing a program of study.

**Cochise College offers general AA, AS, and AGS degrees without specified areas of emphasis, and some degrees require more than the minimum 64 units.**

### **ASSOCIATE OF ARTS DEGREE (AA)**

The Associate of Arts degree is designed to prepare the student for transfer to a four-year college or university. The AA curriculum is centered around general education courses, with selected areas of emphasis.

The AA degree requires a minimum of 64 credit hours at the 100 level and above.

Cochise College awards AA degrees in a variety of programs of study, including:

- Administration of Justice
- Anthropology
- Art
- Pre-Education
- English
- Foreign Languages
- History

- Journalism
- International Studies
- Liberal Arts
- Life Sciences
- Media Arts
- Physical Education
- Political Science
- Psychology
- Social Services

### **General Education**

<b>Minimum Requirements</b>	<b>Credit Hours</b>
<b>English Composition</b>	<b>ENG 101*</b> 3
English Composition	ENG 102*    3
Mathematics	MAT 151 and above    4
Laboratory Science**	8
Arts & Humanities**	9
Social & Behavioral Science**	9
Foreign Language** (Second semester proficiency)	8
Intensive Writing/Critical Inquiry	3
Physical Education	2
Computer Literacy	
Reading Competency (12.0 grade level)	
Program Curriculum and/or Division Approved Electives	15
<b>MINIMUM TOTAL</b>	<b>64</b>

Students wishing to transfer to a baccalaureate program at a four year institution must take only transferable electives.

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

\*\* Transferability of specific courses within a discipline will be determined by use of current Transfer Curriculum and Course Equivalency Guides.

## **ASSOCIATE OF SCIENCE DEGREE (AS)**

The Associate of Science degree is designed to prepare the student for transfer to a four-year college or university. The AS curriculum is centered around general education courses, with selected areas of emphasis.

The AS degree requires a minimum of 64 credit hours at the 100 level and above.

Cochise College awards AS degrees in a variety of programs of study, including:

Business Administration  
Computer Information Systems  
Computer Science  
Chemistry  
Electronics Technology  
Life Sciences  
Manufacturing Engineering  
Professional Pilot Technology  
Psychology

### **General Education**

#### **Minimum Requirements**

	<b>Credit Hours</b>
English Composition	ENG 101* 3
English Composition	ENG 102* 3
Mathematics	MAT 151 and above 10-12
Laboratory Science**	8
Arts & Humanities and/or Social & Behavioral Science**	12
Physical Education	2
Computer Literacy	
Reading Competency (12.0 grade level)	
Program Curriculum and/or Division Approved Electives	24-26
<b>MINIMUM TOTAL</b>	<b>64</b>

Students wishing to transfer to a baccalaureate program at a four year institution must take only transferable electives.

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

\*\* Transferability of specific courses within a discipline will be determined by use of current Transfer Curriculum and Course Equivalency Guides

## **ASSOCIATE OF GENERAL STUDIES DEGREE (AGS)**

The Associate of General Studies degree meets the needs of the student who wishes to be an active participant in designing a program of study to meet his or her individual needs. A comprehensive general education component ensures that the AGS degree completor will possess a minimum set of academic competencies commensurate with the two-year, post-secondary degree.

The student may choose among three uses of the AGS:

1. Students seeking a direct-employment AGS degree will work with an advising team made up of an academic advisor from the student's area of interest, the career counselor, and a Career Action Center representative. The student and team plan a program of study incorporating the acquisition of skills best suited to the student's desired employment.
2. Students seeking an AGS degree for transfer will develop the program of study in cooperation with an academic advisor and an instructor of their choice.
3. Students seeking an AGS degree for self-fulfillment will develop a program of study in cooperation with an academic advisor and an instructor of their choice.

The AGS degree requires a minimum of 64 units of coursework at the 100 level and above.

Cochise College awards AGS degrees in a variety of programs of study, including:

Agriculture  
Social Services

<b>General Education Minimum Requirements</b>		<b>Credit Hours</b>
English Composition	ENG 101*	3
English Composition	ENG 102, 109 or 167*	3
Mathematics	MAT 122 and above or equivalent**	3
Laboratory Science**		4-8
Arts & Humanities**		6-9
Social & Behavioral Science**		6-9
Foreign Language or Communications **		3-4
Intensive Writing/Critical Inquiry or Critical Thinking**		3
Physical Education		2
Computer Literacy**		3
Reading Competency (12.0 grade level)		
Program Curriculum and/or Electives	17-28	
<b>MINIMUM TOTAL</b>		<b>64</b>

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

\*\* For a list of approved courses, students must see a counselor.

## **ASSOCIATE OF APPLIED SCIENCE DEGREE (AAS)**

The Associate of Applied Science degree is designed to prepare graduates for employment in a specific career while providing the general education necessary to develop the knowledge, skills and attitudes essential to lifelong learning and personal growth. The student should seek the assistance of an academic advisor in developing a program of study. The AAS degree requires a minimum of 64 credit hours at the 100 level and above.

Cochise College awards AAS degrees in a variety of programs of study, including:

- Administration of Justice
- Agriculture
- Aviation Maintenance Technology
- Avionics Technology
- Computer Information Systems
- Drafting and Design
- Electronics Technology
- Fire Science Technology
- Hospitality Administration

Media Communications
Middle Management
Nursing
Power Plant Operations
Professional Administrative Assistant
Professional Pilot Technology
Social Services
Welding Technology

<b>General Education Minimum Requirements</b>	<b>Credit Hours</b>
English	ENG 100 and above*
Mathematics	MAT 122 and above*
Arts & Humanities or Social & Behavioral Science**	3 or 6
General Education Electives**	3 or 6
Career Courses (see program guides)	26-43
Reading Competency (12.0 grade level)	
Electives	3-20
<b>MINIMUM TOTAL</b>	<b>64</b>

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

\*\* Nine units chosen from college-level courses with a minimum of three units in Arts & Humanities or Social & Behavioral Science.

## **CERTIFICATE OF COMPLETION**

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

## **REQUIREMENTS AND QUALIFYING COURSES**

Qualifying courses vary according to degree program and choice of university. Students should consult an advisor. Transferability is not guaranteed by inclusion in this catalog.

# PROGRAMS OF STUDY

The following programs of study 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. **Some degree programs may require more stringent graduation standards.**

## PRE-PROFESSIONAL PROGRAMS OF STUDY

Students wishing to enroll in pre-professional programs such as pre-dentistry, pre-engineering, pre-law, pre-medicine, pre-pharmacy, pre-physical therapy, or pre-veterinary should consult as early as possible the degree requirements of the college or university to which they plan to transfer, and should plan a course of study with a Cochise College advisor.

Degrees in dentistry, law, medicine and veterinary medicine require study beyond the bachelor's degree but may not require a specific major or minor. Most professional schools awarding these degrees recommend that students have a strong liberal arts education. In general the AA or AS at Cochise College will satisfy the general education requirements for the first two years of a pre-professional program of study.

Students who wish to become engineers or architects should contact, as soon as possible, the school of engineering or school of architecture at the university to which they wish to transfer and should matriculate in that school no later than the beginning of the student's sophomore year. Cochise College strongly recommends that students work closely with their advisors at Cochise College and at

the degree granting institution so as to avoid taking unnecessary courses or missing required courses.

Cochise College can satisfy the General Education requirements for the lower division, i.e., the freshman and sophomore years, of most pre-professional degrees; however, to avoid missing specific requirements for such degrees, the student should select his or her transfer institution as early as possible and consult a college advisor.

Examples of suggested majors for pre-professional programs:

**Pre-dentistry and pre-medicine:** Typical undergraduate majors that satisfy degrees in these programs are biology, chemistry, physics, psychology, anthropology, or any strong liberal arts major which includes the AS requirements.

**Pre-law:** There is no prescribed major for students planning to enter law school; however, majors that emphasize critical reading, extensive writing, and careful analysis of thought such as history, English, philosophy, political science, or economics are excellent pre-law majors. A business administration major in accounting may also provide a good preparation for the law school admission requirements. Cochise College offers general AA, AS and AGS degrees without specified areas of emphasis.

# DEGREE PROGRAMS

## ADMINISTRATION OF JUSTICE

### Associate of Arts

General Education Requirements	Units
English Composition	ENG 101 3
English Composition	ENG 102 3
Mathematics	MAT 151 and above 3-4
Laboratory Science	8
Arts & Humanities	9
Social & Behavioral Science	9-12
Foreign Language (Second semester proficiency)	8
Intensive Writing/Critical Inquiry	3
Physical Education	2
Computer Literacy	CIS 120 or 181 3
Reading Competency	
<b>Minimum General Education Credit Hours</b>	<b>51-55</b>
Must include: PHI 130, SOC 101.	

Core Curriculum	Units
Introduction to Administration of Justice	AJS 101 3
Crime & Delinquency	AJS 225 3
Substantive Criminal Law	AJS 109 3
Procedural Criminal Law	AJS 260 3
Cooperative Education	AJS 224 1-4
<b>TOTAL</b>	<b>64-71</b>

See major area advisor for specific transfer curriculum to the University of Arizona, Northern Arizona University, Arizona State University or Western New Mexico University or any other college/university to which the student intends to transfer.

## ADMINISTRATION OF JUSTICE

### Associate of Applied Science

General Education Requirements	Units
English Composition	ENG 101 3
English Composition	ENG 102 3
English	ENG 109 3
Mathematics	MAT 122 3
Arts & Humanities or Social & Behavioral Science	3
General Education Electives	6
Physical Education	2
Reading Competency	
<b>Minimum General Education Credit Hours</b>	<b>23</b>
Must include: PSY 101, SOC 101, POS 110 or POS 220.	
Core Curriculum	Units
Introduction to Administration of Justice	AJS 101 3
The Police Function	AJS 230 3
Corrections	COR 112 3
Juvenile Justice Procedures	AJS 212 3
Substantive Criminal Law I	AJS 109 3
Procedural Criminal Law II	AJS 260 3
Fundamentals of Speech	COM 102 3
<b>Major Emphasis: Law Enforcement</b>	
Police Patrol Function	AJS 122 3
Criminal Investigations	AJS 275 3
Community Relations	AJS 270 3
Psychology in Law Enforcement	AJS 254 3
Electives*	8
<b>Major Emphasis: Corrections</b>	
Crime & Delinquency	AJS 225 3
Community Corrections	AJS 205 3
Penology	AJS 215 3
Social Psychology	PSY 210 3
Electives*	8
<b>TOTAL</b>	<b>64</b>

\*It is recommended that students take AJS 224 Field Exp. in Administration of Justice as part of their elective credits.

## **AGRICULTURE**

### **Associate of General Studies**

Cochise College offers an Agriculture Associate of General Studies Degree program which enables students to fulfill all university lower division requirements. Since university requirements differ widely, students must see a Cochise College Agriculture faculty advisor or counselor to plan an appropriate program of study. (Douglas Campus only).

#### **General Education Requirements      Units**

English Composition	ENG 101	3
English Composition	ENG 102	3
Mathematics		
MAT 151 and above or equivalent	3-4	
Laboratory Science	16	
Arts & Humanities	6	
Social & Behavioral Science	6	
Foreign Language or Communications	4	
Intensive Writing/Critical Inquiry or Critical Thinking	3	
Physical Education	2	
Computer Literacy	3	
Reading Competency		
<b>Minimum General Education Credit Hours</b>	<b>49-50</b>	

Must include: CHM 151 & CHM 152.

Approved agriculture major emphasis courses	13
<b>TOTAL</b>	<b>67-68</b>

## **AGRICULTURE**

### **Associate of Applied Science**

#### **General Education Requirements      Units**

English Composition	EN G 100 or above	6
Mathematics	MAT 122 and above	3
Arts & Humanities or Social & Behavioral Science		3
General Education Electives		15
Reading Competency		
<b>Minimum General Education Credit Hours</b>	<b>27</b>	

Must include: BIO 101, 102

CHM 100 or CHM 151, COM 102.

#### **19-26 units from the following:**

##### **Principles of**

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

#### **Recommended Business Electives**

Written Communications and Reports	ENG 109	3
Principles of Management	BUS 143	3
Business Communications	BUS/OAD 167	3
Principles of Accounting	BUS 146	3
Introduction to Data Processing	CIS 120	3
<b>TOTAL</b>		<b>64</b>

## **ANTHROPOLOGY**

### **Associate of Arts**

<b>General Education Requirements</b>		<b>Units</b>
English Composition	ENG 101	3
English Composition	ENG 102	3
Mathematics	MAT 151 and above	3-4
Laboratory Science		8
Arts & Humanities		9
Social & Behavioral Science		9
Foreign Language (Second semester proficiency)		8
Intensive Writing/Critical Inquiry		3
Physical Education		2
Computer Literacy		
Reading Competency		

### **Minimum General**

**Education Credit Hours** **48-49**

<b>Core Curriculum</b>		<b>Units</b>
Origin & Antiquity of Man	ANT 101	3
Exploring Archaeology	ANT 110	3
Society and Culture	ANT 102	3
Prehistoric Cultures of North America	ANT 285	3
Historic Indian Tribes of North America	ANT 286	3
Electives		0-1
<b>TOTAL</b>		<b>64</b>

See the program advisor for specific transfer curriculum to UA, ASU or NAU.

## **ART**

### **Associate of Arts**

<b>General Education Requirements</b>		<b>Units</b>
English Composition	ENG 101	3
English Composition	ENG 102	3
Mathematics	MAT 151 and above	3-4
Laboratory Science		8
Arts & Humanities		9
Social & Behavioral Science		9
Foreign Language (Second semester proficiency)		8

Intensive Writing/Critical Inquiry

3

Physical Education

2

Computer Literacy

Reading Competency

### **Minimum General**

**Education Credit Hours** **48-49**

Must include: ART 107, ART 108, HIS 140, HIS 141, and one of the following: HUM 205, HUM 206 and HUM 207.

<b>Core Curriculum</b>		<b>Units</b>
Basic Design	ART 103	3
Drawing I	ART 106	3
Color and Design	ART 230	3
Three-Dimensional Design/Sculpture	ART 231	3

A minimum of nine additional units from the following categories. Must include a minimum of six units from one category and three from the other.

### **CATEGORY I: Two-Dimensional Emphasis**

Drawing II	ART 216	3
Figure Drawing	ART 245	3
Beginning Commercial Design	ART 265	3
Painting I	ART 280	3
Painting II	ART 281	3
Beginning Photography	ART 285	3
Intermediate Photography	ART 286	3

### **CATEGORY II:**

### **Three-Dimensional Emphasis**

Beginning Jewelry	ART 250	3
Beginning Metal Work	ART 255	3
Ceramics I	ART 270	3
Ceramics II	ART 275	3
Sculpture	ART 290	3
<b>TOTAL</b>		<b>69-70</b>

# AVIATION MAINTENANCE TECHNOLOGY

## Associate of Applied Science

### General Education Requirements

		Units
English	ENG 100 and above	3 or 6
Mathematics	MAT 122 and above	3 or 6
Arts & Humanities or Social & Behavioral Science		3
General Education Electives		6
Reading Competency		

### Minimum General

### Education Credit Hours

18

### Core Curriculum

		Units
Phase I - General	AMT 150	19
Phase II - Basic Airframe	AMT 160	17
Phase III - Advanced Airframe	AMT 260	17
Phase IV - Basic Powerplant	AMT 270	17
Phase V - Advanced Powerplant	AMT 275	17
<b>TOTAL</b>		<b>105</b>

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

# AVIONICS TECHNOLOGY

## Associate of Applied Science

### General Education Requirements

		Units
English	ENG 101	3
Mathematics	MAT 122 or ELT 110	3
Mathematics		3-4
Arts & Humanities or Social & Behavioral Science		3
General Education Electives		6
Reading Competency		

### Minimum General

### Education Credit Hours

18-19

### Core Curriculum

		Units
Introduction to DC Circuits	ELT 105	3
Introduction to AC Circuits	ELT 106	4
Semiconductors & Transistors	ELT 122	4
Digital Circuits & Systems	ELT 233	4
Communications Electronics I	ELT 245	4
Avionics Fundamentals	AVT 127	3
Pulse Circuits	ELT 231	4
Modern Electronic Devices	ELT 243	4
Microprocessors & Microcomputers	ELT 265	4
Navigation Systems*	AVT 250	4
Flight Control Systems*	AVT 253	4
Aircraft Radar & Pulse System*	AVT 257	4
Microcomputer Systems*	ELT 270	4
<b>TOTAL</b>		<b>68-69</b>

\*Avionics courses are offered only on the Douglas Campus.

# PROFESSIONAL PILOT TECHNOLOGY

## Associate of Science

### General Education Requirements

		Units
English Composition	ENG 101	3
English Composition	ENG 102	3
Mathematics		
MAT 151 and above		10-12
Laboratory Science		8
Arts & Humanities and/or Social & Behavioral Science		12
Physical Education		2
Computer Literacy		
Reading Competency		

### Minimum General

### Education Credit Hours

38-40

<b>Core Curriculum</b>	<b>Units</b>	Multi-Engine Airplane Instructor Flight	<b>Units</b>	
Stage One - Commercial Pilot			PFT 241	2
Ground School	PFT 101	5	Instrument Flight Instructor	
Solo Flight Preparation	PFT 111	3.5	Ground School	PFT 250
Cross Country Navigation	PFT 112	1.5	Instrument Flight	
Private Pilot Certification	PFT 113	1	Instructor Flight	PFT 251
Stage Two - Commercial Pilot			Airline Transport Pilot	
Flight Lab	PFT 121	3	Ground School	PFT 260
Stage Three - Commercial Pilot			Airline Transport Pilot Flight	PFT 261
Ground School	PFT 130	5	Acceptance into Professional Pilot Program requires an interview with the Chief Flight Instructor plus completion of admission requirements and departmental acceptance. Admission to Cochise College does not guarantee acceptance into the pilot program.	
Stage Three - Commercial Pilot				
Flight Lab	PFT 131	3		
Stage Four - Commercial Pilot				
Ground School	PFT 204	5		
Instrument Flight Navigation and Air Traffic Control Procedures	PFT 214	3.5		
Instrument Flight Cross Country Procedures and Practices Test Preparation	PFT 215	1.5		
Commercial Pilot Completion Course	PFT 218	1		
Electives		7-8		
<b>TOTAL</b>		<b>78-81</b>		
<b>Optional Courses</b>	<b>Units</b>			
Private Pilot Practicum	PFT 102	1	<b>General Education Requirements</b>	<b>Units</b>
Private Pilot Review	PFT 103	1	English Composition	ENG 101
Multi-Engine Class Rating			English Composition	ENG 102
Ground School	PFT 210	1	Mathematics	MAT 122 and above
Multi-Engine Class Rating Flight	PFT 211	1	Arts & Humanities or Social & Behavioral Science	
Instrument Pilot Practicum	PFT 216	1	General Education Electives	6
Instrument Pilot Review	PFT 217	1	Physical Education	2
Commercial Pilot Practicum	PFT 219	1	Reading Competency	
Commercial Pilot Review	PFT 220	1	<b>Minimum General Education Credit Hours</b>	<b>42</b>
Flight Instructor Fundamentals of Instruction	PFT 230	3	Must include: Laboratory Science (4 units), BUS 104, BUS 201, BUS 202, BUS 123, BUS 145, ECN 201, ECN 202, BUS 143 or PFT 200, BUS 233 or PFT 247, Suggested elective PFT 245.	
Flight Instructor Airplane		<b>Core Curriculum</b>	<b>Units</b>	
Ground School	PFT 231	5	Stage One Commercial and Private Pilot Ground School	PFT 101
Flight Instructor			Solo Flight Prep. Course	PFT 111
Airplane Flight	PFT 232	3	Cross Country Navigation	PFT 112
Flight Instructor Review	PFT 233	1	Private Pilot Certification	
Flight Instructor Practicum	PFT 234	2.5	Completion Course	PFT 113
Multi-Engine Airplane Instructor			Stage Two Commercial Flight Laboratory	PFT 121
Ground School	PFT 240	2		3

Stage Three Commercial Ground School	PFT 130	5	Legal Environment of Business	BUS 233	3
Stage Three Flight Lab	PFT 131	3	Principles of Macroeconomics	ECN 201	3
Stage Four Commercial Pilot Ground School	PFT 204	5	Principles of Microeconomics	ECN 202	3
Instrument Flight Navigation & Air Traffic Control Procedures	PFT 214	3.5	Computer Applications or equivalent	CIS 181	3
Instrument Flight Cross Country Procedures and Practical Test Preparation	PFT 215	1.5			
Commercial Pilot Completion Course	PFT 218	1			
Electives		5			
<b>TOTAL</b>		<b>80</b>	<b>TOTAL</b>		<b>68</b>

#### Optional Courses

Private Pilot Practicum	PFT 102	1
Private Pilot Review	PFT 103	1

## BUSINESS ADMINISTRATION

### Associate of Science

#### General Education Requirements      Units

English Composition	ENG 101	3
English Composition	ENG 102	3
Mathematics	MAT 151 and above	10
Laboratory Science		8
Arts & Humanities and/or Social & Behavioral Science		12
Physical Education		2

#### Computer Literacy

#### Reading Competency

#### Minimum General

#### Education Credit Hours

Must include: MAT 172 & MAT 212

#### Core Curriculum      Units

Survey of American Business or Business Ethics	BUS 109	
Business Communications	BUS 150	3
Business Statistics	BUS 167	3
Introduction to Data Processing	BUS 219	3
Financial Accounting	CIS 120	3
Managerial Accounting	BUS 201	3
	BUS 202	3

## MIDDLE MANAGEMENT

(Management and entrepreneurship)

### Associate of Applied Science

#### General Education Requirements      Units

English Composition	ENG 101	3
English Composition	ENG 102	3
Mathematics	MAT 122 and above	3
Arts & Humanities or Social & Behavioral Science		3
General Education Electives		6

Reading Competency		
<b>Minimum General</b>	<b>Education Credit Hours</b>	<b>18</b>
Must include: BUS 104.		

#### Core Curriculum      Units

Survey of American Business	BUS 109	3
Principles of Management	BUS 143	3
Principles of Marketing	BUS 145	3
Starting a Business	BUS 183	3
Business Communications	BUS 167	3
Computerized Accounting	BUS 180	3
Computer Applications or equivalent	CIS 181	3
Introduction to Accounting or Financial Accounting		
Managerial Accounting	BUS 146	3
	BUS 201	3
	BUS 202	3

Business Law I or Legal Environment of Business	BUS 231	
Principles of Microeconomics	BUS 233	3
Small Business Management	ECN 202	3
Division Approved Electives		12
<b>TOTAL</b>		<b>66</b>

Students must complete twelve additional units (with approval of Business Dept. Advisor) in the Business Administration, Economics, Hospitality Administration, or Computer Information Systems areas. Co-operative Education credit may be substituted for elective coursework.

The Management program of study is not designed to transfer into a four-year degree program. Specific courses may transfer.

See Business certificate programs

## **CHEMISTRY**

### **Associate of Science**

<b>General Education Requirements</b>		<b>Units</b>
English Composition	ENG 101	3
English Composition	ENG 102	3
Mathematics		
MAT 151 and above		20
Laboratory Science		8
Arts & Humanities and/or		
Social & Behavioral Science		12
Physical Education		2
Computer Literacy		
Reading Competency		
<b>Minimum General Education Credit Hours</b>		<b>48</b>

Must include: MAT 182 or MAT 187, MAT 220, MAT 231 & MAT 241.

<b>Core Curriculum</b>		<b>Units</b>
General Chemistry I	CHM 151	4
General Chemistry II	CHM 152	4
General Organic Chemistry I or Elementary German I	CHM 235 GER 101	4
General Organic Chemistry II or Elementary German II	CHM 236 GER 102	4
General Physics I or Physics with Calculus	PHY 111 PHY 230	4
General Physics II or Physics with Calculus	PHY 112 PHY 231	4
<b>TOTAL</b>		<b>72</b>

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

## **COMPUTER INFORMATION SYSTEMS**

### **Associate of Science**

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

Prerequisites: Demonstrated proficiency in math, reading and writing.

<b>General Education Requirements</b>		<b>Units</b>
English Composition	ENG 101	3
English Composition	ENG 102	3
Mathematics		
MAT 151 and above		10
Laboratory Science		8
Arts & Humanities and/or		
Social & Behavioral Science		12
Physical Education		2
Computer Literacy		
Reading Competency		
<b>Minimum General Education Credit Hours</b>		<b>38</b>

Must include: MAT 172 & MAT 212

<b>Core Curriculum</b>		<b>Units</b>	<b>Core Curriculum</b>		<b>Units</b>
Financial Accounting	BUS 201	3	Financial Accounting	BUS 201	3
Managerial Accounting	BUS 202	3	Managerial Accounting	BUS 202	3
Introduction to Data Processing	CIS 120	3	Introduction to Data Processing	CIS 120	3
Algorithms	CIS 130	3	Algorithms	CIS 130	3
Programming (Select One):			Introduction to Operating Systems	CIS 140	3
PASCAL Programming	CIS 201	4	PC Connectivity	CIS 150	3
COBOL Programming	CIS 202		Programming (Select One):		
FORTRAN Programming	CIS 203		Pascal Programming	CIS 201	4
C Programming	CIS 204		COBOL Programming	CIS 202	
ADA Programming	CIS 205		FORTRAN Programming	CIS 203	
Systems Analysis	CIS 270	3	C Programming	CIS 204	
Principles of Macroeconomics	ECON 201	3	ADA Programming	CIS 205	
Principles of Microeconomics	ECON 202	3	Data Structures	CIS 220	4
Information Management Division			Introduction to Networks	CIS 234	4
Approved Electives		2	Data Base Management	CIS 250	4
<b>TOTAL</b>		<b>65</b>	Systems Analysis	CIS 270	3
See Information Management Division Advisor			Information Management Division		
			Approved Electives		6
			<b>TOTAL</b>		<b>64</b>

## **COMPUTER INFORMATION SYSTEMS**

### **Associate of Applied Science**

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

Prerequisites: Demonstrated proficiency in math, reading and writing.

<b>General Education Requirements</b>		<b>Units</b>
English	ENG/CIS 179 and 279	6
Mathematics	MAT 122 and above	3
Mathematics	CIS 110	3
Arts & Humanities or Social & Behavioral Science		6
General Education Required Elective	OAD 268	3
Reading Competency		
<b>Minimum General Education Credit Hours</b>		<b>21</b>

See Information Management Division Advisor

## **COMPUTER SCIENCE**

### **Associate of Science**

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

Prerequisites: Demonstrated proficiency in math, reading and writing.

<b>General Education Requirements</b>		<b>Units</b>
English Composition	ENG 101	3
English Composition	ENG 102	3
Mathematics	MAT 151 and above	13
Laboratory Science		8
Arts & Humanities and/or Social & Behavioral Science		12
Physical Education		2
Computer Literacy		
Reading Competency		
<b>Minimum General Education Credit Hours</b>		<b>41</b>
Must include: MAT 220 & MAT 231.		

<b>Core Curriculum</b>		<b>Units</b>		<b>Service &amp; Maintenance of Personal</b>
Algorithms	CIS 130	3		Computers CIS 260 3
Programming (Select One):				Network Support CIS 262 3
PASCAL Programming	CIS 201	4		Advanced Computer Applications CIS 281 3
FORTRAN Programming	CIS 203			Field Experience in Computer Information Systems CIS 294 3
C Programming	CIS 204			Technical Presentations OAD 201 3
ADA Programming	CIS 205			Information Management
Assembler Programming	CIS 206	4		Division Approved Electives
Data Structures	CIS 220	4		
Computer Architecture	CIS 222	3		
Discrete Math	MAT 227	3		
Calculus III	MAT 241	4		
Information Management Division Approved Elective		2		
<b>TOTAL</b>		<b>68</b>		<b>TOTAL</b> <b>68</b>

See Information Management Division Advisor.

## **NETWORK MANAGEMENT**

### **Associate of Applied Science Degree**

<b>General Education Requirements</b>		<b>Units</b>
English	CIS/ENG 179	3
English	CIS/ENG 279	3
Mathematics	MAT 122 and above	3
Computer Math	CIS 122	3
Arts & Humanities or Social & Behavioral Science		3
General Education Electives		3-6
Reading Competency		
<b>Minimum General Education Credit Hours</b>		<b>18</b>

<b>Core Curriculum</b>		<b>Units</b>
Operating Systems	CIS 140	3
PC & Printer Support	CIS 142	3
PC Connectivity	CIS 150	3
Computer Applications	CIS 181	3
Introduction to Networks	CIS 234	4
Novell Network Management	CIS 235	4
Network Operating Systems	CIS 236	3
Advanced Microsoft Network Management	CIS 237	4

## **DRAFTING AND DESIGN**

### **Associate of Applied Science**

<b>General Education Requirements</b>		<b>Units</b>
English	ENG 179 and 279	6
Mathematics	MAT 122 and 151	7
Arts & Humanities or Social & Behavioral Science		3
General Education Electives		6
Reading Competency		
<b>Minimum General Education Credit Hours</b>		<b>22</b>
<b>Core Curriculum</b>		<b>Units</b>
Technical Graphics I	DFT 112	3
Technical Graphics II	DFT 113	3
Spatial Relationships	DFT 120	3
Computer-Aided Drafting	DFT 150	3
Illustration	DFT 170	3
Topics in Drafting	DFT 201	3
Product Design	DFT 231	4
Design and Fabrication	DFT 232	3
Engineering Design	DFT 241	3
Computer-Aided Drafting	DFT 250	3
Manufacturing Materials & Processes	GTC 105	3
Engineering Materials & Processes	GTC 206	4
Welding Survey	WLD 202	4
<b>TOTAL</b>		<b>64</b>

## **ELECTRONICS TECHNOLOGY**

### **Associate of Science**

<b>General Education Requirements</b>	<b>Units</b>
English Composition	ENG 101 3
English Composition	ENG 102 3
Mathematics	MAT 151 and above 12
Laboratory Science	8
Arts & Humanities and/or Social & Behavioral Science	12
Physical Education	2
Computer Literacy	
Reading Competency	
<b>Minimum General Education Credit Hours</b>	<b>40</b>

Must include MAT 182, MAT 220, PHY 111 & PHY 112.

<b>Core Curriculum</b>	<b>Units</b>
Introduction to D.C. Circuits	ELT 105 3
Introduction to A.C. Circuits	ELT 106 4
Semiconductors & Transistors	ELT 122 4
Electronic Circuits & Systems	ELT 125 4
Pulse Circuits	ELT 231 4
Digital Circuits	ELT 233 4
Modern Electronic Devices	ELT 243 4
Microprocessors & Microcomputers	ELT 265 4
<b>TOTAL</b>	<b>71</b>

## **ELECTRONICS TECHNOLOGY**

### **Associate of Applied Science**

<b>General Education Requirements</b>	<b>Units</b>
See AAS degree General Education minimum requirements in the Degrees and Programs section.	
English Composition	ENG 101 3
Mathematics	ELT 110 or MAT 122 3
Mathematics	ELT 120 or MAT 151 3-4
Arts & Humanities and/or Social & Behavioral Sciences	3
General Education Electives	6
<b>Minimum General Education Credit Hours</b>	<b>18-19</b>

<b>Core Curriculum</b>	<b>Units</b>
Introduction to DC Circuits	ELT 105 3
Introduction to AC Circuits	ELT 106 4
Basic Computer Programming	ELT 107 3
Semiconductors & Transistors	ELT 122 4
Electronic Circuits & Systems	ELT 125 4
Pulse Circuits	ELT 231 4
Digital Circuits	ELT 233 4
Modern Electronic Devices	ELT 243 4
Communications Electronics	ELT 245 4
Communications Elect II	ELT 247 4
Avionics	ELT 260 4
Microprocessors & Microcomputers	ELT 265 4
Electives	6
<b>TOTAL</b>	<b>70-71</b>

**ENGLISH****Associate of Arts**

<b>General Education Requirements</b>		<b>Units</b>
English Composition	ENG 101	3
English Composition	ENG 102	3
Mathematics	MAT 151 and above	3-4
Laboratory Science		8
Arts & Humanities		9
Social & Behavioral Science		9
Foreign Language (Second semester proficiency)		8
Intensive Writing/Critical Inquiry		3
Physical Education		2
Reading Competency		
<b>Minimum General Education Credit Hours</b>		<b>48-49</b>

<b>Core Curriculum (6 units)</b>		<b>Units</b>
Advanced Composition	ENG 203	3
Introduction to Literature	ENG 104	3
British Literature I	ENG 220	3
British Literature II	ENG 221	3
Introduction to Shakespeare	ENG 222	3
American Literature I	ENG 224	3
American Literature II	ENG 225	3
World Literature	ENG 226	3
World Literature	ENG 227	3

**Recommended electives: (10-15 units)**

Survey of World Art, Prehistoric-Gothic	ART 107	3
Survey of World Art: Renaissance- Twentieth Century	ART 108	3
Society and Culture	ANT 102	3
History of the U.S., 1607-1877	HIS 110	3
History of the U.S., Since 1877	HIS 111	3
Survey of Western Civilization I	HIS 140	3
Survey of Western Civilization II	HIS 141	3
Mass Communication	JRN 101	3
Basic Reporting	JRN 102	3
Fundamentals of Speech	COM 102	3
Introduction to Theatre	THE 103	3
Theatre Workshop	THE 110	3

Introduction to Music	MUS 101	3
Introduction to Philosophy	PHI 111	3
Ethics	PHI 130	3
Philosophy of Religion	PHI 202	3
Introduction to Sociology	SOC 101	3
Humanities in Contemporary Life	HUM 101	3
Introduction to Film & Video	HUM 110	3
<b>TOTAL</b>		<b>64-70</b>

**FIRE SCIENCE TECHNOLOGY****Associate of Applied Science**

<b>General Education Requirements</b>		<b>Units</b>
English Composition	ENG 101	3
English Composition	ENG 102	3
English	ENG 109	3
Mathematics	MAT 122 and above	3
Arts & Humanities or Social & Behavioral Science		3
General Education Electives		6
Physical Education		2
Reading Competency		
<b>Minimum General Education Credit Hours</b>		<b>23</b>
Must include: CIS 181, COM 102, CPD 107.		

<b>Core Curriculum</b>		<b>Units</b>
Fundamentals of Fire Prevention	FST 106	3
Fire Fighter I	FST 110	6
Fire Fighter II	FST 111	6
Fire Service Hydraulics	FST 120	3
Fire Apparatus & Equipment	FST 200	3
Rescue Practices	FST 220	3
Fire Fighting Tactics & Strategies	FST 240	3
Supervisory Training for Firefighters	FST 265	3
Hazardous Material Incident (First Responder)	AJS 266	3
Emergency Medical Technology	EMT 174	7
Field Experience in Fire Science Technology	FST 224	3
<b>TOTAL</b>		<b>68</b>

## HISTORY

### Associate of Arts

<b>General Education Requirements</b>		<b>Units</b>
English Composition	ENG 101	3
English Composition	ENG 102	3
Mathematics	MAT 151 and above	3-4
Laboratory Science		8
Arts & Humanities		9
Social & Behavioral Science		9
Foreign Language (Second semester proficiency)		8
Intensive Writing/Critical Inquiry		3
Physical Education		2
Computer Literacy		
Reading Competency		
<b>Minimum General Education Credit Hours</b>	<b>48-49</b>	

<b>Core Curriculum</b>		<b>Units</b>
History of the U.S., 1607-1877	HIS 110	3
History of the U.S., Since 1877	HIS 111	3
Survey of Western Civilization I	HIS 140	3
Survey of Western Civilization II	HIS 141	3
Survey of Western Civilization III	HIS 142	3
Elective		0-1
<b>TOTAL</b>		<b>64</b>

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

## HOSPITALITY ADMINISTRATION

### Associate of Applied Science

<b>General Education Requirements</b>		<b>Units</b>
English Composition	ENG 101	3
English Composition	ENG 102	3
Mathematics	MAT 151 and above	3-4
Laboratory Science		8
Arts & Humanities or Social & Behavioral Science		6
Foreign Language (Second semester proficiency)		8
Physical Education		2
Reading Competency		
<b>Minimum General Education Credit Hours</b>	<b>33-34</b>	
Must include: GEO 102, 104 or 105, and HUM 205 or 206, or JRN 101.		

<b>Core Curriculum</b>		<b>Units</b>
Introduction to the Hospitality Industry	HAD 100	3
Introduction to Property Management	HAD 120	3
Guest Services Management	HAD 210	3
Hospitality Law	HAD 235	3
Hospitality Financial Management	HAD 250	3
Hospitality Automation	HAD 270	3
Financial Accounting	BUS 201	3
Business Statistics	BUS 219	3
Principles of Macroeconomics	ECN 201	3
Principles of Microeconomics	ECN 202	3
Computer Applications	CIS 181	3
<b>TOTAL</b>		<b>66-67</b>

#### Recommended Electives:

Commercial Food Preparation Theory	HAD 240	3
Advanced Commercial Preparation & Lab	HAD 241	4
Field Experience in Hospitality Administration	HAD 224	1-6

# INTERNATIONAL STUDIES

## Associate of Arts

(For transfer to NAU or UA)

General Education Requirements	Units
English Composition	ENG 101 3
English Composition	ENG 102 3
Mathematics	MAT 151 and above 3-4
Laboratory Science	8
Arts & Humanities	9
Social & Behavioral Science	9
Foreign Language (Second semester proficiency)	8
Intensive Writing/ Critical Inquiry	3
Physical Education	2
Computer Literacy	
Reading Competency	
<b>Minimum General Education Credit Hours</b>	<b>48-49</b>

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

Curriculum	Units
Introduction to International Relations	POS 230 3
Arts & Humanities	HUM 205 3
Arts & Humanities	HUM 206 3
Principles of Macroeconomics	ECN 201 3
Principles of Microeconomics	ECN 202 3

Electives in accordance with university transfer guidelines should be selected to complete 64 units and meet AA General Education requirements. Substitutions among the three areas of emphasis are permitted with advisor's approval.

## Business Emphasis

Financial Accounting	BUS 201	3
Managerial Accounting	BUS 202	3
COBOL Programming	CIS 202	4
Foreign Language:		8-16

German or Spanish 101, 102, 201, 202 or equivalent proficiency demonstrated by placement exam.

## European Emphasis:

Foreign Language:		8-16
French and/or German 101, 102, 201, 202 or equivalent proficiency demonstrated by placement exam.		
World Literature	ENG 226	3
History of Western Civilization	HIS 140	3
History of Western Civilization	HIS 141	3

## Latin American Emphasis

Foreign Language:		8-16
Spanish 101, 102, 201, 202 or equivalent proficiency demonstrated by placement exam.		
Heritage from Mexico	HUM 104	3
History of Mexico I	HIS 229	3
History of Mexico II	HIS 230	3
<b>TOTAL</b>		<b>72-82</b>

# JOURNALISM

## Associate of Arts

General Education Requirements	Units
English Composition	ENG 101 3
English Composition	ENG 102 3
Mathematics	MAT 151 and above 3-4
Laboratory Science	8
Arts & Humanities	9
Social & Behavioral Science	9
Foreign Language (Second semester proficiency)	8
Intensive Writing/Critical Inquiry	3
Physical Education	2

Computer Literacy  
 Reading Competency  
**Minimum General**  
**Education Credit Hours** **48-49**

<b>Core Curriculum</b>	<b>Units</b>	
Mass Communications	JRN 101	3
Basic Reporting	JRN 102	3
Intermediate Reporting	JRN 103	3
Critical Reading & Writing	ENG 206	3
Creative Writing	ENG 119	3
Elective or Foreign Language		1-8
<b>TOTAL</b>		<b>64-72</b>

## **LIBERAL ARTS**

**Associate of Arts**

<b>General Education Requirements</b>	<b>Units</b>	
English Composition	ENG 101	3
English Composition	ENG 102	3
Mathematics		
MAT 151 and above		3-4
Laboratory Science		8
Arts & Humanities		9
Social Behavioral Science		9
Foreign Language		
(Second semester proficiency)		8
Intensive Writing/Critical Inquiry		3
Physical Education		2
Computer Literacy		
Reading Competency		
<b>Minimum General</b>		
<b>Education Credit Hours</b>		<b>48-49</b>
<b>Recommended Electives*</b>	15-16	
<b>TOTAL</b>		<b>64</b>

\*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 programs at the U of A Sierra Vista Center.

## **LIFE SCIENCES**

(Biology, Botany, Ecology, Genetics, Zoology)

**Associate of Arts**

<b>General Education Requirements</b>	<b>Units</b>	
English Composition	ENG 101	3
English Composition	ENG 102	3
Mathematics	MAT 151 and above	3-4
Laboratory Science		8
Arts & Humanities		9
Social & Behavioral Science		9
Foreign Language		
(Second semester proficiency)		8
Intensive Writing/Critical Inquiry		3
Physical Education		2
Computer Literacy		
Reading Competency		

**Minimum General**

**Education Credit Hours** **48-49**

<b>Core Curriculum</b>	<b>Units</b>	
Animal Biology	BIO 190	4
Plant Biology	BIO 184	4
General Chemistry I	CHM 151	4
General Chemistry II	CHM 152	4

**16 units from the following controlled electives:**

General Organic Chemistry I	CHM 235	4
General Organic Chemistry II	CHM 236	4
General Physics I	PHY 111	4
General Physics II	PHY 112	4
Ecology	BIO 226	4
Microbiology	BIO 205	4
Introduction to Data Processing	CIS 120	3
Physical Geography	GEO 101	4

8 units to meet General Education requirements.

Any other science department approved course.

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

**TOTAL** **72-73**

## LIFE SCIENCES

(Biology, Botany, Ecology, Genetics, Zoology)

### Associate of Science

General Education Requirements	Units
English Composition	ENG 101 3
English Composition	ENG 102 3
Mathematics	MAT 151 and above 12
Laboratory Science	8
Arts & Humanities and/or Social & Behavioral Science	12
Physical Education	2
Computer Literacy	
Reading Competency	
<b>Minimum General Education Credit Hours</b>	<b>40</b>
Must include: MAT 182 & MAT 220.	

### Core Curriculum

	Units
Plant Biology	BIO 184 4
Animal Biology	BIO 190 4
General Chemistry I	CHM 151 4
General Chemistry II	CHM 152 4
*Controlled Electives	20
<b>TOTAL</b>	<b>68</b>

\*Controlled Electives may be selected from the following:

General Organic Chemistry I	CHM 235	4
General Organic Chemistry II	CHM 236	4
Ecology	BIO 226	4
Intro. to Data Processing	CIS 120	3
Physical Geography	GEO 101	4
Microbiology	BIO 205	4
General Physics I	PHY 111	4
General Physics II	PHY 112	4
Physics with Calculus	PHY 230	4
Physics with Calculus	PHY 231	4

8 units to meet General Education requirements.

Any other science department approved course Selection of Controlled Electives depends on University. See Area Advisor.

See University Transfer Curriculum Guide for applicable Arts & Humanities and Social & Behavioral Science courses.

## MANUFACTURING ENGINEERING

(Associate of Science)

General Education Requirements	Units
English Composition	ENG 101 3
English Composition	ENG 102 3
Mathematics	MAT 151 and above 16
Laboratory Science	8
Arts & Humanities and/or Social & Behavioral Science	15
Physical Education	2
Computer Literacy	
Reading Competency	
<b>Minimum General Education Credit Hours</b>	<b>47</b>

Must include: ECN 201, CHM 151, PHY 111 or PHY 112, MAT 182, MAT 220 & MAT 231.

### Core Curriculum

	Units
Computer-Aided Drafting	DFT 150 3
Manufacturing Processes	MAC 231 4
Engineering Materials	GTC 206 4
Welding Survey	WLD 202 4
Elective	3
<b>TOTAL</b>	<b>65</b>

## **MEDIA ARTS**

### **Associate of Arts**

Prerequisite: Permission of program advisor and the following proficiencies.

OAD 101 and 214 or equivalent proficiency in word processing

BUS 104 with grade of C or better or equivalent math proficiency

ENG 100 with grade of C or better or equivalent proficiency

COM 100 with grade of C or better or equivalent proficiency

### **General Education Requirements**

#### **Units**

English Composition ENG 101 3

English Composition ENG 102 3

Mathematics MAT 151 and above 3-4

Laboratory Science 8

Arts & Humanities 9-12

Social & Behavioral Science 9-12

Foreign Language (Second semester proficiency) 8

Intensive Writing/Critical Inquiry 3

Physical Education 2

Computer Literacy

Reading Competency

### **Minimum General Education Credit Hours**

#### **48-55**

Must include: ENG 206.

### **Core Curriculum**

#### **Units**

Public Speaking COM 110 3

Mass Communications MED/JRN 101 3

Writing for Publications MED/JRN 102 3

Desktop Publishing MED/JRN 207/CIS 285 3

(or equivalent proficiency)

ART/MED (Visual Arts Elective) 3

**TOTAL** 64

Additional electives in ART, ENG, COM, ELT or MED as agreed with program advisors for the minimum of 64 units required for AA.

## **MEDIA COMMUNICATIONS**

### **Associate of Applied Science**

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

### **General Education Requirements**

#### **Units**

English Composition ENG 101 3

English ENG 109 3

Mathematics MAT 122 or BUS 104 and above 3

Arts & Humanities or Social & Behavioral Science 3

General Education Electives 22

Reading Competency

### **Minimum General Education Credit Hours**

#### **34**

Must include: BUS 148, COM 102, COM 110, ECN 201, GEO 101, HIS 142 or HUM 207, HUM 101, and PHI 130 or BUS 150.

### **Core Curriculum**

#### **Units**

Introduction to Mass Communications MED/JRN 101 3

Basic Reporting MED/JRN 102 3

Student Newspaper MED/JRN 201 3

Introduction to Desktop Publishing MED/JRN 207 or CIS 285 3

Advanced Desktop Publishing MED/JRN208 or CIS 286 3

Field Experience in Communication/ Media Technology JRN 224 3

Mirage: Production of Literary Magazine MED 299 3

**TOTAL** 64

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

## **NURSING**

### **Associate Degree Nurse Associate of Applied Science**

#### **General Education Requirements**

See AAS degree General Education minimum requirements in the Degrees and Programs section.

#### **Minimum General**

##### **Education Credit Hours**

**18**

Also offered:

#### **Nursing Assistant - Certificate**

#### **Practical Nurse - Certificate**

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

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

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

**Nurse Assistants:** Qualified nurse assistants are in constant need to function as members of the hospital or community health team. Primary functions for nurse assistants are to care for sub-acute ill patients and to assist other members of the team. This is a one-semester program.

**Practical Nurses:** Completion of the first two semesters of the Nursing curriculum qualifies men and women to write the State Board Test Pool Examination for Licensed Practical Nurses. LPNs function at

a skilled level in the community under the supervision of a Registered Nurse or physician. Practical nurses give basic nursing care and assist other members of the health team.

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

## **NURSING**

### **Freshman**

#### **First Semester**

		<b>Units</b>
Human Anatomy & Physiology I	BIO 201	4
English Composition	ENG 101	3
Nursing I	NUR 122	8
Medication Math	NUR 121	1
		16

#### **Second Semester**

Human Anatomy & Physiology II	BIO 202	4
Introduction to Psychology	PSY 101	3
Nursing II	NUR 123	10

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

**Sophomore  
Third Semester**

Microbiology	BIO 205	4
Society & Culture or Introduction to Sociology	ANT 102	3
Controlled Elective	SOC 101	
Nursing III		3
	NUR 232	9
		19
<b>Fourth Semester</b>		
Fundamental Chemistry or General Chemistry I	CHM 130	4
English Composition	CHM 151	
Nursing IV	ENG 102	3
	NUR 233	9
		16
<b>TOTAL</b>		<b>68</b>

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

Acceptance into the Nursing Program does not guarantee successful completion of the program. Attendance at classes and clinical requires travel to both campuses and clinical locations throughout Cochise County. Experience in a clinical agency is essential to complete this program. Any possible legal impediment to licensure must be made known to the Nursing Division prior to assignment to a clinical agency. Acceptance into the program and/or successful completion of the program does not guarantee a license will be granted by the Arizona State Board of Nursing or any other State Board of Nursing at either the Practical Nurse or Registered Nurse levels.

**PHYSICAL EDUCATION****Associate of Arts**

<b>General Education Requirements</b>	<b>Units</b>
English Composition	ENG 101 3
English Composition	ENG 102 3
Mathematics	MAT 151 and above 3-4
Laboratory Science	
Arts & Humanities	8 9-12
Social & Behavioral Science	9-12
Foreign Language (Second-semester proficiency)	8
Intensive Writing/Critical Inquiry	3
Physical Education	
Computer Literacy	
Reading Competency	2

**Minimum General**

<b>Education Credit Hours</b>	<b>48-55</b>
Recommended: PSY 101 & POS 220, BIO 201 and 202.	

<b>Core Curriculum</b>	<b>Units</b>
Physical Education Activity Courses	4-5
Orientation to Phys. Education	HPE 180 3
First Aid & Safety or First Aid & CPR	HPE 189 HPE 188 1-3
Personal Health	HPE 187 3
Care & Prevention of Athletic Injuries	HPE 197 3
Coaching Theory(HPE 192, 193, 194, or 195)	2-3

**Recommended Electives:**

Orientation to Recreation	HPE 181	3
Elementary School Physical Education	HPE 185	3
Sports Officiating	HPE 190	3
Coaching Team Sports	HPE 192	2
Theory of Coaching Baseball	HPE 193	3
Theory of Coaching Basketball	HPE 194	3
Theory of Coaching Volleyball	HPE 195	3
Individual Studies	HPE 299	3
School and Community Health	HPE 186	3

**TOTAL** **68-69**

See the major advisor for specific ASU, NAU, U of A, or WNMU requirements.

## **POLITICAL SCIENCE**

**Associate of Arts**

<b>General Education Requirements</b>		<b>Units</b>
English Composition	ENG 101	3
English Composition	ENG 102	3
Mathematics	MAT 151 and above	3-4
Laboratory Science		8
Arts & Humanities		9
Social & Behavioral Science		9
Foreign Language (Second semester proficiency)		8
Intensive Writing/Critical Inquiry		3
Physical Education		2
Computer Literacy		
Reading Competency		
<b>Minimum General Education Credit Hours</b>	<b>48-49</b>	
<b>Core Curriculum*</b>		<b>Units</b>
Introduction to Political Science	POS 100	3
American National Government	POS 110	3
World Politics	POS 230	3
Comparative Politics	POS 240	3
Arizona Constitution (fulfills teaching certification requirements)	POS 221	1
Electives		2-3
<b>TOTAL</b>		<b>64</b>

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

See the major area advisor for specific ASU, NAU, WNMU, or U of A requirements. NAU requires PSY 101 and 250 for International Relations and Public Administration Degrees.

## **POWER PLANT OPERATION<sup>®</sup>**

**Associate of Applied Science**

(For AEPCO Employees only)

<b>General Education Requirements</b>		<b>Units</b>
English Composition	ENG 101	3
English	ENG 109	3
Mathematics	MAT 122 and above	3
Arts & Humanities or Social & Behavioral Science		3
General Education Electives		6
Reading Competency		
<b>Minimum General Education Credit Hours</b>		<b>18</b>
Must include: BUS 125 or BUS 127 and 6 units electives (Laboratory Science and/or MAT 151 and above).		
<b>Core Curriculum</b>		<b>Units</b>
<b>Majors*:</b>		
Mechanical Maintenance		
Instrumentation and Controls		
Power Controls		
Electrical Maintenance		
Power Plant Operations	PPO 101	5
Cooperative Education	PPO 224	12

\*Four distinct AAS degrees are available within the Power Plant Operations Program. Upon the completion of the first AAS degree students may complete the second through the fourth degrees by completing only the coursework listed under the "Major Emphasis" requirements for each of the subsequent degrees.

**Emphasis Areas.****Mechanical Maintenance**

		<b>Units</b>
Maintenance & Mechanical I	PPO 111	5
Maintenance & Mechanical II	PPO 112	5
Maintenance & Mechanical III	PPO 113	5
Maintenance & Mechanical IV	PPO 211	5
Maintenance & Mechanical V	PPO 212	5
Safety	PPO 290	2
Basic Electricity	PPO 114	2

**Instrumentation & Controls**

		<b>Units</b>
Instrumentation & Control I	PPO 121	5
Instrumentation & Control II	PPO 122	5
Instrumentation & Control III	PPO 123	5
Electronics I	PPO 221	5
Electronics II	PPO 222	5
Electronics III	PPO 223	5

**Power Control**

		<b>Units</b>
Principles of Power Generation I	PPO 141	5
Principles of Power Generation II	PPO 142	5
Principles of Power Generation III	PPO 143	5
Principles of Power Generation IV	PPO 241	5
Principles of Power Generation V	PPO 242	5
Principles of Power Generation VI	PPO 243	5

**Electrical Maintenance**

		<b>Units</b>
Electrical Maintenance I	PPO 131	5
Electrical Maintenance II	PPO 132	5
Electrical Maintenance III	PPO 133	5
Electrical Maintenance IV	PPO 231	5
Electrical Maintenance V	PPO 232	5
Electrical Maintenance VI	PPO 233	5

**TOTAL** **64-65****PRE-EDUCATION****Associate of Arts****General Education Requirements**

		<b>Units</b>
English Composition	ENG 101	3
English Composition	ENG 102	3
Mathematics	MAT 151 and above	3-4
Laboratory Science		8
Arts & Humanities		9
Social & Behavioral Science		9
Foreign Language		

(Second semester proficiency) **8**Intensive Writing/Critical Inquiry **3**Physical Education **2**Computer Literacy **CIS 181** **3**

Reading Competency

**Minimum General****Education Credit Hours** **51-52**

Must include: PHI 130, POS 220 &amp; PSY 101.

**Core Curriculum**

		<b>Units</b>
Introduction to Education	EDU 201	3
Field Experience in Education	EDU 224	1-3

**Recommended Electives\***

History of the U.S	HIS 110/111	3
School and Community Health	HPE 186	3
Ethnic/Gender Awareness	SOC 160	3
<b>TOTAL</b>		<b>64-67</b>

\*See the major area advisor or counselor for specific transfer curriculum to the University of Arizona, Northern Arizona University, Arizona State University, Western New Mexico University, or any other college/university to which the student intends to transfer.

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

# **PROFESSIONAL ADMINISTRATIVE ASSISTANT**

## **Associate of Applied Science**

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

Executive Secretarial, Microcomputer Specialist, Accounting Assistant, Management Support, General Administration, Paralegal Studies, or Medical Transcriptionist.

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

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

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

<b>General Education Requirements</b>		<b>Units</b>
English	CIS/ENG 179 or OAD 111	3
English	OAD/ENG/BUS 167	3
Mathematics	OAD/BUS 104	3
Arts & Humanities or Social & Behavioral Science		3
General Education Electives		12
Reading Competency		
<b>Minimum General Education Credit Hours</b>	<b>27</b>	
Must include: BUS 127 or BUS 150, OAD/BUS 146, OAD 207, OAD 209 and OAD 268.		

<b>Core Course Requirements</b>		<b>Units</b>
Learn to Use Microcomputers	OAD/CIS 116	3
Document Preparation Courses (Two):*		6
Elementary Document Preparation	OAD 102	
Intermediate Document Preparation	OAD 103	
Advanced Document Preparation	OAD 201	

Professional Document Preparation	OAD 202	
<b>*Course level determined by division</b>		
Word Processing	OAD 213	3
Advanced Word Processing	OAD 214	3
Automated Office Procedures (Legal, Medical or Executive)	OAD 210	3
Automated Office Practice (Legal, Medical or Executive)	OAD 211	3
Records Management Computerized	OAD 206	3
Office Management	OAD 216	3
Terminology and Transcription (Legal, Medical or Executive)	OAD 212	3
Your Professional Image	OAD 150	3
<b>TOTAL</b>		<b>33</b>

### **Professional Block (10-15 Units)\***

Select one area of the following specializations: Executive Secretarial, Microcomputer Specialist, Accounting Assistant, Management Support, General Administration, Paralegal Studies or Medical Transcriptionist.

Students are encouraged to include microcomputer courses, notetaking and Cooperative Education/Work Experience/Student Organizations (PBL/AFCEA) Experience (1-6 units) in their Professional Block.

<b>Options for Executive Secretarial*</b>		<b>Units</b>
Shorthand I (required)	OAD 204	3
Shorthand II (required)	OAD 205	3
Advanced Computerized Office Management	OAD 217	3
Current Computer Applications	OAD/CIS 193	1
Advanced Current Computer Applications	OAD 293	1
Business Ethics	BUS 150	3
Desktop Publishing	CIS 285	3
Advanced Desktop Publishing	CIS 286	3
Field Experience in Office Technology	OAD 224	1-6
Other Approved Courses	OAD/CIS	1-6

\*Legal Secretarial - Business Law or Legal Environment and Legal Field Experience are required. Business Ethics is suggested. Shorthand courses are optional.

\*Medical Secretarial - Advanced Terminology/Transcription and Medical Field Experience are required. Business Ethics, Ward Clerk, Anatomy & Physiology and Nursing Assistant courses are recommended. Shorthand courses are optional.

#### Options for

<b>Microcomputer Specialist</b>		<b>Units</b>
Operating Systems	CIS 140	3
Current Computer		
Applications	OAD/CIS 193	1
Advanced Computerized		
Office Management	OAD 217	3
Advanced Current Office Computer		
Applications	OAD 293	1
Desktop Publishing	CIS 285	3
Advanced Desktop		
Publishing	CIS 286	3
Field Experience in Office		
Technology	OAD 224	1-6
Data Base Management	CIS 250	4
Advanced Computer		
Applications	CIS 281	3
AFCEA Experience	CIS 294	1-6
Introduction to		
Data Processing	CIS 120	3
Other Approved CIS/OAD courses		

#### Options for Accounting Assistant

Financial Accounting	BUS 201	3
Managerial Accounting	BUS 202	3
Advanced Computerized Office		
Management	OAD 217	3
Advanced Computer Applications	CIS 281	3
Current Computer		
Applications	OAD/CIS 193	1
Advanced Current Computer		
Applications	OAD 293	1
Computerized Accounting	OAD 180	3
Advanced Computerized		
Accounting	CIS 280	3

#### Field Experience in Office

Technology	OAD 224	1-6
PBL Experience	BUS 224	1-6
Other Approved Accounting Courses		

#### Options for Management Support

Leadership and Supervision	BUS 127	3
Advanced Computerized Office		
Management	OAD 217	3
Principles of Management	BUS 143	3
Human Resources Management	BUS 123	3
Current Computer		
Applications	OAD/CIS 193	1
Advanced Computer Applications	CIS 281	3
Business Law	BUS 231	3
Small Business Management	BUS 283	3
Business Law	BUS 231	3
Field Experience in Business	BUS 224	1-6
PBL/AFCEA Experience	BUS 224	1-6
Other Approved Management Courses		

#### Options for Paralegal Studies

Introduction to Paralegalism	OAD 220	3
Legal Assistant I	OAD 221	3
Legal Assistant II	OAD 222	3
Basic Legal Research	OAD 223	3
Field Experience (Legal)	OAD 224	3-6

#### Options for Medical Transcription

Introduction to Human Anatomy &		
Physiology	BIO 160	4
Advanced Medical Transcription/		
Terminology	OAD 215	3
Field Experience (Medical)	OAD 224	3-6

#### Options for General Administration

Courses approved by divisional		
advisor to equal		10-15
Total Professional Block		10-15
<b>TOTAL</b>		<b>67-73</b>

## **PSYCHOLOGY**

### **Associate of Arts**

<b>General Education Requirements</b>		<b>Units</b>
English Composition	ENG 101	3
English Composition	ENG 102	3
Mathematics	MAT 151 and above	3-4
Laboratory Science		8
Arts & Humanities		9
Social & Behavioral Science		9
Foreign Language (Second semester proficiency)		8
Intensive Writing/Critical Inquiry		3
Physical Education		2
Computer Literacy		
Reading Competency		
<b>Minimum General Education Credit Hours</b>		<b>48-49</b>

<b>Core Curriculum</b>		<b>Units</b>
Introduction to Psychology	PSY 101	3
Introduction to Psychological Research, Measurement and Statistics	PSY 250	3
Experimental Psychology	PSY 290	4
Required Electives (Two of the Following)		
Social Psychology	PSY 210	3
Personality Theory & Research	PSY 230	3
Developmental Psychology	PSY 240	3
<b>TOTAL</b>		<b>64-65</b>

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

## **PSYCHOLOGY**

### **Associate of Science**

<b>General Education Requirements</b>		<b>Units</b>
English Composition	ENG 101	3
English Composition	ENG 102	3
Mathematics	MAT 151 and above	12
Laboratory Science		8
Arts & Humanities and/or Social & Behavioral Science		12
Physical Education		2
Computer Literacy		
Reading Competency		
<b>Minimum General Education Credit Hours</b>		<b>40</b>

<b>Core Curriculum</b>		<b>Units</b>
Introduction to Psychology	PSY 101	3
Introduction to Psychological Research, Measurement and Statistics	PSY 250	3
Experimental Psychology	PSY 290	4
Electives		8
Required Electives (Two of the Following)		
Social Psychology	PSY 210	3
Personality Theory & Research	PSY 230	3
Developmental Psychology	PSY 240	3
<b>TOTAL</b>		<b>64</b>

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

## **SOCIAL SERVICES**

### **Associate of Arts**

<b>General Education Requirements</b>		<b>Units</b>
English Composition	ENG 101	3
English Composition	ENG 102	3
Mathematics	MAT 151 and above	3-4
Laboratory Science		8
Arts & Humanities		9
Social & Behavioral Science		9
Foreign Language	SPA 101 & 102 (Second-semester proficiency)	8
Intensive Writing/Critical Inquiry		3
Physical Education		2
Computer Literacy		
Reading Competency		
<b>Minimum General Education Credit Hours</b>		<b>48-49</b>

Must include: PSY 101, SOC 101, POS 110 or 220.

<b>Major Emphasis: Arizona State University: Social Work</b>		<b>Units</b>
Survey of the American West	HIS 115	3
Ethnic Groups & Minorities	SOC 160	3
Social Problems	SOC 202	3
Introduction to Social Welfare	SOC 207	3
Recommended Electives		9
		21

<b>Major Emphasis: University of Arizona: Criminal Justice Administration</b>		
Introduction to Administration of Justice	AJS 101	3
Finite Math	MAT 172	3
Calculus for Business	MAT 212	3
Business	BUS 201	3
Introduction to Data Processing	CIS 120	3
Business Statistics	BUS 219	3
Public Speaking	COM 110	3
or Fundamentals of Speech	COM 102	

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

Public Speaking	COM 110	3
or Fundamentals of Speech	COM 102	
Recommended Electives		18

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

Human Anatomy & Physiology I	BIO 201	4
Human Anatomy & Physiology II	BIO 202	4
Recommended Electives		12

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

Human Anatomy & Physiology I	BIO 201	4
Human Anatomy & Physiology II	BIO 202	4

### **Recommended Electives (12 units):**

Ethnic Groups & Minorities	SOC 160	3
Social Problems	SOC 202	3
Introduction to Social Welfare	SOC 207	3
Principles of Macroeconomics	ECN 201	3
Principles of Microeconomics	ECN 202	3
Society & Culture	ANT 102	3
Substance Abuse: Causes and Treatment	SSV 193	3
Determinants of Human Behavior	SSV 273	3
<b>TOTAL</b>		<b>68-70</b>

## **SOCIAL SERVICES**

### **Associate of General Studies**

<b>General Education Requirements</b>		<b>Units</b>
English Composition	ENG 101	3
English Composition	ENG 102	3
Mathematics		
MAT 122 and above or equivalent		3
Laboratory Science		4-8
Arts & Humanities		6-9
Social & Behavioral Science		6-9
Foreign Language or Communications		3-4
Intensive Writing/Critical Inquiry or Critical Thinking		3
Physical Education		2
Computer Literacy	CIS 181	3
Reading Competency		
<b>Minimum General Education Credit Hours</b>		<b>36-47</b>
<b>Core Curriculum</b>		<b>Units</b>
Principles of Economics	ECN 201/202	3
American National Government	POS 110	3
Ethnic Groups & Minorities	SOC 160	3
Social Problems	SOC 202	3
Introduction to Social Welfare	SOC 207	3
Marriage & the Family	SOC 210	3
Developmental Psychology	PSY 240	3
Introduction to Psychological Research, Measurement & Statistics	PSY 250	3
<b>TOTAL</b>		<b>64</b>

## **SOCIAL SERVICES**

### **Associate of Applied Science**

<b>General Education Requirements</b>		<b>Units</b>
English Composition	ENG 1	3
English Composition	ENG 102	3
Mathematics	MAT 122 and above	3
Arts & Humanities or Social & Behavioral Science		3
General Education Electives		6
Computer Literacy		
Reading Competency		
<b>Minimum General Education Credit Hours</b>		<b>18</b>
<b>Core Curriculum</b>		<b>Units</b>
Ethnic Groups & Minorities	SOC 160	3
Introduction to Philosophy	PHI 111	3
Introduction to Psychology	PSY 101	3
Introduction to Social Welfare	SOC 207	3
American National Government	POS 110	3
Introduction to Sociology	SOC 101	3
Social Problems	SOC 202	3
Principles of Macroeconomics	ECN 201	3
Principles of Microeconomics	ECN 202	3
Interpersonal Communications	SSV 270	3
Communications in Small Groups	SSV 271	3
Field Experience in Social Services	SSV 224	1-8
Major Emphasis		15
<b>Recommended Electives</b>		
Substantive Criminal Law I	AJS 109	3
Psychology in Law Enforcement	AJS 254	3
History		3
Social Psychology	PSY 210	3
Developmental Psychology	PSY 240	
Human Anatomy & Physiology I	BIO 201	4

## **Major Emphases**

The student can choose a major emphasis from one of the following:

### **Social Services in Corrections**

Introduction to Administration of Justice	AJS 101	3
Correctional Institutions	AJS 111	3
Determinants of Human Behavior	SSV 273	3
Public Speaking	COM 110	3
Substance Abuse	SSV 193	3
Electives		3

### **Guidance and Counseling**

Personality and Adjustment	CPD 103	3
The Challenge of Parenting in our Modern World	CPD 105	3
Career and Life Planning	CPD 121	3
Determinants of Human Behavior	SSV 273	3
Electives		3

### **Social Work**

Personality Theories & Research	PSY 230	3
Marriage and the Family	SOC 210	3
Social Work Seminar	SSV 272	3
Determinants of Human Behavior	SSV 273	3
Electives		3

### **Rehabilitation**

Loss, Grief, and Dying	SSV 190	3
Substance Abuse	SSV 193	3
Determinants of Human Behavior	SSV 273	3
Electives		6
<b>TOTAL</b>		<b>64-71</b>

## **SPANISH**

### **Associate of Arts**

<b>General Education Requirements</b>	<b>Units</b>	
English Composition	ENG 101	3
English Composition	ENG 102	3
Mathematics	MAT 151 and above	4
Laboratory Science		8
Arts & Humanities		9
Social & Behavioral Science		9
Foreign Language (Second-semester proficiency)	SPA 101 & 102	8
Intensive Writing/Critical Inquiry		3
Physical Education		2
Computer Literacy		
Reading Competency		
<b>Minimum General Education Credit Hours</b>	<b>49</b>	
<b>Core Curriculum</b>	<b>Units</b>	
Intermediate Spanish	SPA 201	4
Intermediate Spanish	SPA 202	4
<b>Electives (12 units):</b>		
Survey of World Art, Prehistoric-Gothic	ART 107	3
Survey of World Art: Renaissance-Twentieth Century	ART 108	3
Society & Culture	ANT 102	3
History of the U.S., 1607-1877	HIS 110	3
History of the U.S., Since 1877	HIS 111	3
Survey of Western Civ. I	HIS 140	3
Survey of Western Civ. II	HIS 141	3
Mass Communication	JRN 101	3
Basic Reporting	JRN 102	3
Fundamentals of Speech	COM 102	3
Introduction to Theatre	THE 103	3
Theatre Workshop	THE 110	1-3
Introduction to Music	MUS 101	3
Introduction to Music	MUS 102	3
Introduction to Literature	ENG 104	3
Introduction to Philosophy	PHI 111	3
Ethics	PHI 130	3
Introduction to Sociology	SOC 101	3
Social Problems	SOC 202	3
<b>TOTAL</b>	<b>69</b>	

# WELDING TECHNOLOGY

Associate Of Applied Science

<b>General Education Requirements</b>		<b>Units</b>
English	CIS/ENG 179	3
English	CIS/ENG 279	3
Mathematics	MAT 122 and above	3
Arts & Humanities or Social & Behavioral Science		3
General Education Electives		6
Computer Literacy		
Reading Competency		
<b>Minimum General Education Credit Hours</b>		<b>18</b>
<b>Core Curriculum</b>		<b>Units</b>
Technical Graphics I	DFT 112	3
Technical Graphics II	DFT 113	3
Computer-Aided Drafting	DFT 150	3
Manufacturing Materials & Processes	GTC 105	3
Engineering Materials & Processes	GTC 206	4
Oxyacetylene Welding	WLD 105	3
Arc Welding	WLD 106	3
Welding Survey	WLD 202	4
Gas Metal Arc Welding	WLD 208	3
Gas Tungsten Arc Welding	WLD 209	3
Pipe and Plate Welding	WLD 210	3
Pipe Fitting	WLD 211	3
Welding Design	WLD 215	3
Pipe Layout and Fitting	WLD 217	3
Electives		3
<b>TOTAL</b>		<b>65</b>

Offered at Sierra Vista Campus only.

# CERTIFICATE PROGRAMS

## AVIONICS TECHNOLOGY

**Certificate**

<b>October and April</b>	<b>Units</b>
Math for Basic Electronics	AVT 101
Introduction to Electronics	AVT 104
Avionics Fundamentals	AVT 107
	16
<b>January and July</b>	
Electronic Devices & Circuits I	AVT 112
Digital and Logic Devices	AVT 115
Pulse and Logic Devices	AVT 118
	18
<b>April and October</b>	
Electronic Communications	AVT 202
Electronic Devices & Circuits II	AVT 205
FCC/FAA Regulations	AVT 208
	16
<b>July and January</b>	
Navigation Systems	AVT 220
Flight Management/ Control Systems	AVT 224
Aircraft Radar and Pulse Systems	AVT 228
	18
<b>TOTAL</b>	<b>68</b>

## CERTIFIED PUBLIC MANAGER

### Certificate

**Program Prerequisites:**

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

**Core Courses**

		<b>Units</b>
Leadership and Management	PAD 201	4
Systems Approach to Public Management	PAD 202	3
The Decision-Making Process & Case Method Analysis	PAD 203	3
Composition or Written Reports*	ENG 102 ENG 109	3
Recommended Electives*		2-3

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

**Recommended Electives**

		<b>Units</b>
Introduction to Sociology	SOC 101	3
Social Problems	SOC 202	3
Introduction to Social Welfare	SOC 207	3
Introduction to Psychology	PSY 101	3
American National Government	POS 110	3
National and Arizona Constitution	POS 220	3
Any Administration of Justice course related to current or future job assignment.		
Any Social Service course related to current or future job assignment.		
Introduction to Data Processing	CIS 120	3
Computer Applications	CIS 181	3
Principles of Macroeconomics or Principles of Microeconomics	ECN 201 ECN 202	3
<b>TOTAL</b>		<b>61-62</b>

## MIDDLE MANAGEMENT

### Specialist Program (one year)

		<b>Units</b>
Principles of Marketing	BUS 145	3
Principles of Management	BUS 143	3
Human Resources Management	BUS 123	3
Salesmanship	BUS 144	3
Introduction to Accounting or Accounting	BUS 146 BUS 201	3
Principles of Finance	BUS 156	3
Small Business Management	BUS 283	3
Business Electives (May include up to 9 units in Cooperative Education)		9
<b>TOTAL</b>		<b>30</b>

## WOMEN IN MANAGEMENT

### Certificate

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

## COMPUTER PROGRAMMER

### Certificate

		<b>Units</b>
Computer Math	CIS 110	3
Introduction to Data Processing	CIS 120	3
Algorithms	CIS 130	3
COBOL Programming	CIS 202	4
C or ADA Programming	CIS 204/205	4
Assembler Programming	CIS 206	4
Data Structures	CIS 220	4
Systems Analysis	CIS 270	3
<b>TOTAL</b>		<b>28</b>

See Information Management Division Advisor

## **MICROCOMPUTER PRACTITIONER**

### **Certificate**

#### **Core Courses**

		<b>Units</b>
Introduction to		
Data Processing	CIS 120	3
Introduction to		
Operating Systems	CIS 140	3
PC and Printer Support	CIS 142	3
Computer Applications	CIS 181	3
Advanced Computer		
Applications	CIS 281	3
Applied Technical Writing	CIS 179	3
Technical Presentations	OAD 268	3
Information Management Division		
Approved Electives		6
<b>TOTAL</b>		<b>27</b>

See Information Management Division Advisor

## **NETWORK SUPPORT**

### **Certificate**

The course of study for the Network Support Certificate is shown below. The total credits necessary are 36 credits.

The certificate course of study is designed to provide the student with the fundamentals of Network Administration to include PC operation, connectivity, Network functions and communications.

#### **Core Courses**

		<b>Units</b>
Computer Math		CIS 110
Introduction to Operating Systems	CIS 140	3
PC and Printer Support	CIS 142	3
PC Connectivity	CIS 150	3
Introduction to Networks	CIS 234	4
Novell Network Management	CIS 235	4
Network Operating Systems	CIS 236	3
Advanced Microsoft		
Network Management	CIS 237	4
Service & Maintenance of PC's	CIS 260	3
Network Support and Troubleshooting	CIS 262	3
Field Experience	CIS 294	1
<b>TOTAL</b>		<b>36</b>

## **NETWORK ADMINISTRATOR**

### **Certificate**

#### **Core Courses**

		<b>Units</b>
Introduction to		
Operating Systems	CIS 140	3
PC and Printer Support	CIS 142	3
PC Connectivity	CIS 150	3
Computer Applications	CIS 181	3
Introduction to Networks	CIS 234	4
Novell Network Management	CIS 235	4
Technical Presentations	CIS 268	3
Field Experience	CIS 294	1
Advanced Computer		
Applications	CIS 281	3
Network Operating Systems	CIS 236	3
<b>TOTAL</b>		<b>30</b>

## **UNIX SYSTEM ADMINISTRATOR**

### **Certificate**

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

#### **Core Courses**

		<b>Units</b>
UNIX Operating System		CIS 228
UNIX System Administration	CIS 229	4

#### **Select two credits from the course below:**

UNIX Operations I	CIS 193H	1
UNIX Operations II	CIS 193I	1
Field Experience in Computer		
Information Systems	CIS 294	1-2
<b>TOTAL</b>		<b>10</b>

The following four certificate programs (Correctional Officer Training Academy Certificate, Correctional Program Officer Certificate, Parole Officer Certificate and Corrections Management Certificate) comprise a staff development program for Arizona Department of Corrections employees.

Courses listed within each certificate program are intended for current ADOC employees.

## **CORRECTIONAL OFFICER TRAINING ACADEMY**

### **Certificate**

<b>Core Courses</b>	<b>Units</b>
Prisoner's Rights	COR 109 1
Correctional Institutions	AJS 111 3
Corrections	COR 112 3
Crisis Intervention	COR 113 1
Communications in Criminal Justice	COR 118 1
Firearms	COR 119 1
Firearms Certification	AJS 120 1
First Aid & CPR	HPE 188 1
<b>TOTAL</b>	<b>12</b>

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

## **CORRECTIONAL PROGRAM OFFICER**

### **Certificate**

<b>Core Courses</b>	<b>Units</b>
Correctional Casework Techniques	COR 159 3
Identification of Gangs	COR 161 1
Organization and Impact of Gangs	COR 162 1
Special Populations I	COR 163 1
Special Populations II	COR 164 1
Basic Management Skills	COR 165 1
Management by Objectives	COR 167 1
Correctional Supervision I	COR 184 3
<b>TOTAL</b>	<b>12</b>

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

## **CORRECTIONS MANAGEMENT**

### **Certificate**

<b>Core Courses</b>	<b>Units</b>
Basic Management Skills	COR 165 1
Management by Objectives	COR 167 1
Correctional Supervision I	COR 184 3
Correctional Supervision II	COR 185 3
Correctional Administration	COR 186 3
Criminal Justice Management Problems	AJS 187 1
<b>TOTAL</b>	<b>12</b>

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

## **PAROLE OFFICER**

### **Certificate**

<b>Core Courses</b>	<b>Units</b>
Correctional Casework Techniques	COR 159 3
Identification of Gangs	COR 161 1
Organization and Impact of Gangs	COR 162 1
Special Populations I	COR 163 1
Special Populations II	COR 164 1
Basic Management Skills	COR 165 1
Management by Objectives	COR 167 1
Parole Supervision	COR 170 3
Correctional Supervision I	COR 184 3
<b>TOTAL</b>	<b>10</b>

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

## DRAFTING AND DESIGN

### Certificate

#### Core Courses

		Units
Technical Graphics I	DFT 112	3
Spatial Relationships	DFT 120	3
Intermediate Algebra	MAT 122	3
Applied Technical Writing	ENG 179	3
Manufacturing Materials	GTC 105	3
General Education Elective		3
Technical Graphics II	DFT 113	3
Computer-Aided Drafting	DFT 150	3
Illustration	DFT 170	3
College Algebra	MAT 151	4
Product Design	DFT 231	4
<b>TOTAL</b>		<b>35</b>

## EQUINE SCIENCE AND MANAGEMENT

### Certificate

#### Core Courses

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

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

## FIRE SCIENCE TECHNOLOGY

### Certificate

#### Fire Fighter Level I

		Units
Core Courses		
Introduction to Fire Science	FST 101	3
Fundamentals of Fire Prevention	FST 106	3
Fire Fighter I	FST 110	3
Hazardous Materials Incident (First Responder)	AJS 266	3
Emergency Medical Technology	EMT 174	7
Field Experience in Fire Science Technology	FST 224	3
Public Safety Communications and Special Topics in Fire Science (National Fire Academy/Field Courses)* or Special Topics in Fire Science (National Fire Academy/Field Courses)*	FST 193	2
<b>TOTAL</b>		<b>27</b>

#### Fire Fighter Level II

		Units
Core Courses		
Fire Fighter II	FST 111	6
Fire Service Hydraulics	FST 120	3
Fire Apparatus & Equipment	FST 200	3
Rescue Practices	FST 220	3
Fire Fighting Tactics and Strategy	FST 240	3
Fire Investigation	FST 260	3
Supervisory Training for Fire Fighters	FST 265	3
Field Experience in Fire Science Technology	FST 224	3
Special Topics in Fire Science (National Fire Academy/Field Courses)*	FST 193	3
<b>TOTAL</b>		<b>30</b>

Coursework from the Fire Science Technology AAS degree General Education Requirements.

## **HOSPITALITY ADMINISTRATION**

### **Certificate**

#### **Core Courses**

		<b>Units</b>
Introduction to the Hospitality Industry	HAD 100	3
Introduction to Property Management	HAD 120	3
Guest Services Management	HAD 210	3
Hospitality Automation	HAD 270	3
Field Experience in Hospitality	HAD 224	1-6
English Composition	ENG 101	3
Business Math	BUS 104	3
Financial Accounting	BUS 201	3
Principles of Microeconomics	ECN 202	3
Computer Applications	CIS 181	3
<b>TOTAL</b>		<b>28-33</b>

#### **Recommended Electives**

Commercial Food Preparation Theory	HAD 240	3
Advanced Commercial Food Preparation and Lab	HAD 241	4

## **INTERNATIONAL COMMUNICATIONS**

### **Certificate**

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

### **General Education Requirements:**

Completion of the following courses with a grade of C or better or equivalent proficiency demonstrated by placement tests: ENG 101/107, SPA 202, BUS 104 or MAT 072, OAD 103 or 113, and RDG 021.

#### **Core Courses**

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

## **MOTOR TRANSPORT TECHNOLOGY**

### **Certificate**

		<b>Units</b>
Motor Transport Basic	MTT 101	4
Over the Road Operations	MTT 102	5
Vehicle Maintenance & Inspection	MTT 103	1.5
Freight & Truck Operation	MTT 104	5.5
Field Experience in Motor Transportation	MTT 224	3-6
<b>TOTAL</b>		<b>19-22</b>

## **NURSING**

### **Nursing Assistant Certificate**

### **Practical Nurse Certificate**

(See Associate of Applied Science - Nursing)

## COMPUTERIZED OFFICE APPLICATIONS

### Certificate

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

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

#### Core Courses

		Units
Keyboarding	OAD 101	3
Learning to Use Microcomputers or	CIS 116 OAD 116	3
Introduction to Operating Systems	CIS 140	3
Word Processing	OAD 213	3
Computerized Office Management	OAD 216	3
Advanced Computerized Office Management	OAD 217	3
Technical Presentations	OAD 268	3
Advanced Word Processing	OAD 214	3

#### Division Approved Electives (6 units)

Current Computer Applications or Office Applications	CIS 193 OAD 193/293	1-9
Computer Applications	CIS 181	3
Advanced Computer Applications	CIS 281	3
Your Professional Image	OAD 150	3
Records Management	OAD 206	3
Desktop Publishing	CIS 285	3
Advanced Desktop Publishing	CIS 286	3

#### Document Preparation Courses

Division Placement Required:

##### Elementary Document

Preparation	OAD 102	3
-------------	---------	---

##### Intermediate Document

Preparation	OAD 103	3
-------------	---------	---

Advanced Document Preparation	OAD 201	3
-------------------------------	---------	---

Professional Document Preparation	OAD 202	3
-----------------------------------	---------	---

**TOTAL**

## MEDICAL TRANSCRIPTIONIST

### Certificate

#### Core Courses:

Advanced or Professional Document Preparation	OAD 201 or 202	3
Applied Technical Writing or Business English	CIS/ENG 179	
Medical Transcription/ Terminology	OAD 111	3
	OAD 212	3
Professional Courses:		
Automated Office Practice (Medical)	OAD 211	3
Advanced Medical Transcription/ Terminology	OAD 215	3
Field Experience in Office Technology	OAD 224	3-6
Division Approved Medical Electives		3
<b>TOTAL</b>		<b>21</b>

#### Certificate Competency Statements:

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

**30**

## OFFICE ASSISTANT

### Certificate

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

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

#### Applied Academic Requirements      Units

Applied Technical Writing	CIS 179, ENG 109	
or Business English	CAD 111	3
Business Communications	OAD/BUS 167	3
Business Speech		
Communications	OAD 209	3
Business Math	OAD/BUS 104	3
Introduction to Accounting	OAD/BUS 146	3
<b>Total Applied Academic Units</b>		<b>15</b>

#### Core Course Requirements      Units

Learning to Use		
Microcomputers	OAD/CIS 116	3
Document Preparation Courses (Two)*		6
Elementary Document Preparation	OAD 102	
Intermediate Document Preparation	OAD 103	
Advanced Document Preparation	OAD 201	
Professional Document Preparation	OAD 202	

\*Course level determined by division      6\*

Word Processing	OAD 213	
or Advanced Word Processing	OAD 214	3
<b>Total Basic Core Curriculum</b>		<b>12</b>

#### Professional Block      Units

Your Professional Image	OAD 150	3
Automated Office Procedures	OAD 210	3
Automated Office Practice	OAD 211	3
Records Management	OAD 206	3
<b>Total Professional Block</b>		<b>12</b>
<b>TOTAL</b>		<b>39</b>

## PARALEGAL STUDIES

### Certificate

Preparatory Block (Selection determined by Placement tests, division advisor consultation and evaluation of work experience)

Reading, Writing basic courses		3-11
English Skills	OAD 111, CIS 179,	
	ENG 101 or better	3-6
Basic Math Skills	OAD 104 or better	3
Word Processing Skills		3-6
Basic Document Preparation Skills		3-9
Basic Microcomputer Skills		3-6
Your Professional Image	OAD 150	3
(21-31 Units preparatory block, if needed)		

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

Certificate Requirements: To satisfy completion requirements for this certificate, all courses require a grade of C or better. A comprehensive exam must be passed to complete this certificate.

#### Paralegal Studies Profession Courses

Intro to Paralegalism	OAD 220	3
Legal Assistant I	OAD 221	3
Legal Assistant II	OAD 222	3
Basic Legal Research	OAD 223	3
Division Approved Electives		6
Field Experience (Legal)	OAD 224	6
Comprehensive Paralegal Studies Exam		
<b>Certificate total</b>		<b>24</b>

## PRINT MEDIA ARTS

## **Certificate**

Prerequisite: Permission of program advisor.

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

## Units

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

<b>Mass Communications</b>	<b>MED/JRN 101</b>	<b>3</b>
<b>Introduction to</b>		
<b>Desktop Publishing</b>	<b>MED/JRN 207/</b>	
	<b>CIS 285</b>	<b>3</b>
<b>Computer Art and Design</b>	<b>MED 209</b>	<b>3</b>
<b>Advertising and</b>		
<b>Public Relations</b>	<b>MED/BUS 148</b>	<b>3</b>
<b>Basic Reporting</b>	<b>JRN 102</b>	<b>3</b>
<b>Field Experience in</b>		
<b>Communications/</b>		
<b>Media Technology</b>	<b>JRN 224</b>	<b>3</b>
<b><i><b>TOTAL</b></i></b>		<b><i><b>33</b></i></b>

**Advanced Reporting, JRN 103, recommended.**  
Those interested in graphic design are encouraged  
to take ART 103 and ART 265.

## **RECEPTIONIST**

### **Certificate**

## Preparatory Block

(Selection determined by Placement Tests)

Reading, Writing, English, Math	3-11
Keyboarding or Document Preparation	3
Learn to Use	
Microcomputers	OAD/CIS 116
and Other First Semester	
Courses	3-9

## Units

Notetaking I	OAD M193	1
Notetaking II	OAD N193	1
Business Speech		
Communications	OAD 209	3

### **Core Courses:**

### **Core Courses:**

Elementary, Intermediate or Advanced Document Preparation	OAD 102, 103	3
Applied Technical Writing or Business English	CIS/ENG 179	3
Business Math	OAD 111	3
Learn to Use Microcomputers	BUS/OAD 104	3
Automated Office Procedures	OAD 116	3
	OAD 210	3

**Select one or more below**

Determined by student background and desired learning outcomes:

Word Processing	OAD 213	3
Advanced Word Processing	OAD 214	3
Records Management	OAD 206	3
Business Speech		
Communications	OAD 209	3
<b>TOTAL</b>		<b>21</b>

**TEACHER AIDE**  
**Certificate**

**Core Courses**

		<b>Units</b>
English Composition	ENG 101	3
Mathematics	MAT 072 or higher	3 3
Health (one of the following)		1-3
School & Community		
Health	HPE 186	3
Personal Health	HPE 187	3
First Aid & CPR	HPE 188	1
Physical Education and/or Art (one of the following)		3
Orientation to Phys. Ed.	HPE 180	3
Elem. School Physical Ed.	HPE 185	3
Basic Design	ART 103	3
Drawing I	ART 106	3
Survey of World Art	ART 107	3
Survey of World Art	ART 108	3
Psychology and/or Counseling (one of the following)		3
Introduction to Psychology	PSY 101	3
The Growing Years (Telecourse)	CPD 100	3
The Challenge of Parenting	CPD 105	3
Personality & Adjustment	CPD 103	3
Sociology (one of the following)		3
Introduction to Sociology	SOC 101	3
Ethnic Groups & Minorities	SOC 160	3
Social Problems	SOC 202	3
Computers (one of the following)		3
Introduction to Data Processing	CIS 120	3
Computer Applications	CIS 181	3

**TOTAL**

**19-21**

**SOCIAL SERVICES**  
**Certificate**

**Core Courses**

	<b>Units</b>
Social Problems or Ethnic Groups & Minorities	SOC 202
or Society & Culture	SOC 160
Introduction to Psychology	ANT 102
Introduction to Sociology	PSY 101
Introduction to Social Welfare	SOC 101
English Composition	SOC 207
15 units selected from one of the Social Services AAS Major Emphases.	ENG 101
<b>TOTAL</b>	<b>30</b>

**SUPERVISORY MANAGEMENT**  
**Certificate**

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

**Core Courses**

	<b>Units</b>
Management Skills	PAD 101
The Manager and Systems Relationships	PAD 102
The Manager and the Work Group	PAD 103
English Composition*	ENG 101
Mathematics*	Any level
Recommended Electives*	3
<b>TOTAL</b>	<b>15</b>

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

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

## WELDING TECHNOLOGY

### Certificate

**Core Courses**

		<b>Units</b>
Technical Graphics I	DFT 112	3
Intermediate Algebra	MAT 122	3
Oxyacetylene Welding	WLD 105	3
Manufacturing Materials	GTC 105	3
Arc Welding	WLD 106	3
Applied Technical Writing	ENG/CIS 179	3
Computer-Aided Drafting	DFT 150	3
Gas Metal Arc Welding	WLD 208	3
Gas Tungsten Arc Welding	WLD 209	3
Pipe and Plate Welding	WLD 210	3
<b>TOTAL</b>		<b>30</b>

\*Offered at Sierra Vista Campus only.

## WORKPLACE ENGLISH

### Certificate

**Core Courses**

		<b>Units</b>
Workplace English I taken concurrently with	ESL 001	3
Workplace English II taken concurrently with	COM/ESL 091	1
Workplace English III taken concurrently with	ESL 002	3
Workplace English IV taken concurrently with	ENG/GTC 092	1
Cultural Values in the Borderlands Workplace	ESL 003	3
Field Experience in Spanish	HUM/BUS 093	1
Borderlands Workplace	ESL 004	3
Field Experience in Cooperative Education	ENG/SPA 094	1
<b>TOTAL</b>	HUM 167*	<b>3</b>
	CED 224*	<b>1-6</b>
		<b>22</b>

\*Taught bilingually in a cross-cultural setting

## WORKPLACE SPANISH

### Certificate

Prerequisite: Permission of program adviser and demonstrated proficiency in word processing.

Students will earn the certificate by completing the following courses with a grade of C or better.

Elementary Spanish taken concurrently with SPA 189 and/or SPA 190	SPA 101	4
Elementary Spanish taken concurrently with	SPA 102	4
Intermediate Spanish taken concurrently with	SPA 191	1
Intermediate Spanish taken concurrently with	SPA 201	4
Intermediate Spanish taken concurrently with	SPA 283	1
Intermediate Spanish taken concurrently with	SPA 202	4
Intermediate Spanish taken concurrently with	SPA 284	1

The following two capstone courses are taught bilingually in a cross-cultural setting.

Cultural Values in the

Borderlands Workplace	HUM 167	3
Field Experience in Spanish	CED 224	3
<b>Total Units</b>		<b>26-27</b>

## ARIZONA DEPARTMENT OF CORRECTIONS

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

## BUILDING MAINTENANCE

### Certificate

**Core Courses**

		<b>Units</b>
Painting-Exterior and Interior	GTC 121	3
Air Conditioning Maintenance	GTC 122	3
Electrical Maintenance and Repair	GTC 123	3
Carpentry Maintenance and Repair	GTC 124	3
Plumbing Maintenance and Repair	GTC 125	3
Maintenance Management	GTC 126	3
Blueprint Reading and Estimating	GTC 127	3
<b>TOTAL</b>		<b>21</b>

**BUSINESS****Certificate****Core Courses**

Survey of American

Business

Bookkeeping and

Financial Mgmt

Computer Keyboarding

Business Math

Grammar, Usage and

Punctuation

Report Writing

**TOTAL****Units**

BUS 109 3

BUS 146 3

OAD 101 3

BUS 104 3

ENG 111 3

ENG 109 3

**18****Office Education Emphasis**

Word Processing

Records Management

General Office Procedures

Leadership and Supervision

Business Communications

**TOTAL**

OAD 213 3

OAD 206 3

OAD 106 3

BUS 127 3

OAD 167 3

**15****Business Management Emphasis**

Principles of Management

Small Business

Management

Principles of Marketing

Computer Applications

Salesmanship

or Human Resources

Management

**TOTAL**

BUS 143 3

BUS 283 3

BUS 145 3

CIS 181 3

BUS 144 3

BUS 123 3

**15**

General Interest Courses: Basic Drafting, Consumer

Education, Real Estate, and Introduction to Data Pro-

cessing.

**BUSINESS MACHINES REPAIR****Certificate****Core Courses****Units****Part #1 - Typewriter Repair**

IBM Selectric I &amp; II Repair OMR 100 4

Electronic Calculator Repair OMR 102 3

Electronic Typewriter Repair OMR 104 3

Electronic Memory Typewriter Repair OMR 200 4

**Part #2 - Office Machine and Photocopier Repair**

Dictating Machine Repair OMR 106 3

Basic Photocopier Repair OMR 202 4

Advanced Photocopier Repair OMR 204 4

Advanced Troubleshooting &amp; Shop Operations OMR 208 4

**Part #3 - Microcomputer Repair**

Basic Microcomputer Repair OMR 205 3

Advanced Microcomputer Repair OMR 206 4

Microcomputer Peripherals Repair OMR 207 4

**TOTAL** 40**CONSUMER ELECTRONICS REPAIR****Certificate****Core Courses****Units**

Radio Theory and Repair CER 100 3

Audio Tape Recorder Repair CER 102 3

Television Theory and Repair CER 104 4

Video Cassette Player/ Recorder Repair CER 200 4

Compact Disc Player Repair CER 202 3

Microwave Oven Theory &amp; Repair CER 204 4

Power Amplifiers CER 205 3

Advanced Television Repair CER 206 4

**TOTAL** 28

## GENERAL ELECTRONICS TECHNICIAN

### Certificate

#### Core Courses

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

## HORTICULTURE

### Certificate

#### Core Courses

		Units
Basic Horticulture	HRT 101	3
Landscape Plant Material	HRT 110	3
Landscape Construction & Maintenance	HRT 111	3
Pest Control	HRT 120	3
Landscape Design	HRT 201	3
<b>TOTAL</b>		<b>15</b>

## MASONRY

### Certificate

#### Core Courses

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

## PRINCIPLES OF TECHNOLOGY

### Certificate

#### Core Courses

##### General Technical

Mathematics	GTC 004	1
Technical Mathematics	GTC 100	1
Technical Mathematics	GTC 101	2
Principles of Technology I	GTC 131	6
Principles of Technology II	GTC 132	6
Principles of Technology III	GTC 133	6
<b>TOTAL</b>		<b>22</b>

# COURSE DESCRIPTIONS

**Note: \*Indicates Laboratory or Studio Fees**

## **ADMINISTRATION OF JUSTICE**

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

Prerequisite: None.

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

3 hours lecture.

### **AJS 109 SUBSTANTIVE CRIMINAL LAW (3)**

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

The study of the philosophy of legal sanctions and their historical development, from common law to modern American criminal law. Includes classification of crimes, elements of and parties to crimes, general definitions of crimes, and common defenses.

3 hours lecture.

### **AJS 111 CORRECTIONAL INSTITUTIONS (3)**

Prerequisite: None.

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

3 hours lecture.

### **AJS 122 POLICE PATROL FUNCTION (3)**

Prerequisite: None.

A study of the history and theory of patrol; duties and responsibilities of the patrol division; communications, development of observational powers; care and use of protective weapons, patrol vehicles, and other equipment. Handling of emergency requests for assistance, vehicle stops, burglary, robbery, sex offenses; the mentally ill, and other kinds of situations.

3 hours lecture.

### **AJS 125 PRIVATE SECURITY, PRINCIPLES AND PRACTICES (3)**

Prerequisite: None.

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

3 hours lecture.

### **AJS 140 ARIZONA DETENTION OFFICERS BASIC TRAINING ACADEMY (8)**

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

An academy for law enforcement detention officers. Successful course completion awards certification as an Arizona Detention Officer.

6 hours lecture.

**AJS 150 UNITED STATES PENOLOGY (3)**

Prerequisite: None.

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

3 hours lecture.

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

Prerequisite: None.

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

1 hour lecture.

**AJS 190 POLICE RESERVE ACADEMY I (10)**

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

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

9 hours lecture; 3 hours laboratory.

**AJS 193 HAZARD COMMUNICATIONS (RIGHT-TO-KNOW) (.5)**

Prerequisite: None.

A study of the 29 Codes of Federal Regulations (CFR), Section 1910.1200 and the Hazard Communications (Right-to-Know) Regulation. The course focuses on the impacts these regulations have on the occupational workforce. Requirements for implementation and monitoring of the regulations are examined.

1/2 hour lecture.

**AJS 194 HAZARD COMMUNICATIONS (COMMUNITY RIGHT-TO-KNOW) (.5)**

Prerequisite: None.

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

1/2 hour lecture.

**AJS 205 COMMUNITY CORRECTIONS (3)**

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

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

3 hours lecture.

**AJS 212 JUVENILE JUSTICE PROCEDURES (3)**

Prerequisite: ENG 101 recommended.

A practical study of the history and development of juvenile justice theories, procedures and institutions.

3 hours lecture.

**AJS 215 PENOLOGY (3)**

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

A study of correctional management topics including sentencing, classification, "good time" credit, discipline, prisoner's rights and security/control measures; additional emphases are placed on the guard's role, different management styles, and various correctional models.

3 hours lecture.

**AJS 224 FIELD EXPERIENCE IN ADMINISTRATION OF JUSTICE (1-6)**

Prerequisite: Sophomore standing in a declared major and prior approval of Cooperative Education Program Coordinator.

A supervised Cooperative Education work experience involving the combined efforts of educators and employers to accomplish career objectives in law enforcement and related fields. Variable credit (1-6) is available by special arrangement. May be taken four times for a maximum of 16 credit hours, no more than 6 units in a given semester.

### **AJS 225 CRIME AND DELINQUENCY (3)**

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

The study of deviance and society's role in defining behavior. Theories of criminality and the economic, social, and psychological impact of crime, victimization, and relationships between statistics and crime trends.

3 hours lecture.

### **AJS 230 THE POLICE FUNCTION (3)**

Prerequisite: None.

The study of theories, procedures and methods of operation of public police with emphasis on discretionary powers. Also includes a review of career opportunities and current trends in law enforcement.

3 hours lecture.

### **AJS 240 THE CORRECTION FUNCTION (3)**

Prerequisite: None.

The study of the history and development of correctional theories and institutions.

3 hours lecture.

### **AJS 254 PSYCHOLOGY IN LAW ENFORCEMENT (3)**

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

A study of the changing role of police, attitudes toward human behavior, normal personality conflicts, defense mechanisms, abnormal behavior, personality disorders, neuroses, psychoses, psychopathology, deviance, drug dependency, paranoia, violence, and suicidal behavior. Behavioral aspects of disas-

ters, riots, riot control and legal aspects of abnormal behavior.

3 hours lecture.

### **AJS 260 PROCEDURAL CRIMINAL LAW (3)**

Prerequisite: AJS 109 preferred, not required; ENG 101, Reading 11.5 grade level or above.

An introduction to major court holdings, procedural requirements that stem from these holdings, and their effect on daily operations of the criminal justice system.

3 hours lecture.

### **AJS 265 CRITICAL ISSUES IN CRIMINAL JUSTICE (.5-1)**

Prerequisite: None.

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

1/2-1 hour lecture.

### **AJS 266 HAZARDOUS MATERIAL INCIDENT RESPONSE (3)**

Prerequisite: None.

A study of the fundamentals of fire service chemistry and federal, state, and local laws pertaining to the use, storage and transportation of chemicals. Emphasis is placed upon the hazards of radioactive and other toxic compounds and precautions to observe in fighting fires involving hazardous materials.

3 hours lecture.

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

Prerequisite: None.

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

3 hours lecture.

**AJS 270 COMMUNITY RELATIONS (3)**

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

A study of the police officer's role in attaining and maintaining public support. Includes recognition and understanding of community problems, community action programs, methods of coping with crisis situations, victimology, ethnic and minority cultures, environments, crime prevention and police operations.

3 hours lecture.

**AJS 275 CRIMINAL INVESTIGATIONS (3)**

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

A study of the theory of criminal investigation, crime scene procedures, case preparation, interviewing, and basic investigative techniques

3 hours lecture.

**AJS 290 INSTRUCTOR SKILL DEVELOPMENT (3)**

Prerequisite: Student must be a certified law enforcement or corrections officer, currently employed by a law enforcement agency or a sophomore in the Administration of Justice Program.

Designed to impart a wide range of teaching skills, concepts, and techniques specific to the law enforcement trainer. Topics covered include adult learning, training needs, research methodology, instructional objectives, program development, instructional methodology, and evaluation techniques. Successful course completers will be eligible for certification as ALEOAC Certified Instructors. (Identical to EDU 290.)

3 hours lecture.

**AJS 291 LAW ENFORCEMENT  
INSTRUCTOR CERTIFICATION I (1)**

Prerequisite: None.

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

1 hour lecture.

**AJS 292 LAW ENFORCEMENT  
INSTRUCTOR CERTIFICATION II (1)**

Prerequisite: None.

A practical application of criminal justice instructional techniques emphasizing training needs, writing course objectives, developing lesson plans, and student evaluation. (AJS 291, 292, and 293 combined are identical to AJS 290.)

1 hour lecture.

**AJS 293 LAW ENFORCEMENT  
INSTRUCTOR CERTIFICATION III (1)**

Prerequisite: None.

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

1 hour lecture.

**AJS 295 POLICE RESERVE ACADEMY II (10)**

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

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

9 hours lecture; 3 hours laboratory.

**AGRICULTURE****AGR 101 PRINCIPLES OF VETERINARY  
SCIENCES (3)**

Prerequisite: None.

An introduction to the veterinary sciences for potential pre-veterinary students as well as those students of animal science or husbandry interested in the care and health of all domestic animals and livestock.

3 hours lecture.

## **AGR 102 INTRODUCTION TO AGRICULTURE (3)**

Prerequisite: None.

An introductory class involving the overall concepts of agriculture. This class introduces the theoretical basis of agriculture in order that the student may better select career options.

3 hours lecture.

## **AGR 103 INTRODUCTION TO ANIMAL AND DISEASE PROCESS (3)**

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. Instruction will link the normal information specifically to the disease process and serve as an introduction to the scientific basis of disease.

3 hours lecture.

## **AGR 104 PRINCIPLES OF AGRONOMY (3)**

Prerequisite: None.

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

3 hours lecture.

## **AGR 105 RANGE MANAGEMENT (3)**

Prerequisite: None.

A study of the history of rangeland use, the influences of use on plant physiology and ecology, and the interrelationships and coordination of rangeland uses for farm and ranch managers interested in plants, soils, and livestock.

3 hours lecture.

## **AGR 106 ANIMAL DISEASES AND SANITATION (3)**

Prerequisite: AGR 103.

This course is designed to deal specifically with individual diseases which affect common domestic ani-

mals and will include the 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 as inter-related to the above diseases will be discussed.

3 hours lecture.

## **AGR 107\* FARRIER SCIENCE (3)**

Prerequisite: None.

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

1 hour lecture; 3 hours laboratory.

## **AGR 108 INTRODUCTION TO BEEKEEPING (3)**

Prerequisite: None.

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

3 hours lecture.

## **AGR 138\* TEAM ROPING (3)**

Prerequisite: None.

This course will provide an opportunity for students to participate for pleasure and for later competition in rodeo team roping.

2 hours lecture; 3 hours laboratory.

## **AGR 139 WESTERN HORSEMANSHIP (3)**

Prerequisite: None.

A course enabling students who now own or intend to buy a pleasure horse to handle and care for the animal in the western tradition; how to handle a western saddle, how to select appropriate equipment, how to evaluate a pleasure horse before purchasing, and how to provide for the general well-being of the animal.

2 hours lecture; 3 hours laboratory.

**AGR 140\* RODEO SKILLS (3)**

Prerequisite: None.

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

2 hours lecture; 3 hours laboratory.

**AGR 141\* ENGLISH EQUITATION (3)**

Prerequisite: None.

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

2 hours lecture; 3 hours laboratory.

**AGR 207 RANGE PLANTS (3)**

Prerequisite: Botany.

Introduction to the study of local grasses, shrubs, and forbs, including identification, forage value, and ecological use. Also, range plants will be studied that are toxic or have poisonous effects on animal life.

1 hour lecture; 3 hours laboratory.

**AGR 208 ANIMAL INDUSTRY (3)**

Prerequisite: None.

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

3 hours lecture.

**AGR 209 AUXILIARY ENGINE OPERATION AND REPAIR (3)**

Prerequisite: None.

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

1 hour lecture; 3 hours laboratory.

**AGR 210\* GENERAL WELDING I (3)**

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.

**AGR 211 ECONOMICS IN AMERICAN AGRICULTURE (3)**

Prerequisite: None.

A study of economic principles governing the production of agriculture including the principles of supply and demand, pricing, investing, measuring and consuming with emphasis on theories and practical applications to current economic problems.

3 hours lecture.

**AGR 212\* ADVANCED AGRICULTURE WELDING (3)**

Prerequisite: None.

Techniques of operating arc welding machine in the various welding positions; flat, horizontal, vertical, and overhead, and the use of oxyacetylene equipment for fusion welding, brazing, cutting, hardfacing and soldering all common types of metal with emphasis on individual projects.

2 hours lecture; 3 hours laboratory.

**AGR 213\* AGRICULTURE ALLOY REPAIR WELDING (3)**

Prerequisite: AGR 210, 212, or permission of instructor.

Techniques of operating arc welding and oxyacetylene equipment in the welding and repairing of alloy metals with emphasis on the techniques required to satisfactorily repair alloy metals.

2 hours lecture; 3 hours laboratory.

**AGR 214 SOILS & FERTILIZERS (3)**

Prerequisite: None.

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

3 hours lecture.

**AGR 215 HOME GARDENING (3)**

Prerequisite: None.

The study of the care and maintenance of trees, shrubs, hedges, and flowers for those students who want to sharpen their skills in growing vegetable and flower gardens.

3 hours lecture.

**AGR 224 FIELD EXPERIENCE IN AGRICULTURE & NATURAL RESOURCES (1-6)**

Prerequisite: Sophomore standing in a declared major and prior approval of Cooperative Education Program Coordinator.

A supervised Cooperative Education work experience involving the combined efforts of educators and employers to accomplish career objectives in Agriculture & Natural Resources. Variable credit (1-6) is available by special arrangement. May be taken four times for a maximum of 16 credit hours, no more than 6 units in a given semester.

**AGR 230 ANIMAL FEEDING (3)**

Prerequisite: None.

Basic principles of animal nutrition and digestion and selection, evaluation, and use of feeds in balancing rations for livestock and poultry.

3 hours lecture.

**AGR 237\* HORSE SCIENCE & MANAGEMENT (3)**

Prerequisite: None.

An introduction to the types, breeds, and management of horses with emphasis on feeding, breeding, and daily care.

3 hours lecture.

**AGR 242 LIVESTOCK JUDGING (3)**

Prerequisite: None.

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

3 hours lecture.

**AGR 243 LIVESTOCK PRODUCTION AND MANAGEMENT (3)**

Prerequisite: None.

Livestock production and management will teach the managerial skills necessary in the production, feeding, and the care of livestock on farms and ranches. The economics of the livestock industry will also be emphasized.

3 hours lecture.

**AGR 250\* PROJECT WELDING (3)**

Prerequisite: AGR 210 or AGR 212 or permission of instructor.

Designed for students with demonstrated welding skills to work on a specific project. The project may be one selected by the student or one the instructor has assigned. The project will be made using the arc welding and/or the oxyacetylene equipment in the shop.

May be repeated for non-transfer credit only.

2 hours lecture; 3 hours laboratory.

**AGR 299 INDIVIDUAL STUDIES (1-4)**

Prerequisite: Permission of division chair or associate dean and instructor.

Completion of a research problem or an outlined course of study under the direction of a faculty member, with contract for individual study agreed upon by the student, the instructor and the division chair or associate dean prior to initiation of the study.

# **ANTHROPOLOGY**

## **ANT 101 ORIGIN AND ANTIQUITY OF MAN (3)**

Prerequisite: None.

A survey of human biological origins, based upon paleontological and archaeological records, including recent developments in physical anthropology.

3 hours lecture.

## **ANT 102 SOCIETY AND CULTURE (3)**

Prerequisite: None.

A theoretical and practical introduction to cultural anthropology designed to provide insight into cultural forces which affect man's way of life. Topics include the study of material culture, technology, social, political and economic systems, religion, and language.

3 hours lecture.

## **ANT 110 EXPLORING ARCHAEOLOGY (3)**

Prerequisite: None.

A non technical introduction to archaeology tracing human cultural development from the earliest stone tools to the initial civilizations of the Old and New Worlds.

3 hours lecture.

## **ANT 138\* ARCHAEOLOGICAL SITE SURVEY (3)**

Prerequisite: None.

An introduction to identifying, locating, and recording archaeological sites, with emphasis on gaining practical experience in documenting archaeological remains. Students participate in exploring areas in Southern Cochise County.

1.5 hours lecture; 4.5 hours laboratory.

## **ANT 140\* ROCK ART OF THE AMERICAN INDIAN (3)**

Prerequisite: None.

The study of the prehistoric carvings and paintings on rock surfaces throughout North America with an

emphasis on recording processes, field work, and the Southwest.

2 hours lecture; 3 hours laboratory.

## **ANT 192 SPECIAL TOPICS IN ANTHROPOLOGY (.5-1)**

Prerequisite: None.

A rotating forum/seminar emphasizing anthropological topics of current regional significance which will vary with changes in student needs and interests. May be repeated for Cochise College credit. Cochise College elective credit only unless otherwise designated in degree programs.

1/2-1 hour lecture.

## **ANT 235 PRINCIPLES OF ARCHAEOLOGY (3)**

Prerequisite: None.

An introduction to the methods and theories used in archaeological research and interpretation with emphasis upon the practical aspects of archaeology.

3 hours lecture.

## **ANT 285 PREHISTORIC CULTURES OF NORTH AMERICA (3)**

Prerequisite: None.

A survey of prehistoric North American native cultures, including basic anthropological, archaeological and ethnological theory methods and concepts. Focus is on such cultures as the Clovis, Hohokam, Anasazi, Mississippi, Natchez and Aleut.

3 hours lecture.

## **ANT 286 HISTORIC INDIAN TRIBES OF NORTH AMERICA (3)**

Prerequisite: None.

A survey of historical North American native cultures including basic anthropological, historical and ethnological theory, methods and concepts. Focus is upon such cultures as the Apache, Pueblo, Pima-Papago, Shoshonean, as well as those of the Northeast Coast, the Great Plains and the Northeast. The status of contemporary tribes is also addressed.

3 hours lecture.

## **ANT 287 ARCHAEOLOGY OF THE SOUTHWEST (3)**

Prerequisite: None.

A study of the prehistoric people of the American Southwest from the late Pleistocene to the Spanish conquest. The course includes discussions of local archaeological culture emphasizing the process for cultural development within key regions.

3 hours lecture.

## **ANT 299 INDIVIDUAL STUDIES (1-4)**

Prerequisite: Approval of the division chair or associate dean and instructor.

Completion of a research problem or an outlined course of study under the direction of a faculty member with contract for the individual study agreed upon by the student, the instructor and the division chair or associate dean prior to initiation of the study. May be repeated for credit.

## **ART**

Note: All studio courses except ART 101 - Introduction to Art - may be repeated once for credit. (The second semester is usually allowed as an art elective.) These courses may be repeated indefinitely beyond the second semester for non-transfer credit.

### **ART 103\* BASIC DESIGN (3)**

Prerequisite: None.

An introduction to the basic elements of design: line, shape, value, texture and color. This includes skill development in arranging these elements according to the basic principles of organization (harmony and variety) within a two-dimensional framework.

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

2 hours lecture; 4 hours studio.

### **ART 108\* DRAWING I (3)**

Prerequisite: None.

This is an elementary course in representational drawing and pictorial design. Students utilize the local landscape and various still-life objects as subject

matter for individual projects. Freehand drawing is stressed to develop hand-eye coordination. Also encouraged is the use of imagination and memory in the development of ideas.

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

2 hours lecture; 4 hours studio.

## **ART 107 SURVEY OF WORLD ART: PREHISTORIC-GOTHIC (3)**

Prerequisite: None.

A survey presentation of the art and architecture of western civilizations through the Gothic era, including prehistoric and primitive cultures of the world.

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

3 hours lecture.

## **ART 108 SURVEY OF WORLD ART: RENAISSANCE THROUGH THE TWENTIETH CENTURY (3)**

Prerequisite: None

A survey presentation of the art and architecture of western civilizations from the Renaissance through the twentieth century.

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

3 hours lecture

## **ART 120 APPRECIATION OF VISUAL ARTS (3)**

Prerequisite: None

A general overview of the Visual Arts, to include philosophies, history, techniques, various media, elements of design, form, line, space, and texture. Fulfills the art education requirement for teacher certification.

3 hours lecture.

## **ART 130\* PAINTING FOR PERSONAL DEVELOPMENT I (2)**

Prerequisite: None.

Introduction to techniques of watercolor, oil or acrylic with emphasis on composition and materials. Students must complete several projects judged on the basis of individual skill and development. Not intended for transfer to a four-year institution. May be repeated for credit.

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

1 hour lecture; 3 hours studio.

## **ART 131\* PAINTING FOR PERSONAL DEVELOPMENT II (2)**

Prerequisite: ART 130.

Development of those skills and techniques introduced in ART 130 with special emphasis on student projects and preparation of works for exhibition. May be repeated for credit. Not intended for transfer to four-year institutions.

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

1 hour lecture; 3 hours studio.

## **ART 192\* SPECIAL TOPICS IN ART (.5-4)**

Prerequisite: None.

A rotating forum/seminar/workshop emphasizing regional art forms and the development and practical application of artistic skills using a variety of media. Topics will vary in accordance with changes in student needs and interests. May be repeated for Cochise College credit.

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

1/2-4 hours lecture/studio.

## **ART 216\* DRAWING II (3)**

Prerequisite: ART 106 or permission of instructor.

An intermediate course in representational drawing and pictorial design. Students utilize the landscape, still life objects and individual initiative to develop sub-

ject matter for their projects. Freehand drawing is stressed to develop hand-eye coordination. Students are expected to have developed some basic drawing skills before taking this course.

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

2 hours lecture; 4 hours studio.

## **ART 230\* COLOR AND DESIGN (3)**

Prerequisite: ART 103 or permission of instructor.

Further investigations into the elements and principles of design including line, shape, value, texture, and color within a two-dimensional framework. A variety of media and techniques will be used and an emphasis will be placed on color and design theory.

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

2 hours lecture; 4 hours studio.

## **ART 231\* THREE DIMENSIONAL DESIGN/SCULPTURE (3)**

Prerequisite: ART 103 or permission of instructor.

A studio course with an inquiry into the use of volume, mass, color and textural relationships as they exist in actual space

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

2 hours lecture; 4 hours studio.

## **ART 245\* FIGURE DRAWING (3)**

Prerequisite: ART 106 or permission of instructor.

Drawing from the model and other subjects to develop pictorial and perceptual skills with an emphasis on the human figure in its environment.

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

2 hours lecture; 4 hours studio.

**ART 250\* BEGINNING JEWELRY (3)**

Prerequisite: ART 103 and 231 or permission of instructor.

A studio course in basic jewelry-making processes including fabrication, silver-soldering, lapidary and casting.

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

2 hours lecture; 4 hours studio.

**ART 255\* BASIC METALWORK (3)**

Prerequisite: ART 103 and 231 or permission of instructor.

A studio course in essential aspects of metal-working processes including silver soldering, brazing, welding, forging, and casting.

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

2 hours lecture; 4 hours studio.

**ART 265\* BEGINNING COMMERCIAL DESIGN (3)**

Prerequisite: ART/MED 103 or permission of instructor.

A study of the principles of commercial design and techniques of advertising layout, their practical application, and the tools and materials used in the field of advertising. Identical to MED 265.

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

2 hours lecture; 4 hours studio.

**ART 270\* CERAMICS I (3)**

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

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

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

2 hours lecture; 4 hours studio.

**ART 270A\* RAKU WORKSHOP (1)**

Prerequisite: None.

An introduction to the traditional and experimental Raku processes.

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

.67 hours lecture; 1.33 hours studio.

**ART 275\* CERAMICS II (3)**

Prerequisite: ART 103, ART 231, and ART 270 or permission of instructor.

A more advanced course than ART 270, Ceramics I. Students will need to have a basic knowledge of handbuilt and wheelthrown techniques with various clay bodies and, a basic knowledge of glazes, their application and kiln loading and firing processes. Because students work independently, it is recommended that they have taken ART 270, Ceramics I at Cochise College.

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

2 hour lecture; 4 hours studio.

**ART 280\* PAINTING I (3)**

Prerequisite: ART 103 or ART 106 or permission of instructor.

A studio course in beginning oil and/or acrylic painting techniques with emphasis on color theory and color mixing. Preparation of painting surfaces is also introduced.

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

2 hours lecture; 4 hours studio.

**ART 281\* PAINTING II (3)**

Prerequisite: ART 103 or 106, and 280, or permission of instructor.

An intermediate course in painting with an emphasis on developing individual expressive and pictorial skills in oil and/or acrylic media.

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

2 hours lecture; 4 hours studio.

**ART 285\* BEGINNING PHOTOGRAPHY (3)**

Prerequisite: None.

An introduction to the use and function of the camera and black-and-white darkroom technique. Students must have access to a fully adjustable 35mm camera. Identical to MED 285.

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

2 hours lecture; 4 hours laboratory.

**ART 286\* INTERMEDIATE PHOTOGRAPHY (3)**

Prerequisite: ART/MED 285 or permission of instructor.

An intermediate course in photography for students who understand the basics of black-and-white film exposure, development, and printing. Emphasis on photojournalism, art photography, portraiture, and landscapes, depending upon the needs of the student. Students must have access to a fully adjustable 35mm camera. Identical to MED 286.

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

2 hours lecture; 4 hours laboratory.

**ART 290\* SCULPTURE (3)**

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

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

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

2 hours lecture; 4 hours studio.

**ART 292\* ADVANCED TOPICS IN ART (3-4)**

Prerequisite: ART 192 or permission of instructor.

A rotating forum/seminar/workshop emphasizing regional art forms and the development and practical application of artistic skills using a variety of media. Topics will vary in accordance with changes in student needs and interests. May be repeated for Cochise College credit. Cochise College elective only unless otherwise designated in degree programs.

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

1/2 hour to 4 hours lecture/studio.

**ART 299 INDIVIDUAL STUDIES (1-4)**

Prerequisite: Approval of the division chair or associate dean 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 or associate dean prior to initiation of the study. May be repeated for credit.

**ASTRONOMY****AST 180 INTRODUCTION TO ASTRONOMY (4)**

Prerequisite: MAT 122 or permission of instructor

A survey of astronomy, including the history of astronomy, celestial motion, terrestrial evolution, the solar system, structure and evolution of the stars, the Milky Way, galaxies and cosmology. Labs include nighttime observing sessions. Field trips to planetariums and observations will be included.

3 hours lecture; 3 hours laboratory.

## **AVIATION MAINTENANCE TECHNOLOGY**

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

### **AMT 140 AVIONICS SYSTEMS FUNDAMENTALS (3)**

Prerequisite: None.

A study of aircraft avionics systems fundamentals. This course includes the following: gyroscopic instruments, navigation communication, autopilot, and electronic flight information systems; ground proximity warning systems, systems diagnosis and malfunction corrections procedures.

2.5 hours lecture; 1.5 hours laboratory

### **AMT 150\* PHASE 1 GENERAL (19)**

Prerequisite: None.

A comprehensive study of general subjects required by the Federal Aviation Administration for F.A.A. certification as an aircraft mechanic.

50% lecture; 50% laboratory.

### **AMT 160\* PHASE II BASIC AIRFRAME (17)**

Prerequisite: Phase I.

A comprehensive study of aircraft structures with emphasis on wood and sheet metal structural repairs and finishing techniques covering welding, aircraft assembly, rigging and inspection as well as radio, navigation, and instrument systems.

50% Lecture; 50% Laboratory.

### **AMT 170 UNMANNED AERIAL VEHICLE (UAV) MAINTENANCE TECHNICIAN COMMON (4)**

Prerequisite: PFT 170

A practical study of Unmanned Aerial Vehicle (UAV) maintenance with emphasis upon system components, performance criteria, diagnosis and inspection techniques, communications equipment, and operational safety. Enrollment is limited to TRW employees and the Department of Defense.

2 hours lecture; 6 hours laboratory.

### **AMT 171 UAV FLIGHTLINE OPERATOR (13)**

Prerequisite: PFT 170 and AMT 170.

This course provides the basic skills and knowledge to allow safe operation of the UAV system. A practical study of Unmanned Aerial Vehicle (UAV) maintenance with emphasis upon system components, performance criteria, diagnosis and inspection techniques, communications equipment, and operational safety. Enrollment is limited to TRW employees and the Department of Defense.

3 hours lecture; 29 hours laboratory.

### **AMT 172 UAV MECHANICAL TECHNICIAN (17)**

Prerequisite: PFT 170 and AMT 170.

This course provides the knowledge and skills needed to safely repair and maintain the UAV system. A practical study of Unmanned Aerial Vehicle (UAV) maintenance with emphasis upon system components, performance criteria, diagnosis and inspection techniques, communications equipment, and operational safety. Enrollment is limited to TRW employees and the Department of Defense.

10 hours lecture; 22 hours laboratory.

### **AMT 260\* PHASE III ADVANCED AIRFRAME (17)**

Prerequisite: Phases I and II.

A study of aircraft systems, including electrical, hydraulics, landing gear, environmental control, ice and rain protection, fire protection, and fuel systems.

50% Lecture; 50% Laboratory.

### **AMT 270\* PHASE IV POWERPLANT (17)**

Prerequisite: Phase I.

A continuation of aircraft powerplants and related systems, including propeller, fuel, ignition, lubrication, electrical, cooling, exhaust, starting and fire protection.

50% Lecture; 50% Laboratory.

## **AMT 275\* PHASE V ADVANCED POWERPLANT (17)**

Prerequisite: Phases I and IV.

An introduction of aircraft powerplant theory and maintenance on reciprocating and turbine engines and their related systems.

50% Lecture; 50% Laboratory.

## **AMT 280\* HELICOPTER MAINTENANCE AND INSPECTION FUNDAMENTALS (4)**

Prerequisite: Completion of AMT 150, 160, 260 or have a F.A.A. Airframe Mechanic Certificate or permission of the Aviation Department Airframe and Powerplant instructors.

A study of helicopter inspection and maintenance techniques and basic rotary wing aerodynamics with emphasis on the exacting requirements of rotary wing aircraft maintenance.

## **AMT 282 TRANSPORT CATEGORY AIRCRAFT FAMILIARIZATION COURSE (5)**

Prerequisite: Student must hold A & P Certificates or obtain instructor's permission.

A lecture course focused on the operating systems of large FAR Part 25 certified aircraft.

5 hours lecture.

## **AMT 285 PHASE VI (1-6)**

Prerequisite: AMT 150 and/or 160, and/or 260, and/or 270, and/or 275 or permission of instructor.

This course, a proficiency course, is designed to upgrade a student's theoretical and physical proficiency in aviation subjects to level prescribed and to make up missed hours in Phase I through V. Instructor will evaluate students on an individual basis to assess their needs, their assigned subjects, hours, and units as required.

## **AMT 290\* AIRFRAME AND POWERPLANT UPGRADE (6)**

Prerequisite: None.

The student must have an aviation maintenance background and be currently, or in the near future,

qualified to take the F.A.A. Airframe and/or Powerplant Mechanics examinations.

6 hours lecture.

## **AMT 295\* PRACTICUM IN AVIATION MAINTENANCE TECHNOLOGY UPGRADE (6)**

Prerequisite: None.

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

## **AVIONICS TECHNOLOGY**

### **AVT 101\* MATH FOR BASIC ELECTRONICS (3)**

Prerequisite: One year high school algebra or equivalent.

A review of arithmetic and the study of algebraic principles and applications necessary to provide the student with the tools needed to solve problems in electricity and electronics.

3 hours lecture

### **AVT 104\* INTRODUCTION TO ELECTRONICS (7)**

Prerequisite: AVT 101 or equivalent (AVT 101 may be taken concurrently)

An introduction to direct and alternating current circuits, with emphasis on Ohm's Law, Kirchoff's Laws and network theorems used in the analysis of basic electronic circuits

5 hours lecture, 6 hours laboratory

### **AVT 107\* AVIONICS FUNDAMENTALS (6)**

Prerequisite: AVT 104 (may be taken concurrently)

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

4 hours lecture, 4 hours laboratory

## **AVT 112\* ELECTRONIC DEVICES AND CIRCUITS I (6)**

Prerequisite: AVT 104

The study of semiconductor devices at an operational level. Major emphasis will be placed on analysis of diodes, power supplies, filters, transistor and field effect transistor amplifiers, stressing the importance of DC biasing, AC signal analysis, load lines, hybrid parameters, and troubleshooting multistage systems.

4 hours lecture; 4 hours laboratory.

## **AVT 115\* DIGITAL CIRCUITS WITH MICROPROCESSOR FUNDAMENTALS (6)**

Prerequisite: AVT 101 and 104.

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

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

## **AVT 118\* PULSE AND DIGITAL CIRCUITS (6)**

Prerequisite: AVT 101 and 104.

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

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

## **AVT 127 AVIONICS FUNDAMENTALS (3)**

Prerequisite: ELT 106.

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

3 hours lecture.

## **AVT 171 UAV AVIONICS TECHNICIAN (14)**

Prerequisite: PFT 170 and AMT 170.

This course provides the required skills and knowledge to safely repair UAV system avionics. A practical study of Unmanned Aerial Vehicle maintenance with emphasis upon system components, performance criteria, diagnosis and inspection techniques, communications equipment, and operational safety. Enrollment is limited to TRW employees and the Department of Defense.

5 hours lecture; 27 hours laboratory.

## **AVT 202\* ELECTRONIC COMMUNICATIONS (6)**

Prerequisite: AVT 112.

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

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

## **AVT 205\* ELECTRONIC DEVICES AND CIRCUITS II (6)**

Prerequisite: AVT 112.

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

4 hours lecture (60 clock hours); 6 hours laboratory (96 clock hours).

## **AVT 208\* FCC/FAA REGULATIONS (4)**

Prerequisite: AVT 112 and 115.

An in-depth study of the Federal Communications Commission examination, preparing the student to take the FCC test. Also, an introduction to the Federal Aviation Administration and its rules and regulations.

4 hours lecture (60 clock hours).

**AVT 220\* NAVIGATION SYSTEMS (6)**

Prerequisite: AVT 202.

An introduction to aircraft navigation systems with emphasis on the theory and systems analysis of modern electronic equipment.

4.4 hours lecture (66 clock hours); 4.8 hours laboratory (72 clock hours).

**AVT 224\* FLIGHT MANAGEMENT/ CONTROL SYSTEMS (6)**

Prerequisite: AVT 208.

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

4 hours lecture (60 clock hours);

**AVT 228\* AIRCRAFT RADAR & PULSE SYSTEMS (6)**

Prerequisite: AVT 118.

A study of radar principles and application, microwave principles, signal processing and display systems.

4.4 hours lecture (66 clock hours); 4.8 hours laboratory (72 clock hours).

**AVT 250\* NAVIGATION SYSTEMS (4)**

Prerequisite: ELT 245.

An introduction to aircraft navigation systems with emphasis on the theory and systems analysis of modern electronic equipment.

3 hours lecture; 3 hours laboratory.

**AVT 253\* FLIGHT CONTROL SYSTEMS (4)**

Prerequisite: ELT 265.

Corequisite: ELT 270.

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

3 hours lecture; 3 hours laboratory.

**AVT 257\* AIRCRAFT RADAR AND PULSE SYSTEMS (4)**

Prerequisite: ELT 231.

A study of radar principles and application, microwave principles, signal processing and display systems.

3 hours lecture; 3 hours laboratory.

**AVT 294 FIELD EXPERIENCE IN AVIONICS TECHNOLOGY (1-6)**

Prerequisite: Sophomore standing in a declared major and prior approval of Cooperative Education Program Coordinator.

A supervised Cooperative Education work experience involving the combined efforts of educators and employers to accomplish career objectives in Avionics Technology. Variable credit (1-6) is available by special arrangement. May be taken four times for a maximum of 16 credit hours, no more than 6 units in a given semester. NOTE: Lower- and upper-division Cooperative Education courses may be combined but cannot exceed 16 units.

**BIOLOGICAL SCIENCES****BIO 098 SPECIAL TOPICS IN THE BIOLOGICAL SCIENCE (.5-1)**

Prerequisite: None.

A rotating forum/seminar emphasizing biological science topics of current regional significance which will vary with scientific advance and changes in student needs and interests. May be repeated for Cochise College credit. Cochise College elective credit only unless otherwise designated in degree programs.

1/2-1 hour lecture.

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

Prerequisite: None.

Selected biological topics including methods used by biologists to make discoveries and evaluate scientific data, principles and concepts of biology with reference to the organization and function of cells, inheritance and man. Not open to majors in the biological sciences or the pre-professional curricula.

3 hours lecture; 3 hours laboratory.

**BIO 105 ENVIRONMENTAL BIOLOGY (4)**

Prerequisite: None.

Fundamentals of ecology and their relevance to human impact on natural ecosystems. An introductory course in environmental biology with emphasis on the major themes of ecology and environmental biology. The student will receive instruction covering evaluation of scientific data, resource management, principles of ecology, human ecology, ethics and politics of the environment movement. Open to non-biology majors.

3 hours lecture; 3 hours laboratory.

**BIO 160\* INTRODUCTION TO HUMAN ANATOMY AND PHYSIOLOGY (4)**

Prerequisite: None.

Not for biology or pre-med majors. Examination of the systems of the human body. For students in health occupation programs which require a one-semester anatomy and physiology course, or to fulfill a one-semester laboratory science requirement.

3 hours lecture; 3 hours laboratory.

**BIO 183\* MARINE BIOLOGY (4)**

Prerequisite: Strong performance in high school biology or BIO 101.

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

For biology majors, science requirements, and other interested students.

3 hours lecture; 1 1/2 hours laboratory; and a 4-day field laboratory.

**BIO 184\* PLANT BIOLOGY (4)**

Prerequisite: None.

A study of the structure, functions and development of the organisms considered plants under the five-kingdom system classification.

3 hours lecture; 3 hours laboratory.

**BIO 190\* ANIMAL BIOLOGY (4)**

Prerequisite: Strong performance in high school biology or BIO 101.

Principles of animal structure and function, including characteristics and evolution of organisms, environmental relations, behavior, metabolism; and an evolutionary survey of the animal kingdom. For biology and preprofessional majors and other interested students.

3 hours lecture; 3 hours laboratory.

**BIO 201\* HUMAN ANATOMY AND PHYSIOLOGY I (4)**

Prerequisite: Either one year high school Biology (C or better) taken in last five years or BIO 101 or BIO 160 or permission of instructor.

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

3 hours lecture; 3 hours laboratory. Discussion 1 hour (optional).

**BIO 202\* HUMAN ANATOMY AND PHYSIOLOGY II (4)**

Prerequisite: BIO 201

An integrated study of the structural and functional features of the endocrine system, circulatory system, urinary system, respiratory system, digestive system, and reproductive system. Offered spring only.

3 hours lecture; 3 hours laboratory. Discussion 1 hour (optional).

**BIO 205\* MICROBIOLOGY (4)**

Prerequisite: Completion of a semester of a college biological science is highly recommended.

A survey of microbial life and fundamental biological types of all micro-organisms other than bacteria; control of micro-organisms and disease, and other aspects of applied microbiology.

3 hours lecture; 3 hours laboratory.

**BIO 226\* ECOLOGY (4)**

Prerequisite: MAT 082 and one semester of a college level biological science.

An introduction to ecological concepts and methods in biology including: ecological niche, species, diversity, population biology, ecosystem, life history strategies, environmental factors, environmental cycles, animal behavior and evolution, and their functions in the environment.

3 hours lecture; 3 hours laboratory; 1 Saturday field trip.

**BIO 299 INDIVIDUAL STUDIES (1-4)**

Prerequisite: Approval of the division chair or associate dean and instructor.

Completion of a research problem or an outlined course of study under the direction of a faculty member with contract for the individual study agreed upon by the student, the instructor, and the division chair or associate dean prior to the initiation of the study. May be repeated for credit.

**BOTANY**

See Biological Sciences.

**BUSINESS ADMINISTRATION****BUS 093 CULTURAL CONTEXT: CASE STUDIES (1)**

Prerequisite: Concurrent enrollment in ESL 013 or 014 or permission of instructor.

Introduction to the social norms, cultural values and assumptions underlying workplace behavior with emphasis on case studies and practical application.

2 hours laboratory.

**BUS 104 BUSINESS MATH (3)**

Prerequisite: MAT 072 or equivalent.

The fundamentals of business mathematics and ability to communicate with the number language of the business world.

3 hours lecture.

**BUS 105 TECHNICAL WRITING (1)**

Prerequisite: None.

An overview of the technical aspects of developing written reports to include available resources, technical exposition, style, and computer-assisted development.

1 hour lecture; 1 hour laboratory.

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

Prerequisite: None.

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

3 hours lecture.

**BUS 121 TAXATION PRINCIPLES AND PROCEDURES (3)**

Prerequisite: BUS 201 or permission of instructor.

Tax laws, accounting procedures and preparation of required United States and Arizona Income Tax returns as they apply to individuals and businesses.

3 hours lecture.

**BUS 123 HUMAN RESOURCES MANAGEMENT (3)**

Prerequisite: None.

A study of policies and techniques pertaining to personnel management and human relations as applied to employee selection, placement, training, motivation, promotion, evaluation and supervision. Employer and employee social responsibilities introduced.

3 hours lecture.

**BUS 124 MILITARY ORGANIZATIONS AND STAFF FUNCTIONS (3)**

Prerequisite: None

A functional study of the development of U.S. defense policy; the organization, role and mission of the Department of Defense, Departments of the Army, Air Force and Navy; the organization and functions of the general and special staff at the Army division level; and the organization and operations of combat support groups.

3 hours lecture.

**BUS 125 MANAGEMENT AND ORGANIZATIONAL BEHAVIOR (3)**

Prerequisite: None.

Study of group behavior, inter-personal relationships and inter-group relationships in the organization, conceptual tools for analyzing behavior and managing group processes of conflict, communication and task accomplishment.

3 hours lecture.

**BUS 126 EXPLORING YOUR POTENTIAL AS A MANAGER (3)**

Prerequisite: None.

A course to assist women in evaluating their aptitudes, capabilities and values, and to relate this evaluation to possible career choices in the business world.

3 hours lecture.

**BUS 127 LEADERSHIP AND SUPERVISION (3)**

Prerequisite: BUS 123 or permission of instructor.

In-depth study of the supervision and leadership functions in management. Case studies emphasized.

3 hours lecture.

**BUS 128 SPECIAL PROBLEMS IN MANAGEMENT (3)**

Prerequisite: None.

This course introduces problems unique to women choosing business as a career, and assists in preparing women to be effective as managers.

3 hours lecture.

**BUS 138 REAL ESTATE FINANCE (3)**

Prerequisite: None.

Examines real estate risk and financing, including the source, availability, cost and use of mortgage money.

3 hours lecture.

**BUS 142 INSURANCE (3)**

Prerequisite: None.

Principles and practices of insurance, including coverage availability, buying methods, procedures for settling claims, analysis of contracts and forms of insurance purchases.

3 hours lecture.

**BUS 143 PRINCIPLES OF MANAGEMENT (3)**

Prerequisite: None.

Managerial principles with emphasis on planning, organizing, motivating, and controlling for effective business decisions.

3 hours lecture.

**BUS 144 SALESMANSHIP (3)**

Prerequisite: None.

Career opportunities in sales work, practical and psychological factors in selling, development of a desirable sales personality and correct techniques in conducting sales campaigns, include student participation in practical sales demonstrations.

3 hours lecture.

**BUS 145 PRINCIPLES OF MARKETING (3)**

Prerequisite: None.

Marketing principles involved in the distribution of goods and services from the producer to the ultimate consumer, including functions of wholesaling, retailing, direct selling, risk-taking, and storage.

3 hours lecture.

**BUS 146 INTRODUCTION TO ACCOUNTING (3)**

Prerequisite: BUS 104 or permission of instructor.

The basic accounting cycle: business transactions, journalizing, posting and financial statements; cash control and banking; payroll preparation; credit and receivable control; inventory control; sources of funds; budgeting and ration analysis. This class is not designed for transfer to a university. Identical to OAD 146.

3 hours lecture; 1 hour laboratory.

**BUS 148 ADVERTISING (3)**

Prerequisite: BUS 145 or permission of instructor.

Principles of advertising involving consideration of planning, financing, and managing a campaign; selection of advertising media, displaying, and publicity; study of color and balance in its application to good merchandising.

3 hours lecture.

**BUS 149 MERCHANDISING MANAGEMENT (3)**

Prerequisite: None.

Examines the organization and operation of retail outlets; trends and concepts retailing both goods and services; solutions for buying, selling, stocking, servicing and controlling in retail outlets.

3 hours lecture.

**BUS 150 INTRODUCTION TO BUSINESS ETHICS (3)**

Prerequisite: ENG 101.

An introductory course in the application of moral philosophy to contemporary ethical and moral problems in business.

3 hours lecture.

**BUS 156 PRINCIPLES OF FINANCE (3)**

Prerequisite: BUS 146 or BUS 201 or permission of instructor.

An introduction to the world of finance dealing with the relationship of money to our economy and an in-depth study of the role and techniques of financial management within the firm.

3 hours lecture.

**BUS 160 JOB AND FAMILY SUCCESS SKILLS (3)**

Prerequisite: None.

A study of problem areas workers may encounter in obtaining and maintaining their employment including job seeking skills, dressing for success, decision-making strategies, self-esteem, job stress, nutrition, communication skills and coping with stress as a working parent.

3 hours lecture.

**BUS 167 BUSINESS COMMUNICATIONS (3)**

Prerequisite: ENG/OAD 111 or ENG/CIS 179 or permission of 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. Identical to OAD 167 and ENG 167.

3 hours lecture.

**BUS 168 CUSTOMER RELATIONS IN THE WORK PLACE (1)**

Prerequisite: None.

An exploration of the ways human beings relate to one another using typical problems that occur on a day-to-day basis within organizations. This course will serve as a foundation for improving human relations and personal management skills.

1 hour lecture.

**BUS 179 APPLIED TECHNICAL WRITING (3)**

Prerequisite: ENG 100 (C or better) or placement into ENG 101. College-level reading.

An applied-skills course on writing clear organizational reports and communications. Assignments will stress the processes and products for reporting technical information with emphasis on writing mechanics/syntax, forms/format and technical style. Identical to CIS 179 and ENG 179.

3 hours lecture.

**BUS 180\* COMPUTERIZED ACCOUNTING (3)**

Prerequisite: BUS 146 or BUS 201.

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

3 hours lecture.

**BUS 183 STARTING A BUSINESS (3)**

Prerequisite: None.

A comprehensive primer on business success emphasizing investigation and evaluation of business opportunities. The course will also emphasize the acquisition of skills and knowledge needed to establish the business, including solving practical problems in marketing, financial analysis and control, management and organization.

3 hours lecture.

**BUS 192 APPLICATIONS IN MANAGEMENT DEVELOPMENT (.5)**

Prerequisite: None.

A study of the strategic planning process, leadership practices, policy analysis, program evaluation and budgeting including financial management, information management, organizational design, culture and productivity. May be repeated for credit.

1/2 hour lecture.

**BUS 201 FINANCIAL ACCOUNTING (3)**

Prerequisite: MAT 082 or BUS 104 or equivalent.

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

3 hours lecture; 2 hours laboratory.

**BUS 202 MANAGERIAL ACCOUNTING (3)**

Prerequisite: BUS 201, CIS 181.

An introductory course in accounting concepts, methods and techniques used by managers to support financial and operating decision making within an organization.

3 hours lecture; 2 hours laboratory

**BUS 203 INTRODUCTION TO FUND ACCOUNTING (3)**

Prerequisite: BUS 201.

An introductory course in the accounting principles and procedures used in federal, state, county and city governments and other not-for-profit organizations.

3 hours lecture; 2 hours laboratory.

**BUS 210 INTERMEDIATE ACCOUNTING (3)**

Prerequisite: BUS 202 or permission of instructor.

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

3 hours lecture; 1 hour laboratory.

**BUS 211 INTERMEDIATE ACCOUNTING (3)**

Prerequisite: BUS 210.

A continuation of BUS 210. Accounting treatment of liabilities and capital accounts and the analysis of financial statements.

3 hours lecture; 1 hour laboratory.

**BUS 214 AUDITING TECHNIQUES (3)**

Prerequisite: BUS 211 or permission of instructor.

The quantitative opinion formulation process of the professional auditor that includes the auditor's reports, professional standards and internal and operational auditing.

3 hours lecture.

**BUS 219 BUSINESS STATISTICS (3)**

Prerequisite: MAT 151.

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.

3 hours lecture.

**BUS 220 BUSINESS STATISTICS (3)**

Prerequisite: BUS 219.

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

3 hours lecture.

**BUS 224 FIELD EXPERIENCE IN BUSINESS ADMINISTRATION (1-6)**

Prerequisite: Sophomore standing in a declared major and prior approval of Cooperative Education Program Coordinator.

A supervised Cooperative Education work experience involving the combined efforts of educators and employers to accomplish career objectives in business administration. Variable credit (1-6) is available by special arrangement. May be taken four times

for a maximum of 16 credit hours, no more than 6 units in a given semester.

**BUS 228 PERSONAL FINANCIAL PLANNING AND INVESTMENTS (3)**

Prerequisite: BUS 146, BUS 201 or permission of instructor.

An introduction to the principles and techniques of personal financial planning, including preparation of personal financial statements; budgeting; goal setting; investing; determining insurance needs; and tax, retirement, and estate planning. A strong emphasis will be placed on investment techniques and selection.

3 hours lecture.

**BUS 229 INTRODUCTION TO PERSONAL INVESTING (3)**

Prerequisite: BUS 228 or permission of instructor.

A survey of investment opportunities open to individual investors. This will include a description of available investment instruments, brokerage procedures, applicable rules and regulations, tax impacts and analysis techniques. A student may elect to take this course on a pass/fail basis. A "P" is assigned for a grade of "C" or better.

3 hours lecture.

**BUS 231 BUSINESS LAW (3)**

Prerequisite: Sophomore Standing.

A presentation of law as part of the American society with an emphasis on judicial procedures, business transactions, contracts, torts, personal and real property, administrative, criminal, and consumer law.

3 hours lecture.

**BUS 232 BUSINESS LAW (3)**

Prerequisite: Sophomore standing and completion of BUS 231 or permission of instructor.

A presentation of the laws pertaining to sales, commercial paper, creditor's rights and secured transactions, agency and employment, partnerships and special ventures, and corporations.

3 hours lecture.

**BUS 233 THE LEGAL ENVIRONMENT OF BUSINESS (3)**

Prerequisite: None.

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

3 hours lecture.

**BUS 236 ANALYZING FINANCIAL STATEMENTS (3)**

Prerequisite: BUS 201 or permission of instructor.

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

3 hours lecture.

**BUS 240 PRINCIPLES OF REAL ESTATE I (3)**

Prerequisite: None.

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

3 hours lecture.

**BUS 241 PRINCIPLES OF REAL ESTATE II (3)**

Prerequisite: BUS 240 or permission of instructor.

An advanced course in real estate including escrow procedures and title insurance, liens and encumbrances, advanced contracts, water rights, toxic waste and environmental hazards, agency, ethics, and professional relationships, real estate code and the commissioners' rules, investment, property management and government restriction.

3 hours lecture.

**BUS 245 SEMINAR: TRENDS AND PRACTICES IN MARKETING AND MANAGEMENT (3)**

Prerequisite: Sophomore level or permission of instructor.

Applying problem-solving and decision-making techniques to practical business situations based on current readings in marketing and management. Designed to blend and apply current business theories and practices to meet class and individual needs.

3 hours lecture.

**BUS 282 MANAGEMENT INFORMATION SYSTEMS (3)**

Prerequisite: CIS 120, comparable work experience, or permission of instructor.

A study of the management sciences involved in meeting the informational needs of business, industry, governmental and educational agencies; a study of the skills and knowledge of man versus machine to develop and design data processing systems in a problem-oriented approach.

2 hours lecture; 1 hour laboratory.

**BUS 283\* SMALL BUSINESS MANAGEMENT-A SEMINAR APPROACH (3)**

Prerequisite: BUS 143, 145, 201, 202 and CIS 181.

This course is recommended for the last semester of the Associate of Applied Science degree in Middle Management.

Analysis of the practical problems of organizing and managing a successful small business, practical problems in marketing, research, financial analysis and control, budgeting, management, and organization for small businesses are emphasized with the aid of the microcomputer.

3 hours lecture; 1 hour lab.

## **BUS 290 INTRODUCTION TO INDUSTRIAL ENGINEERING (3)**

Prerequisite: None.

Taught in Spanish, a basic introduction to the methods and practice of Industrial Engineering for business managers and students. The course emphasizes fundamental principles of work organization and job design in an industrial setting. Practical aspects of application to Twin Plant Industries along the U.S. Mexican Border will be highlighted.

3 hours lecture.

## **BUS 299 INDIVIDUAL STUDIES (1-4)**

Prerequisite: Approval of the division chair or associate dean and instructor.

Completion of a research problem or an outlined course of study under the direction of a faculty member, with contract for the individual study agreed upon by the student, the instructor and the division chair or associate dean prior to initiation of the study. May be repeated for credit.

## **CHEMISTRY**

### **CHM 100\* PREPARATION FOR CHEMISTRY (4)**

Prerequisite: MAT 082 or equivalent.

Elements of general chemistry adapted to the needs of those students who have not had high school chemistry.

3 hours lecture; 3 hours laboratory.

### **CHM 130\* FUNDAMENTAL CHEMISTRY (4)**

Prerequisite: MAT 082 or equivalent.

A one-semester course introducing fundamentals of general chemistry with emphasis placed on principles important to the understanding of human biological functions and related medical aspects. Especially adapted to the needs of students in nursing and other health related fields. Serves as a laboratory science for degree requirements.

3 hours lecture; 3 hours laboratory.

### **CHM 140\* FUNDAMENTAL ORGANIC AND BIOCHEMISTRY (4)**

Prerequisite: CHM 130 or CHM 151 or permission of instructor.

Principles of organic and biochemistry designed for students who do not intend to take further chemistry, such as majors in nursing, agriculture, home economics and physical education.

3 hours lecture; 3 hours laboratory.

### **CHM 151\* GENERAL CHEMISTRY I (4)**

Prerequisite: MAT 122 or equivalent; also high school chemistry or CHM 100 with a grade of "C" or better.

Introduction to the general principles of chemistry with emphasis on quantitative relationships including properties of matter, chemical bonding and structure, nomenclature, chemical equations, stoichiometry, thermochemistry, and states of matter.

3 hours lecture; 3 hours laboratory.

### **CHM 152\* GENERAL CHEMISTRY II (4)**

Prerequisite: CHM 151.

Introduction to the general principles of chemistry with emphasis on quantitative relationships including acids and bases, equilibria, oxidation-reduction, kinetics, nuclear chemistry, electrochemistry, and aspects of organic and biochemistry.

3 hours lecture; 3 hours laboratory.

### **CHM 235-236\* GENERAL ORGANIC CHEMISTRY I & II (4)**

Prerequisite: CHM 152. CHM 235 is a prerequisite for CHM 236.

An introduction to the chemical compounds of carbon, structural formulae, nomenclature, special configurations of molecules, synthesis and the relation between different classes of organic compounds.

3 hours lecture; 3 hours laboratory.

## **CHM 299 INDIVIDUAL STUDIES (1-4)**

Prerequisite: Approval of division chair or associate dean and instructor.

Completion of a research problem or an outlined course of study under the direction of a faculty member with contract for the individual study agreed upon by the student, the instructor, and the division chair or associate dean prior to initiation of the study. May be repeated for credit.

## **CIVIL ENGINEERING TECHNOLOGY**

### **CET 100 ENGINEERING SURVEY I (3)**

Prerequisite: None.

Mensuration through the application of surveying techniques; theory of errors and their analysis; fundamental concepts of horizontal, vertical, and angular measurements; basic surveying operations and computations, control systems, and datums for engineering surveys; locating & positioning man-made structures.

2 hours lecture; 4 hours laboratory.

### **CET 101 ENGINEERING SURVEY II (3)**

Prerequisite: CET 100 Engineering Survey I.

Advantages, disadvantages and restriction of various methods used in surveying and mapping; principles of directional control; geodetic relationships and subdivision layout.

2 hours lecture; 3 hours laboratory.

## **COMMUNICATIONS**

### **COM 091 PRONOUNCING ENGLISH (1)**

Prerequisite: Recommendation from placement testing. Concurrent enrollment in ESL 011, 012, 013, or 014.

Introduction to the sounds, rhythm, stress patterns, and intonation of English, with emphasis on those aspects of the oral language which make it easier to understand and to be understood.

2 hours laboratory.

### **COM 100 INTRODUCTION TO COMMUNICATIONS (3)**

Prerequisite: None. However, the student must have an English language proficiency at least comparable to that of the advanced level of the English-as-a-Second-Language Program at Cochise College. This course is not designed to transfer to a university.

A study of and practice in basic oral communication for transitional students. The study includes basics of oral communication in interpersonal, small group, and large group situations. Included are: 1) a study of what is involved in oral communications; and 2) practice in communication both as a speaker and a listener.

3 hours lecture/discussion.

### **COM 102 FUNDAMENTALS OF SPEECH (3)**

Prerequisite: Placement in ENG 101 or higher level English or completion of 100 or higher with a grade of C or better.

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. The study includes basics in all communication, choosing and researching a topic, organizing material for speaking, and delivering speeches of information, persuasion, and actuation.

3 hours lecture; discussion and speech delivery.

### **COM 109 PUBLIC SAFETY COMMUNICATIONS (3)**

Prerequisite: ENG 100 or equivalent proficiency.

Theory and practice of encoding and decoding electronically-transmitted messages: radio, telephone, teletype, computer; FCC regulations; strategies to reduce ambiguity in messages; vocational report writing; telephone interviewing; call prioritization; police, fire, and medical dispatching; interagency cooperation; radio procedures for pilots.

3 hours lecture.

## **COM 110 PUBLIC SPEAKING (3)**

Prerequisite: COM 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. Includes a study of the basics in parliamentary procedure and public discussion with practice in participating in and leading parliamentary meetings.

3 hours lecture; discussion and presentation of speeches.

## **COM 115 ARGUMENTATION AND DEBATE (3)**

Prerequisite: COM 102 or permission of instructor.

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

3 hours lecture.

## **COM 193 SPECIAL TOPICS IN COMMUNICATIONS (1)**

Prerequisite: None.

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

1 hour lecture.

COM 193A Coping with Stage Fright

COM 193B Diversity Issues

COM 193C Gender Differences in Communication

COM 193D Difficult People

COM 193E Improving Small Group Communication

COM 193F Improving Group Problem-Solving

COM 193G Preparing for and Running Public Meetings

## **COM 270 INTERPERSONAL COMMUNICATIONS (3)**

Prerequisite: Sophomore standing or permission of instructor.

A course to develop self-awareness and insight into interpersonal relationships with emphasis upon the development of communications skills and techniques for one-on-one professional communication. (Identical with SSV 270).

3 hours lecture

## **COM 271 COMMUNICATIONS IN SMALL GROUPS (3)**

Prerequisite: SSV 270 or COM 270 and permission of instructor.

A continuation of COM 270 and SSV 270 refining skills and techniques learned first semester and adding analysis and presentation with emphasis on small-group communication processes. (Identical with SSV 271).

3 hours lecture.

## **COMPUTER INFORMATION SYSTEMS**

### **CIS 110 COMPUTER MATH (3)**

Prerequisite: MAT 122.

A study of the mathematics used in computer programming including problem solving techniques, numbering systems, and Boolean algebra concepts.

3 hours lecture.

### **CIS 113 COMPUTER KEYBOARDING/ DATA ENTRY (3)**

Prerequisite: None.

Specifically designed for (but not limited to) students with no prior knowledge of touch typing or prior computer experience. Skill development on keyboarding and data entry techniques will be utilized to develop speed and accuracy. Same as OAD 101.

3 hours lecture.

## **CIS 116\* LEARNING TO USE THE MICROCOMPUTER (3)**

Prerequisite: None.

An introduction to the uses of the microcomputer. Emphasis will be placed on how microcomputers work, using the operating system and common software applications in a hands-on environment.

3 hours lecture.

## **CIS 120\* INTRODUCTION TO DATA PROCESSING (3)**

Prerequisite: None.

An overview of the data processing field, general practices and aims of business, data processing systems and terminology, data collection, functions of data processing units, computer ethics and crime, structure charts and systems analysis concepts. Students will have experience using personal computers to reinforce learning.

3 hours lecture.

## **CIS 125 TELECOMMUNICATIONS TECHNIQUES (3)**

Prerequisite: None

A study of the methods of telecommunication. Topics include transmission techniques, telephonic systems, satellite communication systems, local and wide area networks, software and hardware considerations, and telecommunications applications.

3 hours lecture.

## **CIS 130 ALGORITHMS (3)**

Prerequisite: None

A course in software and programming concepts. Topics will include methodologies, notations, data, operators, sequence, selection, repetition, subprograms, composite data types, input/output, data files and the software development life cycle.

3 hours lecture.

## **CIS 140\* INTRODUCTION TO OPERATING SYSTEMS (3)**

Prerequisite: None.

An introduction to computer operating systems used to monitor and control all input/output and processing operations. DOS and Windows are addressed.

3 hours lecture; 1 hour laboratory.

## **CIS 142\* PC AND PRINTER SUPPORT (3)**

Prerequisite: CIS 140 (or concurrent enrollment) or permission of instructor.

PC support in the office environment is a fast-growing area of computer-related employment. This course will enable the student to connect PC hardware systems, install (or reinstall) the DOS operating system and Windows user environment, and properly configure the PC for use. Topics will include installation and configuration of major PC applications, and first-level diagnosis of user problems.

2 hours lecture, 3 hours laboratory.

## **CIS 150\* PC CONNECTIVITY (3)**

Prerequisite: None

PC Connectivity is the fastest-growing area of computer office automation, offering resource sharing and group productivity technologies. This course is presented as an introduction to networking. The student will study and compare the various methods used in PC communications and networking.

3 hours lecture.

## **CIS 179 APPLIED TECHNICAL WRITING (3)**

Prerequisite: ENG 100 (C or better) or placement into ENG 101. College-level reading.

An applied-skills course on writing clear applied organizational reports and communications. Assignments will stress the processes and products for reporting technical information with emphasis on writing mechanics/syntax, forms/format and technical style. Same as ENG 179.

3 hours lecture.

## **CIS 181\* COMPUTER APPLICATIONS (3)**

Prerequisite: CIS 116 or permission of instructor.

A course in the use of management information software for microcomputers. Applications may include spreadsheets, databases, word processing, graphics, Windows and the computer's operating system. No programming experience is necessary.

3 hours lecture.

## **CIS 182 COMPUTER APPLICATIONS FOR MATH (3)**

Prerequisite: MAT 122 or the equivalent high school course.

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

3 hours lecture.

## **CIS 185\* INTRODUCTION TO INTERNET (2)**

Prerequisite: CIS 116 or permission of Instructor.

An introduction to the Internet and its navigation. Emphasis is on World Wide Web as a research tool. Use and management of electronic mail is also covered. Strategies for conducting research on the Internet are developed. No programming experience is necessary.

2 hours lecture.

## **CIS 192 COMPUTER APPLICATION ORIENTATION (.5)**

Prerequisite: None.

Workshops designed for personal/professional improvement. Principles and practice of various computer applications; each session is focused on mastering a particular application with emphasis on the effective use of the software under study. Each workshop provides a minimum of eight hours of instruction.

.5 hour lecture/laboratory.

CIS 192A	Beginning Spreadsheets
CIS 192B	Intermediate Spreadsheets
CIS 192C	Spreadsheet Advanced Functions & Macros
CIS 192D	Spreadsheets in Spanish
CIS 192E	Beginning dBase III Plus
CIS 192F	Intermediate dBase III Plus
CIS 192G	Data Base Design
CIS 192H	Beginning DOS
CIS 192I	Intermediate DOS
CIS 192J	UNIX for Users
CIS 192K	Intermediate UNIX
CIS 192L	Introduction to SQL
CIS 192M	Beginning dBase PGMG
CIS 192N	Intermediate dBase PGMG
CIS 192O	Beginning dBase IV
CIS 192P	Intermediate dBase IV
CIS 192Q	Microcomputer Orientation
CIS 192R	Beginning WordPerfect 5.1
CIS 192S	Intermediate WordPerfect 5.1
CIS 192T	Advanced WordPerfect 5.1
CIS 192U	Desktop Publishing with WordPerfect
CIS 192V	Beginning WordPerfect 5.1 Spanish
CIS 192W	Intermediate WordPerfect 5.1 Spanish
CIS 192X	Beginning WordPerfect Windows
CIS 192Y	Intermediate WordPerfect Windows
CIS 192Z	Beginning Windows
CIS A192	Intermediate Windows
CIS B192	Beginning Harvard Graphics
CIS C192	Intermediate Harvard Graphics

## **CIS 193\* CURRENT COMPUTER APPLICATIONS (1)**

Prerequisite: None.

One-unit modules designed for personal/professional improvement. Principles and practices of various computer applications; each session is based on mastering a particular application, with emphasis on the effective use of the software under study.

CIS 193A	Beginning Spreadsheets
CIS 193B	Intermediate Spreadsheets
CIS 193C	Advanced Spreadsheets
CIS 193D	Spreadsheet Macros
CIS 193E	Beginning Database
CIS 193F	Intermediate Database
CIS 193G	Advanced Database
CIS 193H	UNIX Operations I
CIS 193I	UNIX Operations II
CIS 193J	UNIX Operations III
CIS 193K	Harvard Graphics I
CIS 193L	Harvard Graphics II
CIS 193M	Harvard Graphics III
CIS 193N	Powerpoint I
CIS 193O	Powerpoint II
CIS 193P	Powerpoint III

1 hour lecture/laboratory.

## **CIS 201\* PASCAL (4)**

Prerequisite: MAT 082, CIS 130 or permission of instructor.

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

3 hours lecture; 3 hours laboratory.

## **CIS 202\* COBOL PROGRAMMING (4)**

Prerequisite: CIS 130 or permission of 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.

3 hours lecture; 3 hours laboratory.

## **CIS 203\* FORTRAN PROGRAMMING (4)**

Prerequisite: CIS 130, MAT 122.

A detailed study of the FORTRAN programming language to include organization of data structures, input/output operations, and control considerations. Structured programming practices are used.

3 hours lecture; 3 hours laboratory.

## **CIS 204\* C PROGRAMMING (4)**

Prerequisite: CIS 130 or permission of instructor.

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

3 hours lecture; 3 hours laboratory.

## **CIS 205\* ADA PROGRAMMING (4)**

Prerequisite: CIS 130 or permission of instructor.

A beginning course in the ADA programming language. Topics will include syntax and semantics, data types, operators, looping structures, decision structures, functions, procedures, packages, exception handlers and file handling.

3 hours lecture; 3 hours laboratory.

## **CIS 206\* ASSEMBLER PROGRAMMING (4)**

Prerequisite: CIS 130 and either CIS 110 or MAT 227.

A detailed study of the 8088/8086 Assembly Programming language that takes individual instructions written in symbolic form and converts them into machine language. Includes a study of computer organization, architecture, data structure, input/output and operation considerations.

3 hours lecture; 3 hours laboratory.

## **CIS 207\* LISP PROGRAMMING (4)**

Prerequisite: CIS 130 or permission of instructor.

A beginning course in the LISP programming. Topics will include problem definition, program design, program development and testing and the syntax and semantics of the LISP programming language.

3 hours lecture; 3 hours laboratory.

**CIS 218\* WINDOWS PROGRAMMING (4)**

Prerequisite: CIS 130 and CIS 140 or permission of instructor.

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

3 hours lecture; 3 hours laboratory.

**CIS 219\* RPG PROGRAMMING (4)**

Prerequisite: MAT 082 and CIS 130 or permission of instructor.

An initial course in Report Program Generator (RPG). Students will learn to develop typical business application programs including: RPG syntax specifications, problem manipulation, magnetic tape and disk storage, and a variety of file access methods.

3 hours lecture; 3 hours laboratory.

**CIS 220\* DATA STRUCTURES (4)**

Prerequisite: CIS 130 and one programming language course or permission of instructor.

A course in data structures and advanced programming concepts. Topics will include the design, implementation and application of stacks, queues, lists, trees, sequential and direct access to files. Students will choose one of the following languages to implement the data structures: ADA, Assembler, C, C++, COBOL, FORTRAN, or Pascal.

3 hours lecture; 3 hours laboratory.

**CIS 222\* COMPUTER ARCHITECTURE (3)**

Prerequisite: CIS 130 and either CIS 110 or MAT 243.

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

3 hours lecture.

**CIS 223\* ADVANCED WINDOWS PROGRAMMING (4)**

Prerequisite: CIS 218 or permission of instructor.

An examination of advanced topics in Windows programming and Visual Basic. Topics include file access, data base access, help system development and graphics. Emphasis is placed on the development of Windows systems to include specification, development and documentation.

3 hours lecture; 3 hours laboratory.

**CIS 227\* OBJECT-ORIENTED PROGRAMMING (4)**

Prerequisite: CIS 130 or permission of instructor.

A beginning course in object-oriented programming using the C++ language. Topics will include object oriented concepts, terminology, notation, and the syntax and semantics of C++ language.

3 hours lecture; 3 hours laboratory.

**CIS 228\* UNIX OPERATING SYSTEM (4)**

Prerequisite: None.

A course in the UNIX Operating System. Topics will include the history and organization of UNIX, UNIX user commands, shell programming, and system administration.

3 hours lecture; 3 hours laboratory.

**CIS 229\* UNIX SYSTEM ADMINISTRATION (4)**

Prerequisite: CIS 228 or permission of instructor.

A course in UNIX System Administration. Topics will include installation, starting and stopping the system; security; administering users, groups, filesystems, terminals, printers, disks and electronic mail; backing up the system; tuning and troubleshooting the system.

3 hours lecture; 3 hours laboratory.

**CIS 230 DATA COMMUNICATIONS (3)**

Prerequisite: None.

A study of the fundamentals of electronically transmitting information from one location to another, with emphasis on how data communications relate to data and word processing systems.

3 hours lecture.

**CIS 231 NETWORKS AND SWITCHING SYSTEMS (3)**

Prerequisite: CIS 140

A study of new wideband systems available to connect CRT's, terminals, facsimile machines, printers, electronic mail devices, personal/host computers, data view sets, word and data processing units, etc., to a common transmission system loop within a corporation or government agency.

3 hours lecture.

**CIS 234\* INTRODUCTION TO NETWORKS (4)**

Prerequisite: CIS 140.

The Local Area Network (LAN) is among the more important tools which support office automation. Novell (NetWare) and Microsoft (Windows 95, Windows NT) are the market leaders in LAN operating systems. This course is presented as an introduction to the administration of LANs. The student will study Network configuration and operation.

3 hours lecture; 3 hours laboratory.

**CIS 235\* NOVELL NETWORK MANAGEMENT (4)**

Prerequisite: CIS 234.

This course is designed for individuals who manage a Novell network and is the third in a series of networking courses. Topics will include Novell's client-server platform, supervisor utilities, server and workstation configuration, network security, file server memory, utilization and tuning, network management procedures and design concepts.

3 hours lecture; 3 hours laboratory.

**CIS 236\* NETWORK OPERATING SYSTEMS (4)**

Prerequisite: CIS 234.

Microsoft Windows for Workgroups, Windows 95 and Windows NT are important LAN operating systems and are rapidly gaining market share. This course covers the administration of Microsoft LANs. The student will study Windows Network configuration and operation, exploring all three of the Microsoft networks, their combinations and their interconnection with other products such as Novell NetWare.

3 hours lecture; 3 hours laboratory.

**CIS 237\* ADVANCED MICROSOFT NETWORK MANAGEMENT (4)**

Prerequisite: CIS 236

This course concentrates on the advanced techniques required to effectively administer a Microsoft network. This includes the installation and use of advanced server and remote administration products, as well as the concepts behind the Microsoft network. The course currently concentrates on Microsoft Advanced Server products, preparing the student to serve as a network administrator in the small office environment.

3 hours lecture; 3 hours laboratory.

**CIS 240\* SOFTWARE ENGINEERING (4)**

Prerequisite: CIS 130 or permission of instructor.

A study of the software engineering principles, practices and techniques used to produce, maintain and manage quality software.

3 hours lecture; 3 hours laboratory.

**CIS 250\* DATABASE MANAGEMENT (4)**

Prerequisite: CIS 130.

A study of the management of data in business organizations with emphasis on learning the underlying technology and techniques of developing computer databases.

3 hours lecture; 3 hours laboratory.

## **CIS 260\* SERVICE AND MAINTENANCE OF PERSONAL COMPUTERS (3)**

Prerequisite: CIS 140 (or concurrent enrollment) or permission of instructor.

Designed to provide basic, introductory information on computer servicing, enabling the average PC user to diagnose, and repair simple problems. Simple and complicated configuration and hardware problems will be covered. Some of the topics included will be PC setup and configuration, floppy and hard disk drives, replacing and upgrading RAM chips, board-level diagnosis and repair.

2 hours lecture; 3 hours laboratory.

## **CIS 262\* NETWORK SUPPORT AND TROUBLESHOOTING (4)**

Prerequisite: CIS 234, CIS 260

A course designed for individuals who support a Novell network or Microsoft networks. Topics will include installation of Novell NetWare, installation and configuration of Microsoft Windows network software, LAN diagnostic utilities, client software installation and configuration, adapter card installation and configuration, common network physical and data-link layer troubleshooting, bridging and routing, and application configuration problems.

3 hours lecture; 3 hours laboratory.

## **CIS 270\* SYSTEMS ANALYSIS (3)**

Prerequisite: CIS 120.

A study of structured methods used to analyze existing information systems. Techniques used to improve or design better systems are examined.

3 hours lecture.

## **CIS 279\* ADVANCED APPLIED TECHNICAL WRITING (3)**

Prerequisite: CIS 179.

An applied skill course on writing effective, clear, technical reports and communications with confidence, skill and flair. Emphasis on using appropriate processes and products for reporting technical information. Industry-standard writing mechanics/syntax,

forms/format and technical style are stressed. Same as ENG 279

3 hours lecture.

## **CIS 280\* ADVANCED COMPUTERIZED ACCOUNTING (3)**

Prerequisite: 9 units of accounting including BUS 180 or permission of instructor.

Designed to prepare students to use state-of-the-art computer technology and PC-based Professional Accounting Systems to accomplish the traditional business accounting functions of general ledger, accounts receivables, accounts payables, depreciation, payroll, inventory, and financial statement analysis.

2 hours lecture; 3 hours computer laboratory.

## **CIS 281\* ADVANCED COMPUTER APPLICATIONS (3)**

Prerequisite: CIS 181 or permission of instructor.

Advanced topics in computer application software for management and office usage. Applications may include integrated software, computerized project management techniques, and advanced database and spreadsheet software, all taught from the user's point of view.

3 hours lecture.

## **CIS 285\* INTRODUCTION TO DESKTOP PUBLISHING (3)**

Prerequisite: Typing, word processing or computer experience helpful.

Principles and practice of creating printed materials combining text and graphics using major desktop publishing programs, with emphasis on the practical aspects of production. Identical to MED 207 and JRN 207.

3 hours lecture.

## **CIS 286\* ADVANCED DESKTOP PUBLISHING (3)**

Prerequisite: CIS 285.

Advanced techniques and practices to create printed materials of diverse size and complexity using a desktop publishing system, and a drawing software package. Emphasis will be on improving and enhancing visual appearance of printed materials.

3 hours lecture.

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

Prerequisite: Sophomore standing in a declared major and prior approval of Cooperative Education Program Coordinator.

A supervised Cooperative Education work experience involving the combined efforts of educators and employers to accomplish career objectives in Computer Information Systems. Variable credit (1-6) is available by special arrangement. May be taken four times for a maximum of 16 credit hours, no more than 6 units in a given semester.

## **CONSUMER ELECTRONICS REPAIR**

The following courses, CER 100, 102, 104, 200, 202, 204, 205 and 206 were designed specifically for the Arizona Department of Corrections in Douglas.

### **CER 100 RADIO THEORY AND REPAIR (3)**

Prerequisite: General Electronic Technician Certificate.

A course designed to teach the student radio receiver theory, mechanical components, and electronic circuit operation of the AM/FM radio receiver, with special emphasis on alignment procedures, proper replacement parts selection and substitution using small tools, test equipment, and a soldering iron.

3 hours lecture plus individualized laboratory instruction.

### **CER 102 AUDIO TAPE RECORDER/PLAYER REPAIR (3)**

Prerequisite: CER 100.

A course designed to make the student proficient in repairing audio tape recorder/player equipment. The student will learn magnetic media storage, sound amplification, tape drive systems, types of record and playback heads, microphone and earphone apparatus used in recording and playback, and how to use diagnostic equipment, diagnostic and repair techniques, hand tools, soldering equipment and repair procedures to facilitate repairs.

3 hours lecture plus individualized laboratory instruction.

### **CER 104 TELEVISION THEORY AND REPAIR (4)**

Prerequisite CER 100.

A course designed to teach the student television receiver theory and the diagnostic techniques used to repair malfunctions with special emphasis on using test equipment, alignment procedures, and the safe use of maintenance tools, materials and supplies to facilitate repairs of television receivers.

4 hours lecture plus individualized laboratory instruction.

### **CER 200 VIDEO CASSETTE RECORDER REPAIR (4)**

Prerequisite: CER 104.

A course designed to make the student proficient in video cassette recorder repair. The student will learn video and sound recording and playback using magnetic media, and how to troubleshoot defective circuits using materials, supplies and diagnostic procedures with emphasis on test equipment and alignment procedures to facilitate repairs.

4 hours lecture plus individualized laboratory instruction.

**CER 202 COMPACT DISC PLAYER****REPAIR (3)**

Prerequisite: CER 102.

A course designed to make the student proficient in compact disc player repair. The student will learn sound recording and playback using optical laser technology, and how to troubleshoot and repair defective equipment by safely using maintenance tools, gauges, materials and supplies, with emphasis on test equipment and alignment procedures to facilitate repairs.

1 hours lecture and individualized laboratory instruction.

**CER 204 MICROWAVE OVEN REPAIR (4)**

Prerequisite: General Electronics Technician Certificate.

A course designed to make the student proficient in microwave oven repair. The student will learn to schedule maintenance, allot maintenance task hours, and the cost-efficient and safe use of maintenance tools, gauges, materials and supplies with emphasis on test equipment and alignment procedures to facilitate repairs.

1 hours lecture plus individualized laboratory instruction.

**CER 205 POWER AMPLIFIER REPAIR (3)**

Prerequisite: CER 100.

A course designed to teach the student advanced power amplifier theory, such as integrated amplifiers, integrated stereo systems, graphic equalizers and high power amplifiers. The student will learn the diagnostic techniques used to repair malfunctions with special emphasis on test equipment use, alignment procedures, and the safe use of maintenance tools, materials and supplies to facilitate repairs.

1 hours lecture and individualized instruction.

**CER 206 ADVANCED TELEVISION****REPAIR (4)**

Prerequisite: CER 104.

A course designed to teach the student advanced television receiver theory picture-in-picture, projection and high definition televisions. The student will learn the diagnostic techniques used to repair malfunctions with special emphasis on test equipment, alignment procedures, and the safe use of maintenance tools, materials and supplies to facilitate repairs.

4 hours lecture and individualized laboratory instruction.

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

Prerequisite: Sophomore standing in a declared major or prior approval of Cooperative Education Program Coordinator.

A supervised Cooperative Education work experience involving the combined efforts of educators and employers to accomplish career objectives in Consumer Electronics Repair. Variable credit (1-6) is available by special arrangement. May be taken four times for a maximum of 16 credit hours, no more than 6 units in a given semester. NC1E: Lower- and upper-division Cooperative Education courses may be combined but cannot exceed 16 units.

**COOPERATIVE EDUCATION****CED 110 INTERNSHIP IN COOPERATIVE EDUCATION (1-16)**

Prerequisite: Prior approval of Cooperative Education Coordinator.

Provides students with internship experiences in various career areas meeting individual goals and objectives. Students may complete internships in Hospitality and Recreation, Personal Services, Marketing and Distribution, Public Service, Manufacturing, Electronics, Drafting and others depending on students career fields. Students may earn up to sixteen (16) elective units for CED 110.

**CED 120 SEMINAR: JOB SEARCH TECHNIQUES (1)**

Prerequisite: None.

A course to assist students in acquiring knowledge and basic employment skills including job-hunting techniques, job applications, resumes, and interviewing. Identical to CPD 120.

1 hour lecture.

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

Prerequisite: Prior approval of Cooperative Education Program Coordinator or Faculty Advisor.

A supervised cooperative work experience in Cooperative Education allowing students to apply entry-level skills gained in the classroom in a real world-of-work situation. Variable credit is available by special arrangement. May be taken four times for a maximum of 16 credit hours.

**CED 224 FIELD EXPERIENCE IN COOPERATIVE EDUCATION (1-6)**

Prerequisite: Sophomore standing in a declared major and prior approval of Cooperative Education Program Coordinator.

A supervised Cooperative Education work experience involving the combined efforts of educators and employers to accomplish career objectives in the student's chosen occupation. Variable credit (1-6) is available by special arrangement. May be taken four times for a maximum of 16 credit hours, no more than 6 units in a given semester.

**CORRECTIONS TRAINING ACADEMY****COR 109 PRISONERS' RIGHTS (1)**

Prerequisite: None.

A practical overview of prisoners' procedural due process and substantive constitutional rights. (Credit awarded for successful completion of the Arizona Correctional Officer Training Academy.)

1 hour lecture

**COR 112 CORRECTIONS (3)**

Prerequisite: None.

A practical study of the corrections component of the criminal justice system, tracing the history of corrections in the U.S., the relationships and interdependencies of corrections with both law enforcement and judiciary and the various functions of prisons. Also includes the application of major criminology theories, the insanity plea and the death penalty.

3 hours lecture.

**COR 113 CRISIS INTERVENTION (1)**

Prerequisite: None.

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

1 hour lecture.

**COR 114 ARREST, SEARCH AND SEIZURE (1)**

Prerequisite: None.

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

1 hour lecture.

**COR 115 THEORIES OF CRIMINAL BEHAVIOR (1)**

Prerequisite: None.

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

1 hour lecture.

**COR 116 CRIMINAL EVIDENCE (1)**

Prerequisite: None.

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

1 hour lecture.

**COR 117 ARIZONA CRIMINAL CODE (1)**

Prerequisite: None.

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

1 hour lecture.

**COR 118 COMMUNICATIONS IN CRIMINAL JUSTICE (1)**

Prerequisite: None.

A practical study of effective intradepartmental and interdepartmental communication within the criminal justice profession including barriers to effective communication, communication with the community and communication within the courtroom. (Credit awarded for successful completion of the Arizona Correctional Officer Training Academy.)

1 hour lecture.

**COR 119 FIREARMS (1)**

Prerequisite: None.

A practical approach to the moral aspects, legal provisions, safety precautions and restrictions covering the use of firearms and the firing of the sidearm and shotgun. (Restricted to Law Enforcement Personnel.)

1 hour lecture.

**COR 120 FIREARMS CERTIFICATION (1)**

Prerequisite: None.

Training and practical application in the use of firearms. Qualification in the use of the .38 caliber revolver, .223 caliber rifle, and the f12 gauge shotgun. (Restricted to Law Enforcement Personnel.)

1 hour lecture.

**COR 121 RANGEMASTER CERTIFICATION (3)**

Prerequisite: None.

Designed to certify Arizona Department of Corrections Security staff as rangemasters, and to prepare the rangemaster to operate a shooting range and teach formal classes. (Restricted to Law Enforcement Personnel.)

3 hours lecture.

**COR 159 CORRECTIONAL CASE WORK TECHNIQUES (3)**

Prerequisite: None.

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

3 hours lecture.

**COR 161 IDENTIFICATION OF GANGS (1)**

Prerequisite: None.

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

1 hour lecture.

**COR 162 ORGANIZATION AND IMPACT OF GANGS (1)**

Prerequisite: None.

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

1 hour lecture.

**COR 163 SPECIAL POPULATIONS I (1)**

Prerequisite: None.

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

1 hour lecture.

**COR 164 SPECIAL POPULATIONS II (1)**

Prerequisite: None.

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

1 hour lecture.

**COR 165 BASIC MANAGEMENT SKILLS (1)**

Prerequisite: None.

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

1 hour lecture.

**COR 167 MANAGEMENT BY OBJECTIVES (1)**

Prerequisite: None.

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

1 hour lecture.

**COR 170 PAROLE SUPERVISION (3)**

Prerequisite: None.

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

3 hours lecture.

**COR 171 VICTIM ASSISTANCE (1)**

Prerequisite: None.

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

1 hour lecture.

**COR 184 CORRECTIONAL SUPERVISION I (3)**

Prerequisite: None.

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

3 hours lecture.

**COR 185 CORRECTIONAL SUPERVISION II (3)**

Prerequisite: COR 184.

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

3 hours lecture.

**COR 186 CORRECTIONAL ADMINISTRATION (3)**

Prerequisite: None.

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

3 hours lecture.

**COR 192 CRITICAL ISSUES IN PENOLOGY (.5-1)**

Prerequisite: None.

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

.5-1 hour lecture.

## **COR 275 CORRECTIONS TRAINING ACADEMY (12)**

Prerequisite: Employment with Arizona Department of Corrections (DOC).

A survey of the correctional field with emphasis on the acquisition of knowledge, skills, and attitudes necessary for successful employment.

11 hours lecture; 1 hour laboratory.

## **COR 275A CORRECTIONS TRAINING ACADEMY (3)**

Prerequisite: Employment with Department of Corrections.

Acquisition of knowledge, skills, and attitudes necessary for successful employment.

3 hours lecture.

## **COR 294 CORRECTIONAL INSTRUCTOR CERTIFICATION (1.5)**

Prerequisite: None.

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

1.5 hours lecture.

## **COUNSELING AND PERSONAL DEVELOPMENT**

### **CPD 010 BUILDING SELF-ESTEEM (1)**

Prerequisite: None.

A course to help students become more aware of themselves and their relationships with others. Assists students in exploring personal strengths and resources. Includes assessment of values, feelings, attitudes and communications skills needed for improving self-confidence.

1 hour lecture.

## **CPD 101 COLLEGE SEMINAR (1)**

Prerequisite: None.

A course designed to promote academic success and to instill individual confidence. Students, traditional and non-traditional, will have an opportunity to become familiar with a campus-wide support system. Students are given an opportunity to discover personal strengths, values, goals and aspirations in relation to their past and to consider all available options in achieving future goals.

1 hour lecture.

## **CPD 103 PERSONALITY AND ADJUSTMENT (3)**

Prerequisite: None.

A study of basic theoretical principles of psychology and their application to human behavior and growth. Emphasis on scientific psychology's contributions to more effective professional and personal relationships. Group activities and self-evaluation included.

3 hours lecture.

## **CPD 105 CHALLENGE OF PARENTING (3)**

Prerequisite: None.

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

3 hours lecture.

## **CPD 107 STRESS MANAGEMENT (2)**

Prerequisite: None.

A review of the various physiological and psychological approaches to the management of stress with emphasis upon personal options and methodologies for coping with anxiety and stress.

2 hours lecture.

**CPD 119 SEMINAR: CAREER PLANNING (2)**

Prerequisite: None.

A course to assist students in acquiring the information and skills necessary for effective career planning and decision making.

2 hours lecture.

**CPD 120 SEMINAR: JOB SEARCH TECHNIQUES (1)**

Prerequisite: None.

A course to assist students in acquiring knowledge and basic employment skills including job-hunting techniques, job applications, resumes, and interviewing. Identical to CED 120.

1 hour lecture.

**CPD 121 CAREER AND LIFE PLANNING (3)**

Prerequisite: None.

An exploration of career opportunities to assist students in deciding on and planning for their chosen careers.

3 hours lecture.

**CPD 299 INDIVIDUAL STUDIES (1-4)**

Prerequisite: Approval of the division chair or associate dean and instructor.

Completion of a research problem or an outlined course of study under the direction of a faculty member with contract for the individual study agreed upon by the student, the instructor and the division chair or associate dean prior to initiation of the study. May be repeated for credit.

**DRAFTING AND DESIGN****DFT 100 BLUEPRINT INTERPRETATION AND BASIC DRAFTING (3)**

Prerequisite: None.

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

2 hours lecture; 4 hours laboratory.

**DFT 112\* TECHNICAL GRAPHICS I (3)**

Prerequisite: None.

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

2 hours lecture; 4 hours laboratory.

**DFT 113\* TECHNICAL GRAPHICS II (3)**

Prerequisite: DFT 112.

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

2 hours lecture; 4 hours laboratory.

**DFT 120\* SPATIAL RELATIONSHIPS (3)**

Prerequisite: DFT 112 or concurrent with.

Solution of points, lines and planes, single-curved, double-curved and warped surfaces. Emphasis upon mechanical, civil and mining engineering applications.

2 hours lecture; 4 hours laboratory.

**DFT 150\* COMPUTER-AIDED DRAFTING (3)**

Prerequisite: DFT 112.

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

2 hours lecture; 4 hours laboratory.

**DFT 170\* ILLUSTRATION (3)**

Prerequisite: DFT 112 or permission of instructor.

A study of illustration and rendering techniques used to describe three-dimensional objects with special emphasis placed on graphic construction and the depiction of shade, shadow, and texture to assist the student in graphic communication.

2 hours lecture; 4 hours laboratory.

**DFT 201 TOPICS IN DRAFTING (4)**

Prerequisite: DFT 112, 120.

A study of drafting related to industrial problems common to machine drafting and electro-mechanical drafting. Emphasis is placed on dimensioning standards, fabrication procedures, cable and wiring diagrams, and detailing.

3 hours lecture; 5 hours laboratory.

**DFT 224 FIELD EXPERIENCE IN DRAFTING (1-6)**

Prerequisite: Sophomore standing in a declared major and prior approval of Cooperative Education Program Coordinator.

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

2 hours lecture; 6 hours laboratory.

**DFT 231\* PRODUCT DESIGN (3)**

Prerequisites: DFT 112, 120 or concurrent with DFT 201.

A study of the design process as applied to industrial design problems. Included are elements of human factors engineering, mechanical design, and systems design as a means to designing industrial design products.

2 hours lecture; 4 hours laboratory.

**DFT 232\* DESIGN AND FABRICATION (3)**

Prerequisites: DFT 150, 231.

An advanced study of design applied to feasibility determination and prototype construction. Included are elements of ergonomics, anthropometry, and systems design. Feasibility is explored through cost estimation and manufacturability inquiry.

2 hours lecture; 4 hours laboratory.

**DFT 241\* ENGINEERING DESIGN (4)**

Prerequisites: DFT 112, 120, and 150.

A study of standardized tooling components including jigs, fixtures, and gages with emphasis on design of the various tooling elements. Included is a study of automation for manufacturing applications.

3 hours lecture; 5 hours laboratory.

**DFT 250\* COMPUTER AIDED DRAFTING II (3)**

Prerequisites: DFT 112, 150.

A continuation of DFT 150 at an advanced level to include three-dimensional construction, pictorial drawings, and complex two-dimensional working drawings. This course also includes an introduction to solid modeling and animation techniques.

2 hours lecture; 4 hours laboratory.

**ECONOMICS****ECN 201 PRINCIPLES OF MACROECONOMICS (3)**

Prerequisite: None.

A view of the economy at the highest level of aggregation. A study of aggregate supply and demand, gross national product, national income, employment, inflation, banking, and monetary versus fiscal policy with emphasis on household, business, and government sectors.

3 hours lecture.

**ECN 202 PRINCIPLES OF MICROECONOMICS (3)**

Prerequisite: None.

A study of individual market interactions. An inquiry into the elasticity of supply and demand, the production function, consumer choice, price theory, utility, and cost behavior as applied to households and businesses under competition, monopoly, and oligopoly market situations.

3 hours lecture.

**ECN 299 INDIVIDUAL STUDIES (1-4)**

Prerequisite: Approval of the division chair or associate dean and instructor.

Completion of a research problem or an outlined course of study under the direction of a faculty member with contract for the individual study agreed upon by the student, the instructor and the division chair or associate dean prior to initiation of the study. May be repeated for credit.

**EDUCATION****EDU 193 SPECIAL TOPICS IN EDUCATION (1)**

Prerequisite: None.

A forum/seminar emphasizing topics of current interest to public school and/or community college teachers, paraprofessionals and administrators. Seminars will focus on those topics having practical application for the improvement of classroom instruction and educational management.

1 hour lecture

- 193A Effectively Dealing with Linguistic Diversity in the Classroom
- 193B Curriculum Development for a Culturally Diverse Student Population
- 193C Content-Specific Teaching Strategies for Bilingual and Limited English Proficiency Students
- 193D A Holistic Approach to Language and Literacy
- 193E Cooperative Learning
- 193F Effectively Managing the Educational Institution
- 193G Professional Development of Instructional Staff
- 193H Involving Parents and the Community in the Educational Process
- 193I Minimizing the Adverse Impact of Social Problems
- 193J Technology and Teaching

**EDU 200 THE COMMUNITY COLLEGE (3)**

Prerequisite: Instructor certification complete except for this course.

A study of the history, philosophy, role, objectives and educational functions of the community college with emphasis on organization, operation, curriculum and instruction at Cochise College in particular and Arizona community colleges in general.

3 hours lecture.

**EDU 201 INTRODUCTION TO EDUCATION (3)**

Prerequisite: ENG 101.

An overview of the education profession and the United States Educational System with emphasis upon educational history, current issues and the roles and responsibilities of the teacher.

3 hours lecture.

**EDU 211 TEACHER COMPETENCY TEST PREPARATION READING (2)**

Prerequisites: Sophomore standing in the pre-education program, ENG 101, 102, MAT 122 or permission of instructor.

Preparation for the sophomore pre-education major to take the reading portion of the Pre-Professional Skills Test (PPST), as required for admittance to Arizona Universities' Colleges of Education. The course emphasizes review of essential reading skills and test-taking techniques tailored to individual student needs. May be repeated for Cochise College credit.

1 hour lecture; 3 hours laboratory.

## **EDU 212 TEACHER COMPETENCY TEST PREPARATION MATHEMATICS (.5)**

Prerequisite: Sophomore standing in the pre-education program, MAT 122 or permission of instructor.

Preparation for the sophomore pre-education major to take the mathematics portion of the Pre-Professional Skills Test (PPST) as required for admittance to Arizona Universities' Colleges of Education. The course emphasizes review of essential mathematics skills and test-taking techniques tailored to individual student needs. May be repeated for Cochise College credit.

1/2 hour lecture.

## **EDU 213 TEACHER COMPETENCY TEST PREPARATION ENGLISH (.5)**

Prerequisite: Sophomore standing in the pre-education, ENG 101 and 102, or permission of instructor.

Preparation for the sophomore pre-education major to take the English portion of the Pre-Professional Skills Test (PPST) as required for admittance to Arizona Universities' Colleges of Education. The course emphasizes review of essential writing skills tailored to individual student needs.

1/2 hour lecture.

## **EDU 224 FIELD EXPERIENCE IN EDUCATIONAL INSTRUCTION (1-6)**

Prerequisite: Sophomore standing in the Pre-Education program and prior approval of Cooperative Education Program Coordinator.

A supervised internship in a pre-school, elementary or secondary educational institution designed to provide the pre-education major with hands-on classroom experience. Number of units determined by the total hours to be spent at the job site in a given semester. May be taken four times for a maximum of 16 units, with a maximum of 6 units per semester.

## **EDU 290 INSTRUCTOR SKILL DEVELOPMENT (3)**

Prerequisite: None.

Designed to impart a wide range of teaching skills,

concepts, and techniques applicable to adult learning situations. Topics covered include adult learning, training needs, research methodology, instructional objectives, program development, instructional methodology, and evaluation techniques. (Identical to AJS 290.)

3 hours lecture.

## **ELECTRONICS**

### **ELT 100 ELECTRONICS FOUNDATIONS (3)**

Prerequisite: MAT 082 or equivalent.

An introduction to electronic principles including DC and AC circuits, passive and active circuits, and applications that will give the student a general concept of the electronics field.

3 hours lecture.

### **ELT 101 BEGINNING DIGITAL ELECTRONICS (3)**

Prerequisite: None.

A beginning course in digital electronics for students planning to enter the electronics field.

3 hours lecture.

### **ELT 105\* INTRODUCTION TO DC CIRCUITS (3)**

Prerequisite: ELT 110 or equivalent (MAT 122 may be taken concurrently)

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

2 hours lecture; 3 hours laboratory.

### **ELT 106\* INTRODUCTION TO AC CIRCUITS (4)**

Prerequisite: ELT 105 (ELT 105 may be taken concurrently.)

An introduction to alternating current passive circuits, and the application of trigonometry and vectors to circuit solutions.

3 hours lecture; 3 hours laboratory.

## **ELT 107\* BASIC COMPUTER PROGRAMMING (3)**

Prerequisite: MAT 122.

An introduction to computers and the BASIC language with emphasis on the concepts, writing and execution of computer programs, processing of data, and the development of algorithms for the computer solution to problem solving.

2 hours lecture; 3 hours laboratory.

## **ELT 110 MATH FOR ELECTRONICS (3)**

Prerequisite: One year of high school algebra or equivalent.

A review of arithmetic and the study of algebraic principles necessary to analyze electronic circuitry and provide a firm background for advanced studies. Topics include fractions, decimals, fundamental concepts of algebra, scientific notation, graphing, linear equations and the solution of DC electric circuits.

3 hours lecture.

## **ELT 120 ADVANCED MATHEMATICS FOR ELECTRONICS (3)**

Prerequisite: ELT 110 or equivalent.

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

3 hours lecture.

## **ELT 122\* SEMICONDUCTORS AND TRANSISTORS (4)**

Prerequisite: ELT 106 and ELT 110 or MAT 122.

A comprehensive study of semiconductor devices stressing the qualitative and quantitative analysis of semiconductor circuits with major emphasis on DC biasing, small signal analysis of diodes and transistors, load lines, approximate hybrid parameters, and multistage systems.

3 hours lecture; 3 hours laboratory.

## **ELT 125\* ELECTRONIC CIRCUITS AND SYSTEMS (4)**

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

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

3 hours lecture; 3 hours laboratory.

## **ELT 224 FIELD EXPERIENCE IN ELECTRONICS (1-6)**

Prerequisite: Sophomore standing in a declared major and prior approval of Cooperative Education Program Coordinator.

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

## **ELT 231\* PULSE CIRCUITS (4)**

Prerequisite: ELT 122.

A study of waveforms, RC and RL networks, passive and active pulse circuitry, diode and transistor switching circuits, nonlinear waveshaping and multivibrators.

3 hours lecture; 3 hours laboratory.

## **ELT 233\* DIGITAL CIRCUITS AND SYSTEMS (4)**

Prerequisite: ELT 122.

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

3 hours lecture; 3 hours laboratory.

## **ELT 243\* MODERN ELECTRONIC DEVICES (4)**

Prerequisite: ELT 122.

A study of the characteristics of differential and operational amplifiers, applications, and analysis of practical op amp circuits, photoconductive and photovoltaic devices, unijunction transistors, silicon controlled rectifiers, and selected materials covering other electronic devices.

3 hours lecture; 3 hours laboratory.

## **ELT 245\* COMMUNICATION ELECTRONICS I (4)**

Prerequisite: ELT 120, 122, 125.

The application of qualitative and quantitative theoretical concepts to practical communications circuits AM and FM receiver systems, voltage and power amplifiers, feedback, oscillators, resonance, filters, coupling, frequency synthesizers and phaselock techniques are studied.

3 hours lecture; 3 hours laboratory.

## **ELT 247\* COMMUNICATION ELECTRONICS II (4)**

Prerequisite: ELT 245.

A continuation of Communication Electronics I, including AM transmitters, frequency modulation systems, transmission lines, antennas and propagation. Laboratory emphasis on the use of electronic test equipment in the analysis and adjustment of receivers and transmitters.

3 hours lecture; 3 hours laboratory.

## **ELT 265\* MICROPROCESSORS AND MICROCOMPUTERS (4)**

Prerequisite: ELT 233.

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

3 hours lecture; 3 hours laboratory.

## **ELT 270 MICROCOMPUTER SYSTEMS (4)**

Prerequisite: ELT 233 and concurrent enrollment in ELT 265.

Analysis of small computer systems. Computer organization and the hardware and software required for peripheral interfacing.

3 hours lecture; 3 hours laboratory.

## **EMERGENCY MEDICAL TECHNOLOGY**

### **EMT 101 FIRST RESPONDER TRAINING (2)**

Prerequisite: None.

A practical study of the role of the first responder as a provider of immediate emergency medical care, with emphasis upon evaluating accidents, patient assessment, CPR, emergency care for internal and external injuries, emergency childbirth, poisons and drugs, and the minimization of further injury and complications.

2 hours lecture; 1 hour laboratory.

### **EMT 174\* EMERGENCY MEDICAL TECHNOLOGY (6-7)**

Prerequisite: None

Provides the student with preparation for vocational work as an ambulance attendant and is required by the Arizona Department of Health Services for certification. The course also prepares the students for industrial, OSHA and virtually any other occupational safety standards certification. Students wishing certification must complete the state-mandated hours of clinical experience in a hospital emergency room. The course covers basic knowledge of the symptoms of illness and injury, the concomitant procedures considered the responsibility of the Emergency Medical Technician, basic legal responsibilities, anatomy and physiology, triage, assessment, CPR, and life-support systems.

6-7 hours lecture; 1 hour laboratory.

## **EMT 176\* EMERGENCY MEDICAL TRAINING REFRESHER (2)**

Prerequisite: EMT 174.

A refresher course to maintain and update Emergency Medical Technical skills. May be repeated as required for recertification.

2 hours lecture; 1 hour laboratory.

## **ENGLISH**

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

### **ENG 001 STUDY SKILLS (1)**

Prerequisite: None.

A review of basic techniques for success in college, including practical exercises in listening to lecturers, concentration, time management, note-taking, test-taking, textbook analysis and review, outlining, summarizing, writing essay questions, using the library and the microcomputer to study spelling and vocabulary.

1 hour lecture.

### **ENG 002 BASIC ENGLISH FOR VOCATIONS (1)**

Prerequisite: Permission of instructor.

A course taken in conjunction with ESL 034, ENG 020 or ENG 022 designed to introduce the student to the vocabulary and study skills important for success in a specific vocational field.

Specific areas in which modules are currently available include office communications, administration of justice, drafting, and aviation (both for pilots and for airframe and powerplant). Modules in other fields will be developed as demand warrants.

1 hour lecture.

### **ENG 004 SPELLING IMPROVEMENT (1)**

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 introduces strategies for learning to visualize English spelling. The one unit module can be included in the Reading Improvement Block or taught individually by student contract through the Student Development Center.

1 hour lecture.

### **ENG 005 EXPLORING YOUR LANGUAGE IMAGE (3)**

Prerequisite: None Placement based on writing sample with reading grade level score between 5.8 and 8.0 on a standardized test, or instructor recommendation following first diagnostic essay in ENG 010. Not designed for transfer.

A whole language approach to learning, students will write using a word processor. Instructors will diagnose students' use of non-standard grammar, usage and spelling and assign appropriate exercises and tutorials. Student tutors may work with students during the brain-storming and editing processes.

3 hours lecture; 2 hours laboratory.

### **ENG 010 ENGLISH FUNDAMENTALS (3)**

Prerequisite: Completion of ENG 005 with a grade of C or better, or placement on diagnostic essay with reading grade level score of 8.0 on a standardized placement exam. Not designed for transfer.

A review of Standard oral and written English that continues the remedial sequence begun in ENG 005 focusing on phonetics for spelling/vocabulary, grammar/usage/punctuation, studying a text, and reading/writing/responding to short essays and fiction. ENG 010 is a more traditional approach to instruction than is ENG 005.

3 hours lecture.

## **ENQ 011 WRITTEN MILITARY COMMUNICATIONS AND REPORTS (1)**

Prerequisite: Determined by U.S. Army.

Development of the skills of effective written communications and reports with emphasis on accuracy, brevity and clarity. Assignments will consist of military reports and correspondence normally written by junior officers.

1 hour lecture.

## **ENG 019 TRANSITIONAL READING (3-4)**

Prerequisite: ESL 034 or placement test score.

A course designed for ESL students beginning regular college classes and for lower-level readers of English. Emphasis on basic, literal comprehension, vocabulary building and reading rate improvement. Upon completion, the student will read at the 6.0 reading level or equivalent as measured by a standardized reading test. (Identical with RDG 019.)

3 hours lecture; 1-2 hours laboratory.

## **ENG 020 READING FUNDAMENTALS (3)**

Prerequisite: None.

A review of basic skills for college reading emphasizing content, vocabulary growth, improved rate of comprehension in various materials, review of phonetic rules applied to English spelling, dictionary and library use complementing general study skills. Designed to be taught three hours weekly, with ENG 001 Study Skills and ENG 004 Spelling Improvement, as the basic skills block for all freshmen testing below grade level 11.5 on the Nelson-Denny placement test.

3 hours lecture.

## **ENG 022 INDIVIDUALIZED READING (3)**

Prerequisite: ENG 020.

A continuation of reading ENG 020 for second semester students whose Nelson-Denny scores remain below 12.1; individualized approaches to reading for mature adults, part-time evening vocational students or those who wish to concentrate on selected aspects of literal and critical comprehension

while developing higher level thinking skills using college vocabulary.

3 hours lecture.

## **ENG 092 ENGLISH FOR OCCUPATIONS (1)**

Prerequisite: Concurrent enrollment in ENG 012, 013, or 014 or permission of instructor.

Intensive practice with English vocabulary and specialized terminology useful in the workplace.

2 hours laboratory.

## **ENG 094 INTRODUCTION TO TRANSLATION AND INTERPRETATION (1)**

Prerequisite: Concurrent enrollment in ESL 014 or permission of instructor.

An introduction to basic concepts and procedures useful in translation and interpretation between Spanish and English. Experience working with both general language and materials in the student's occupational specialty.

2 hours laboratory.

## **ENG 100 INTERMEDIATE WRITING (3)**

Prerequisite: Completion of ENG 010 with a grade of C or better, or appropriate placement based on the diagnostic essay with a reading level score of 9.0 on a standardized test.

A review of vocabulary/homophones, paragraph construction, with emphasis on clear, correct writing/editing paragraphs and two-page papers. Introduction to college-level style/research techniques, general review of grammar/usage/punctuation, and analysis of short fiction.

3 hours lecture.

**ENG 101 COMPOSITION (3)**

Prerequisite: ENG 100 with a grade of C or better, or equivalent placement score on diagnostic essay; a college reading level of 11.0 demonstrated on a standardized placement exam; keyboarding skills.

A thorough review of usage and syntax, study of and practice in the process of writing, methods of organization, expository patterns, and the documented paper based on library resources.

3 hours lecture.

**ENG 102 ENGLISH COMPOSITION (3)**

Prerequisite: ENG 101 or its equivalent.

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

3 hours lecture.

**ENG 104 INTRODUCTION TO LITERATURE (3)**

Prerequisite: ENG 102 or its equivalent or ENG 101 and permission of instructor.

A study of major literary genres: drama, poetry, fiction, criticism. Emphasis on writing critically about literature.

3 hours lecture.

**ENG 106 INTERMEDIATE WRITING FOR FOREIGN STUDENTS (3)**

Prerequisite: Placement by the English Imme sion staff based on a series of tests. The student will need a score of between 55-75 on the Michigan Test, 5-6.9 on the Nelson Reading Test, and 2+ to 3- on the writing sample.

Designed to improve the writing ability of foreign students. Includes a review of the mechanics of writing, punctuation, spelling and capitalization, vocabulary development exercises, reading, and intensive practice in writing at the sentence and paragraph levels.

3 hours lecture; 2 hours laboratory.

**ENG 107 ENGLISH COMPOSITION FOR FOREIGN STUDENTS I (3)**

Prerequisite: ENG 106 or ENG 100, or recommendation from placement testing.

College composition course for non-native speakers of English, with emphasis on writing about prose readings, summary and analysis, documentation, library research methods, and writing a research paper.

3 hours lecture.

**ENG 108 ENGLISH COMPOSITION FOR FOREIGN STUDENTS II (3)**

Prerequisite: ENG 107 or ENG 101.

A continuation of ENG 107 with emphasis on argumentation and persuasion and an introduction to the research paper for students whose native language is not English.

3 hours lecture.

**ENG 109 WRITTEN COMMUNICATIONS AND REPORTS (3)**

Prerequisite: ENG 101 or permission of instructor.

Development of the skills of effective written communications and reports with emphasis on clarity and accuracy. Assignments will be individualized by occupational discipline.

3 hours lecture.

**ENG 111 GRAMMAR, USAGE AND PUNCTUATION (3)**

Prerequisite: ENG 100, or 101 or 106 or 107 or permission of instructor.

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

3 hours lecture

**ENG 112 CHILDREN'S LITERATURE (3)**

Prerequisite: None.

A survey of literary materials available for children from their very early years through their teens exploring the means through which children may enjoy literature, selection tools available for adults, use of reference materials and audio-visuals.

3 hours lecture

**ENG 114 THE RESEARCH PAPER (1)**

Prerequisite: ENG 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.

**ENG 115 THE GENEALOGY OF ENGLISH WORDS (3)**

Prerequisite: None.

Designed to assist the student in increasing his command of modern English. Emphasis is primarily on words derived from Latin etymological meanings and modern meanings will be considered along with semantic and phonetic changes.

3 hours lecture.

**ENG 116 GENEALOGY OF ENGLISH WORDS (3)**

Prerequisite: None.

Designed to assist the student in increasing his command of modern English emphasizing words derived from Greek. Etymological meanings and modern meanings will be considered along with semantic and phonetic changes. ENG 115 is not a prerequisite to 116.

3 hours lecture.

**ENG 119 CREATIVE WRITING (3)**

Prerequisite: ENG 101 and ENG 102.

An introduction to creative writers and writing using narrative prose, poetry, short stories and student work to model and critique.

3 hours lecture.

**ENG 167 BUSINESS ENGLISH COMMUNICATIONS (3)**

Prerequisite: ENG /OAD 111 or ENG/CIS 179 or permission of instructor.

A study of business compositions prepared in a business organization, typical internal and external communication (letters, memos, and reports) with emphasis on applying English fundamentals, usage, syntax and methods of organization. Same as BUS 167 and OAD 167.

3 hours lecture.

**ENG 179 APPLIED TECHNICAL WRITING (3)**

Prerequisite: ENG 100 (C or better) or placement into ENG 101. College level reading.

An applied-skills course on writing clear applied organizational reports and communications. Assignments will stress the processes and products for reporting technical information with emphasis on writing mechanics/syntax, forms/format and technical style. Same as CIS 179.

3 hours lecture.

**ENG 192 SPECIAL TOPICS IN LANGUAGE AND LITERATURE (.5-1)**

Prerequisite: None.

A rotating forum/seminar emphasizing linguistic development and change, regional literature, literary styles, folklore and related topics. Topics will vary in accordance with changes in student need and interest. Cochise College elective credit only unless otherwise designated in degree programs.

ENG 192A	Word Foraging
ENG 192B	True Tales and Tall Tales of Southwestern Indians
ENG 192C	High Speed Reading
ENG 192D	Stories of the Old West
ENG 192E	Satire, Irony and Humor
ENG 192F	Linguistic History of the English Language
ENG 192G	Evolution of a Hero: Prince Hal to Hamlet
ENG 192H	Books and People

/2-1 hour lecture.

### **ENG 203 ADVANCED COMPOSITION (3)**

Prerequisite: ENG 102 or permission of instructor.

An introduction to writing critically about literature with analysis of various literary genres. Credit for ENG 104 will not be granted if the student has taken ENG 203.

1 hours lecture.

### **ENG 206 CRITICAL WRITING (3)**

Prerequisite: ENG 101 and 102 or permission of instructor with placement test score of grade level 12.1 on Nelson-Denny Test.

A study of composition as an analytical, interpretative process requiring the student to make rational judgments based on valid criteria. For students who wish to pursue further composition and reading skills, to prepare for upper-division writing at the university level, or to improve critical-thinking skills.

3 hours lecture.

### **ENG 209 INTRODUCTION TO POETRY (3)**

Prerequisite: ENG 101 or equivalent or permission of instructor.

A survey of selected traditional, modern, and contemporary poetry designed to promote a sensitive reading, appreciation, and understanding of poetry. Emphasis on the ordering of language by which poetry brings into being patterns of thought and feeling which release meaning. Some works will be explored in depth through analysis and discussion.

3 hours lecture.

### **ENG 210 THE BIBLE AS LITERATURE (3)**

Prerequisite: None.

A study of the Bible as a work of literature emphasizing historical development, types of literature, allusions, impact upon later writers and the literary expression of cultural values.

3 hours lecture.

### **ENG 219 ADVANCED CREATIVE WRITING (3)**

Prerequisite: ENG 101, 102, 119 or permission of instructor.

The second semester of a one-year creative writing sequence beginning with ENG 119. It will address advanced student projects in prose and poetry. Students will continue to be exposed through readings and lectures to the best in American, British, and Continental literature.

3 hours lecture.

### **ENG 220 BRITISH LITERATURE I (3)**

Prerequisite: ENG 101.

A survey of the major authors from the beginnings to the eighteenth century. Need not be taken in sequence, with ENG 221.

3 hours lecture.

### **ENG 221 BRITISH LITERATURE II (3)**

Prerequisite: ENG 101

A survey of major authors from the beginning of the eighteenth century to the present. Need not be taken in sequence, with ENG 220.

3 hours lecture.

### **ENG 222 INTRODUCTION TO SHAKESPEARE (3)**

Prerequisite: Six units of freshman English.

An introduction to the major comedies, histories, and tragedies of Shakespeare.

3 hours lecture

**ENG 224 AMERICAN LITERATURE I (3)**

Prerequisite: ENG 101.

A survey of major American authors from the colonial period to 1860, including the works of Hawthorne, Poe, Melville, and Emerson.

3 hours lecture.

**ENG 225 AMERICAN LITERATURE II (3)**

Prerequisite: ENG 101.

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

3 hours lecture.

**ENG 226 WORLD LITERATURE (3)**

Prerequisite: Six units of freshman English or permission of instructor.

A study of some of the master works of world literature through the Renaissance, including selections by Homer, the Greek tragic writers, Virgil, Dante, Chaucer, Cervantes and Shakespeare.

3 hours lecture.

**ENG 227 WORLD LITERATURE (3)**

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, and Mann. ENG 226 is not a prerequisite to ENG 227.

3 hours lecture.

**ENG 228 MYTHOLOGY AND FOLKLORE (3)**

Prerequisite: ENG 101 or permission of instructor.

A survey of beliefs and customs from ancient Greece to the present with emphasis on folk beliefs, legends, myths and folk tales from various cultures.

3 hours lecture.

**ENG 265 MAJOR AMERICAN WRITERS (3)**

Prerequisite: ENG 102.

An exploration of selected works by major American authors from the last century to the present.

3 hours lecture, discussion.

**ENG 279\* ADVANCED APPLIED  
TECHNICAL WRITING (3)**

Prerequisite: CIS/ENG 179

An applied-skills course on writing effective, clear technical reports and communications with confidence, skill and flair. Emphasis on using appropriate processes and products for reporting technical information. Industry-standard writing mechanics/syntax, forms/format and technical style are stressed. Same as CIS 279.

3 hours lecture.

**ENG 299 INDIVIDUAL STUDIES (1-4)**

Prerequisite: Approval of the division chair or associate dean and instructor.

Completion of a research problem or an outlined course of study under the direction of a faculty member with contract for the individual study agreed upon by the student, the instructor and the division chair or associate dean prior to initiation of the study. May be repeated for credit.

**ENGLISH AS A SECOND  
LANGUAGE****ESL 001 WORKPLACE ENGLISH I (3)**

Prerequisite: Recommendation from placement testing.

Beginning-level practice communicating in English with emphasis on those elements of language most useful in the workplace.

3 hours lecture

**ESL 002 WORKPLACE ENGLISH II (3)**

Prerequisite: Recommendation from placement testing and/or completion of ESL 001 with a grade of C or better within the preceding six months.

High-beginner/lower-intermediate level practice communicating in English with emphasis on those elements of language most useful in the workplace.

3 hours lecture.

**ESL 003 WORKPLACE ENGLISH III (3)**

Prerequisite: Recommendation from placement testing and/or completion of ESL 002 with a grade of C or better within the preceding six months.

Low-intermediate to intermediate practice communicating in English with emphasis on those elements of language most useful in the workplace.

3 hours lecture.

**ESL 004 WORKPLACE ENGLISH IV (3)**

Prerequisite: Recommendation from placement testing and/or completion of ESL 003 with a grade of C or better within the preceding six months.

High-intermediate practice communicating in English with emphasis on those elements of language most useful in the workplace.

3 hours lecture.

**ESL 009 ADULT BASIC READING FOR ESL (3)**

Prerequisite: Recommendation from placement testing.

An introduction to reading and writing English for non-literate, non-native speakers of English who need an Adult Basic Education approach to the alphabet, English phonetics, and how to read print and to form words into basic English sentences.

3 hours lecture.

**ESL 010\* SPEAKING AND UNDERSTANDING ENGLISH I (6-8)**

Prerequisite: Recommendation from placement testing.

This course is designed as a study of beginning grammar, vocabulary and listening comprehension with controlled conversation. Language laboratory reinforcement of aural/oral patterns is also provided.

**ESL 012 ESL READING I (3-4)**

Prerequisite: Placement through the English Immersion Program based on scores from the Michigan English Placement Test & Nelson Reading Test.

An introduction to basic reading skills with an emphasis on structural reinforcement, vocabulary development, and comprehension for students whose native language is not English.

**ESL 014 ESL WRITING I (3-4)**

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

An introduction to written sentence patterns and paragraph development in English for students whose native language is not English.

**ESL 018\* SUMMER ESL I (3-4)**

Prerequisite: Recommendation from placement testing.

This course is designed as a study of beginning grammar, vocabulary and listening comprehension with controlled conversation. Language laboratory reinforcement of aural/oral patterns is also provided.

3-4 hours lecture.

**ESL 020\* SPEAKING AND UNDERSTANDING ENGLISH II (6-8)**

Prerequisite: ESL 010 or recommendation from placement testing.

This course is designed as a study of basic grammar, vocabulary and listening comprehension with controlled conversation. Language laboratory reinforcement of aural/oral patterns is also provided.

## **ESL 022 ESL READING AND WRITING II (3-4)**

Prerequisite: ESL 012 & 014 or recommendation from placement test.

A continuation of reading and writing skills for non-native speakers of English, with short readings in a variety of content areas designed to improve fundamental reading skills and develop vocabulary. Continued study of paragraph writing emphasizing academic rhetorical form on topics that describe common student experiences.

3 hours lecture; 2 hours individualized instruction.

## **ESL 028 SUMMER ESL II (3-4)**

Prerequisite: ESL 010 or ESL 018 or recommendation from placement testing.

This course is designed as a study of basic grammar, vocabulary and listening comprehension with controlled conversation. Language laboratory reinforcement of aural/oral patterns is also provided.

3-4 hours lecture.

## **ESL 030\* SPEAKING AND UNDERSTANDING ENGLISH III (3-4)**

Prerequisite: ESL 020 or recommendation from placement testing.

A review of basic English grammatical structures, a presentation of more advanced structures, and an expansion of listening comprehension skills with conversation and reinforcement of skills with aural/oral practice for students whose native language is not English.

## **ESL 032 ESL READING III (3-4)**

Prerequisite: ESL 022 or recommendation from placement testing.

An intermediate level reading course for English as a second language students, designed to increase vocabulary and reading ability through the mastery of a series of reading skills applied to academically related reading selections of 1 to 2 pages in length.

3 hours lecture; 2 hours individualized instruction.

## **ESL 034 ESL WRITING III (3-4)**

Prerequisite: ESL 022 or recommendation from placement testing.

A continuation of sentence writing, Level I with emphasis on topic sentences, methods of paragraph development, cognitive skills and logical organization for students whose native language is not English.

## **ESL 040\* SPEAKING AND UNDERSTANDING ENGLISH IV (3-4)**

Prerequisite: ESL 030 or recommendation from placement testing.

A review of basic English grammatical structures and a presentation of advanced structures, and an expansion of listening comprehension skills with conversation and reinforcement of skills with aural/oral practice for students whose native language is not English.

## **ESL 042 ESL READING IV (3-4)**

Prerequisite: ESL 032 or recommendation from placement testing.

A course designed to improve reading comprehension, expand vocabulary, develop basic reading skills, and teach basic study skills for students whose native language is not English.

3 hours lecture; 2 hours individualized instruction.

## **ESL 044 ADVANCED ESL WRITING (3-4)**

Prerequisite: ESL 034 or recommendation from placement test.

Continuing development of English writing skills, focusing on more complex structures, vocabulary building, and error reduction.

3 hours lecture; 2 hours laboratory.

## **ESL 070\* ENGLISH AS A SECOND LANGUAGE (6-8)**

Prerequisite: No previous English necessary; placement is determined by test administered by the English Immersion program staff.

Designed for students who have little or no knowledge of English. Introduction to the sounds of English, the structure of English as used in simple sentences and questions, and elementary vocabulary, with practice.

## **ESL 071\* LAB FOR ESL I (2)**

Prerequisite: Concurrent enrollment in ESL 070

Designed to give students practice using English in simulated situations such as dialogue practice, conversations, role-playing activities, drama activities, speaking exercises, and exercises using computers or audio/visual media.

## **ESL 072\* ENGLISH AS A SECOND LANGUAGE II (6-8)**

Prerequisite: ESL 070 or placement by the English Immersion staff.

A continuation of Using and Reading English I. Covers grammar, reading, vocabulary, and listening exercises at the low intermediate level, activities at this level are more advanced than ESL 070.

## **ESL 073\* LAB FOR ESL II (2)**

Prerequisite: Concurrent enrollment in ESL 072.

Designed to give students practice using English in simulated situations such as dialogue practice, conversations, role playing activities, drama activities, speaking exercises, and exercises using computers or audio/visual media in conjunction with special projects.

## **ESL 074\* ENGLISH AS A SECOND LANGUAGE III (6-8)**

Prerequisite: ESL 072 or placement by the English Immersion staff.

A continuation of Using and Reading English II. Covers grammar, reading, vocabulary, and listening exercises at the high intermediate level, with more advanced activities than the ESL 072.

## **ESL 075\* LAB FOR ESL III (2)**

Prerequisite: Concurrent enrollment in ESL 074.

Designed to give students practice using English in simulated situations such as dialogue practice, conversations, role-playing activities, drama activities, speaking exercises, and exercises using computers or audio/visual media in conjunction with special projects.

## **ESL 076\* ENGLISH AS A SECOND LANGUAGE IV (6-8)**

Prerequisite: ESL 074 or placement by the English Immersion Program staff.

A continuation of Using and Reading English III covering grammar, reading, vocabulary, and listening comprehension at the advanced level. The communicative activities at this level are the most advanced, and student completing this level should be able to take regular courses at Cochise College.

## **ESL 077\* LAB FOR ESL IV (2)**

Prerequisite: Concurrent enrollment in ESL 076.

Designed to give students practice using English in simulated situations such as dialogue practice, conversations, role playing activities, drama activities, speaking exercises, and exercises using computers or audio/visual media in conjunction with special projects.

## **ESL 090 UNDERSTANDING ENGLISH (1)**

Prerequisite: Recommendation from placement testing.

Beginning-level practice listening to English with emphasis on those elements of language most useful in the workplace.

2 hours laboratory.

## **ESL 091 PRONOUNCING ENGLISH (1)**

Prerequisite: Recommendation from placement testing or instructor assessment.

Introduction to the sounds, rhythm, stress patterns, and intonation of English, with emphasis on those aspects of the oral language which make it easier to understand and to be understood.

2 hours laboratory.

## **ESL 100 ACADEMIC SKILLS (3)**

Prerequisite: Placement testing (ASSET or other College-approved testing instrument).

A course designed to develop and integrate students' academic language proficiency and study skills through tasks which simulate the American college classroom. Emphasis is on note taking from lectures and texts, previewing and reviewing research, asking questions and participating in discussions. Recommended concurrent enrollment in COM 100.

1 hours lecture; 2 hours individualized instruction.

## **ESL 193 CURRENT TOPICS IN ESL (1)**

Prerequisite: None.

A rotating forum/seminar on various English as a Second Language (ESL) skills or topics such as pronunciation and business or aviation ESL. Topics will vary in accordance with changes in student need and interest. May be repeated for Cochise College credit. Cochise College elective credit only unless otherwise designated in degree programs.

1 hour lecture.

- 193A English Pronunciation
- 193B English in Business Contexts
- 193C Intercultural Communication
- 193D American Idioms
- 193E A Rapid Review of English Grammar
- 193F Computer Nomenclature for ESL Students

## **ENVIRONMENTAL STUDIES**

### **EVS 101 GENERAL ENVIRONMENTAL STUDIES (3)**

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 and discussion.

## **EVS 110 WILDERNESS PROBLEMS (3)**

Prerequisite: None.

Focuses upon the philosophy of the wilderness movement, the Wilderness Act of 1964, the Endangered Species Act, the Environmental Policy Act, and the current U.S. Wilderness system with special emphasis on Cochise County.

3 hours lecture.

## **EVS 111 WILDLAND ECOLOGY (3)**

Prerequisite: None.

A seven-day field course designed to familiarize the student with Southwestern ecosystems, their flora and fauna components, and their conservation through direct experience and scientific observation including study of field journal methods, measurements, and management objectives on-site in the outdoors. Students must furnish their own sleeping bags, backpack, food and personal hygiene needs.

1 hour lecture; 3 hours laboratory.

## **EVS 192 SPECIAL TOPICS IN ENVIRONMENTAL STUDIES (.5)**

Prerequisite: None.

A rotating forum/seminar emphasizing environmental topics of current interest to public and private sector organizations. Includes seminars based upon EPA and OSHA regulations.

1/2 hour lecture.

- 192A OSHA Hazmat and Emergency Response Refresher
- 192B Asbestos Awareness
- 192C Lead Awareness - In Paint, Soil, and Water
- 192D Confined Space Safety/Rescue
- 192E State Water/Wastewater Operator Certification
- 192F Respiratory Protection

## **EVS 193 SPECIAL TOPICS IN ENVIRONMENTAL STUDIES (1)**

Prerequisite: None.

A rotating forum/seminar emphasizing environmental topics of current interest to public and private sector organizations. Includes seminars based upon EPA and OSHA regulations.

1 hour lecture.

- 193A Environmental Law and Its Impact
- 193B Basic Wastewater Treatment
- 193C Safety Management for Health Care Professionals

## **FIRE SCIENCE**

### **FST 101 INTRODUCTION TO FIRE SCIENCE (3)**

Prerequisite: None.

A study of the historical and scientific background of the fire protection field. Includes a review of the history and future role of fire protection; governmental, industrial, and private fire protection organizations; and employment/promotional opportunities presently available in the fire protection field. Modern methods in fire prevention and protection also will be explored.

3 hours lecture.

### **FST 106 FUNDAMENTALS OF FIRE PREVENTION (3)**

Prerequisite: None.

A survey of the basic principles of fire prevention with special emphasis on fire detection and extinguishing systems and on the interpretation and enforcement of fire regulations. Includes the story of hazards associated with heating equipment and building design as well as chemicals and explosives.

3 hours lecture.

### **FST 110 FIRE FIGHTER I (6)**

Prerequisite: None.

An introduction to the operations and individual skills involved in the extinguishment of fire. Completion of this course will prepare the student for certification as Firefighter I by the Office of the State Fire Marshall.

6 hours lecture.

### **FST 111 FIRE FIGHTER II (6)**

Prerequisite: FST 110 or permission of the instructor.

A continuation of Fire Fighter I with emphasis on fire hydrants and pumps, use of ropes, ventilation, salvage, forcible entry tools, rescue techniques and record keeping in the fire service workplace. Completion of this course will qualify the student to take the Firefighter II certification exam through the State Fire Marshall's office.

6 hours lecture.

### **FST 120 FIRE SERVICE HYDRAULICS (3)**

Prerequisite: FST 110, FST 111 or permission of the instructor.

A review of basic math, hydraulic laws and formulas as applied to the fire service with emphasis upon the application of formulas and mental calculations to hydraulic problems, water supply problems, underwriters' requirements and pumper.

3 hours lecture.

**ST 193 SPECIAL TOPICS IN FIRE****SCIENCE (1)**

Prerequisite: None

rotating forum/seminar emphasizing fire science topics of current interest to area fire departments and related public service agencies. Includes seminars based upon National Fire Academy field courses.

hour lecture.

93A Incident Command System

93B Fire Science Supervision: Increasing Personal Effectiveness

93C Fire Science Supervision: Increasing Team Effectiveness

93D Volunteer Fire Service Management

93E Firefighter Health and Safety

93F Firefighter Safety and Survival: The Company Officer's Responsibility

93G Public Fire Education Planning

93H Instructional Techniques for Company Officers

93I Basic Fire Prevention Inspections

93J Ventilation

93K Self Containing Breathing Apparatus

**ST 200 FIRE APPARATUS AND****QUIPMENT (3)**

Prerequisite: FST 110 and 111 or permission of the instructor.

practical study of the selection, care, construction, operation and maintenance of fire department equipment. The basic principles of equipment, troubleshooting, and testing will be investigated.

hours lecture.

**FST 220 RESCUE PRACTICES (3)**

Prerequisite: FST 110 and 111 or permission of instructor.

A practical study of life-saving practices pertaining to the fire company. Emphasis is placed on training for resuscitator squads, rescue equipment, the fire department's role in Civil Defense and other disasters, chemicals and diseases that affect breathing, and breathing apparatus.

3 hours lecture.

**FST 224 FIELD EXPERIENCE IN FIRE SCIENCE TECHNOLOGY (1-6)**

Prerequisite: Sophomore standing in a declared major and prior approval of Cooperative Education Program Coordinator.

A supervised Cooperative Education work experience involving the combined efforts of educators and employers to accomplish career objectives in fire science technology. Variable credit (1-6) is available by special arrangement. May be taken four times for a maximum of 16 credit hours, no more than 6 units in a given semester.

**FST 240 FIRE FIGHTING TACTICS AND STRATEGY (3)**

Prerequisite: FST 110 and FST 111 or permission of the instructor.

A practical study of the organization and use of manpower, equipment and apparatus in fire fighting with emphasis on practical methods of attacking, controlling and extinguishing various types of fires.

3 hours lecture.

**FST 260 FIRE INVESTIGATION (3)**

Prerequisite: Current employment with a fire department or law enforcement agency or permission of instructor.

A practical introduction to accidental, suspicious, and incendiary fire cause determination with special emphasis on arson and incendiaryism as well as appropriate procedures for handling each situation.

3 hours lecture.

## **FST 265 SUPERVISORY TRAINING FOR FIREFIGHTERS (3)**

Prerequisite: FST 110 and FST 111 or permission of the instructor.

A study of administrative methods and practices as applied to the fire service, including departmental organization, and personnel management. Emphasis is placed on employee-selection procedures, employee discipline, performance evaluations, elements of supervision, labor relations, fire service planning and relationships with other organizational units.

3 hours lecture.

## **FOOD AND NUTRITION**

### **FON 101 NUTRITION (3)**

Prerequisite: None.

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

3 hours lecture.

### **FON 201 APPLIED NUTRITION (3)**

Prerequisite: FON 101 or equivalent, or permission of instructor.

A study of the principles of human nutrition and their application in health and illness.

3 hours lecture.

## **FRENCH**

### **FRE 101 ELEMENTARY FRENCH (4)**

Prerequisite: None.

For beginning students: conversation, comprehension of the spoken language, pronunciation, grammar, reading and composition.

4 hours lecture; 1 hours laboratory.

### **FRE 102 ELEMENTARY FRENCH (4)**

Prerequisite: FRE 101 or permission of instructor based on demonstrated competence.

Continuation of FRE 101 with further development of conversation, grammar, reading and composition. Stress on language use and vocabulary development.

4 hours lecture; 1 hour laboratory.

### **FRE 201 INTERMEDIATE FRENCH (4)**

Prerequisite: FRE 102 or three years of high school French with a grade of C or equivalent competency.

A review of grammar, pronunciation, and development of patterns of speech in French, with additional practice in reading, writing, speaking, and understanding the language. Supplemental readings and assignments to enrich the student's vocabulary.

4 hours lecture; 1 hour laboratory.

### **FRE 202 INTERMEDIATE FRENCH (4)**

Prerequisite: FRE 201 or equivalent competency as demonstrated by placement examination.

A review of grammar, pronunciation, and development of patterns of speech in French, with additional practice in reading, writing, speaking, and understanding the language. Supplemental readings and assignments will enrich the student's vocabulary.

4 hours lecture; 1 hour laboratory.

# **GENERAL ELECTRONICS TECHNICIAN**

The following classes, GET 103, 104, 108, 123, and 240 were designed specifically for the Arizona Department of Corrections in Douglas.

## **GET 103 BASIC ELECTRONIC CIRCUITS AND DIAGNOSTICS (3)**

Prerequisite: None.

A course designed to develop student proficiency in diagnosing basic electronic circuits, defective components, and in performing repair procedures for basic series, parallel and series/parallel circuits using appropriate supplies and test equipment to facilitate repairs.

3 hours lecture plus individualized laboratory instruction.

## **GET 104 DIRECT CURRENT CIRCUIT DIAGNOSTICS (3)**

Prerequisite: GET 103.

A comprehensive course designed to make the student proficient in diagnosing complex direct current circuits and defective components, and in performing repair procedures for complex series, parallel, and series/parallel circuits using appropriate test equipment and supplies to facilitate repairs. Use schematic diagrams as a diagnostic tool. Learn how components are made and how to select the proper replacement or substitution part.

3 hours lecture plus individualized laboratory instruction.

## **GET 108 ALTERNATING CURRENT CIRCUIT DIAGNOSTICS (4)**

Prerequisite: GET 104.

A comprehensive course designed to make the student proficient in diagnosing complex alternating current circuits, defective components, and in performing repair procedures for complex series, parallel, and series/parallel circuits using appropriate test equipment and supplies to facilitate repairs. Use schematic diagrams as a diagnostic tool. Learn how

components are made and how to select the proper replacement or substitution part.

4 hours lecture plus individualized laboratory instruction.

## **GET 123 SEMICONDUCTOR DEVICE DIAGNOSTICS AND REPAIR (4)**

Prerequisite: GET 108.

A comprehensive course designed to make the student proficient in diagnosing simple and complex semiconductor device circuits and defective components, and in performing repair procedures using appropriate test equipment and supplies. Use schematic diagrams as a diagnostic tool. Learn how components are made and how to select the proper replacement or substitution part.

4 hours lecture plus individualized laboratory instruction.

## **GET 240 ELECTRONIC SYSTEMS DIAGNOSTICS AND REPAIR (6)**

Prerequisite: GET 123.

A comprehensive course designed to make the student proficient in diagnosing power supplies, amplifiers, oscillators, digital and microprocessor circuits, and in using schematic diagrams as diagnostic tools, and locating defective components, selecting proper replacement part, and in performing repair procedures using appropriate test equipment, tools and supplies, and in performing system checks to verify proper operation, and that repairs were successful.

4 hours lecture plus 4 hours of individualized laboratory instruction.

# **GENERAL TECHNOLOGY**

## **GTC 001 HOME MAINTENANCE (3)**

Prerequisite: None.

A "do it yourself" home maintenance course covering use of common hand and power tools for routine electrical, carpentry, plumbing repairs. May be repeated for AA credit.

1 hour lecture; 3 hours laboratory.

**GTC 002 GENERAL TECHNICAL MATH I (1)**

Prerequisite: Math placement test scores below requirements for successful completion of MAT 072 and low for successful completion of MAT 005.

A general technology arithmetic course in an open entry/open exit format emphasizing drill in computation skills and techniques. Includes basic operations with whole numbers and addition of fractions using terminology of different technologies. Completion of the GTC 002/003/004 sequence is equivalent to MAT 005.

1 hour lecture.

**GTC 003 GENERAL TECHNICAL MATH II (1)**

Prerequisite: GTC 002.

A general technology arithmetic course in an open-entry/open-exit format emphasizing drill in skills and techniques of computation. Includes basic operations with fractions and decimals using terminology of different technologies. Completion of the GTC 002/003/004 sequence is equivalent to MAT 005.

1 hour lecture.

**GTC 004 GENERAL TECHNICAL MATH III (1)**

Prerequisite: GTC 003.

A general technology arithmetic course in an open-entry/open-exit format emphasizing drill in skills and techniques of computation. Includes basic operations and applications of decimals, ratio, proportion, and percent using terminology of different technologies. Completion of the GTC 002/003/004 sequence is equivalent to MAT 005.

1 hour lecture.

**GTC 005 READ-STUDY SKILLS (1)**

Prerequisite: Referral from faculty or college counselor to SDC Director concerning "a special needs student."

Tutorial for pre-vocational students functioning below grade level 8. A review of reading comprehension necessary to a vocational program. Required competencies include study strategies for textbooks,

vocabulary, interpreting visuals, writing related to study assignments, and exams.

1 hour lecture.

**GTC 006 WORD ID-SPELLING (1)**

Prerequisite: Recommendation by a counselor or vocational program advisor to the Student Development Center Director for individualized instruction. The class may be repeated once for credit.

Introduction to basic decoding/spelling rules with application for adults functioning below grade level 7.0 on a standardized placement test indicating a need for phonetic/structural analysis.

1 hour lecture.

**GTC 007 GENERAL TECHNICAL MATH IV (1)**

Prerequisite: Indicated mathematics deficiency.

A general technology arithmetic course in an open-entry/open-exit format emphasizing drill in computational skills and techniques. Includes fundamental math operations with whole numbers, fractions, and prime factorization. Completion of the GTC 007/008/009 sequence is equivalent to MAT 072.

1 hour lecture.

**GTC 008 GENERAL TECHNICAL MATH V (1)**

Prerequisite: GTC 007.

A general technology arithmetic course in a open-entry/open-exit format emphasizing drill in computational skills and techniques. Includes basic operations with fractions, decimals, ratio, and proportion. Completion of the GTC 007/008/009 sequence is equivalent to MAT 072.

1 hour lecture.

**GTC 009 GENERAL TECHNICAL MATH VI (1)**

Prerequisite: GTC 008.

A vocationally oriented basic arithmetic course in an open-entry/open-exit format emphasizing drill in skills and techniques of computation. Includes operations with percentages and signed numbers. Also emphasized are conversions within and between English and Metric systems of measurement. Completion of the GTC 007/008/009 sequence is equivalent to MAT 072.

1 hour lecture.

**GTC 012\* GENERAL AUTOMOTIVE MECHANICS I (3)**

Prerequisite: None.

Automotive maintenance and repair including tune-up, electrical systems, fuel systems, cooling systems, lubrication systems and oils, transmissions and clutches, brake systems and accessories, such as air conditioning.

2 hour lecture; 3 hours laboratory.

**GTC 014\* KNOW YOUR AUTOMOBILE (3)**

Prerequisite: None.

A course to develop entry-level auto mechanic skills. This is classroom theory and supporting laboratory experience for basics of engine operation, powertrain operation, use of tools, care and selection of tires, use of jack, changing tires, lubrication system service, checking of all fluid levels, cooling system and minor service, use of repair manuals, brake system theory and minor service, repack wheel bearings, fuel system theory and very minor service, basics of electricity, basics of battery, starter and charging system theory, ignition system service, diagnosis: what to do if the car won't start, selecting a used car.

3 hours lecture.

**GTC 016\* BASIC AUTO REFRIGERATION (3)**

Prerequisite: None.

Basic application of theory of refrigeration and techniques of servicing automotive air conditioners.

1 hour lecture; 4 hours laboratory.

**GTC 017\* ADVANCED AUTOMOBILE REFRIGERATION (3)**

Prerequisite: GTC 016 or permission of instructor.

Advanced techniques of testing, troubleshooting and repair of automotive air conditioner.

1 hour lecture; 4 hours laboratory.

**GTC 018\* COMMERCIAL REFRIGERATION (3)**

Prerequisite: GTC 016.

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

1 hour lecture; 4 hours laboratory.

**GTC 022 WATER AND WASTE WATER PLANT OPERATION (3)**

Prerequisite: Admissibility to Cochise College.

A course designed to provide the student with the knowledge, skills, and techniques required to pass a State of Arizona Certification Examination or Class I or Class II or Waste Water Plant Operator.

2 hours lecture; 3 hours laboratory.

**GTC 025 SOLAR ENERGY SYSTEMS (3)**

Prerequisite: MAT 122 and knowledge of basic hand tools.

Design, installation and operation of residential solar energy systems. Basic solar heating and cooling theory and laboratory experience to develop student understanding of solar energy systems. Emphasis on selection of components and operation of the system.

2 hours lecture; 3 hours laboratory.

**GTC 092 ENGLISH FOR OCCUPATIONS (1)**

Prerequisite: Concurrent enrollment in ENG 012, 013, or 014 or permission of instructor.

Intensive practice with English vocabulary and specialized terminology useful in the workplace.

2 hours laboratory.

**GTC 100 TECHNICAL MATHEMATICS I (3)**

Prerequisite: One semester of high school algebra or permission of instructor.

A review of arithmetic and the study of fundamentals of algebra and geometry applied to practical problems of the drafting room, machine shop, and engineering.

3 hours lecture.

**GTC 101 TECHNICAL MATHEMATICS II (3)**

Prerequisite: GTC 100 or permission of instructor.

A comprehensive study of trigonometry as applied to electronics and drafting industrial situations with an introduction to calculus.

3 hours lecture.

**GTC 105 MANUFACTURING MATERIALS AND PROCESSES I (3)**

Prerequisite: None.

The study of manufacturing materials, their characteristics and applications; manufacturing processes including machining, forming, welding and automated manufacturing techniques with emphasis on their relationship to drafting and design.

3 hours lecture.

**GTC 110 MASONRY I (3)**

Prerequisite: MAT 005 and 010 or equivalent.

An examination of the masonry profession with an emphasis upon the use of masonry tools and the techniques of laying brick and block.

2 hours lecture; 3 hours laboratory.

**GTC 111 MASONRY II (3)**

Prerequisite: GTC 110.

A continuation of Masonry I, with emphasis upon the decorative and design possibilities of brick and block and upon the development of a smooth style of work with different types and patterns of brick and block.

2 hours lecture; 3 hours laboratory.

**GTC 112 MASONRY III (3)**

Prerequisite: GTC 111.

A continuation of Masonry II concentrating on the design and construction of various types of fireplaces and on decorative stone-work, arches and tile.

2 hours lecture; 3 hours laboratory.

**GTC 120 CONCRETE CONSTRUCTION AND FINISH (3)**

Prerequisite: None.

A combination of step-by-step layout and finish techniques with the theory of practical concrete formulation.

2 hours lecture; 3 hours laboratory.

**GTC 121 PAINTING: EXTERIOR AND INTERIOR (3)**

Prerequisite: None.

Student preparation for proficiency in patching, repainting, and maintaining painted surfaces in the interior and exterior of building and structures with an emphasis on surface preparation, the selection of paints, their application and the safe and proper storage of all painting materials and tools.

2 hours lecture; 4 hours laboratory

**GTC 122 AIR CONDITIONING MAINTENANCE (3)**

Prerequisite: None.

A course to provide the student with proficiency in inspecting, troubleshooting, repairing and maintaining air conditioning and evaporative cooling systems with an emphasis on scheduling of seasonal maintenance, start-up and shut-down procedures.

2 hours lecture, 4 hours laboratory.

## **GTC 123 ELECTRICAL MAINTENANCE AND REPAIR (3)**

Prerequisite: None.

A course to provide the student with proficiency in maintaining, troubleshooting, and repairing existing residential and industrial circuitry and equipment. The student will install original circuitry in newly remodeled spaces or additions.

3 hours lecture.

## **GTC 124 CARPENTRY MAINTENANCE AND REPAIR (3)**

Prerequisite: None.

A course to provide the student with proficiency in maintaining, repairing, replacing, and remodeling existing or new building components including floor coverings, wall coverings, and glazing.

## **GTC 125 PLUMBING MAINTENANCE AND REPAIR (3)**

Prerequisite: None.

A course to provide the student with proficiency in the maintaining, troubleshooting, repairing, and replacing of liquid supply and waste removal or drainage systems.

## **GTC 126 MAINTENANCE MANAGEMENT (3)**

Prerequisite: None.

A course to provide the student with proficiency in scheduling maintenance, allotting maintenance task hours, and the cost efficient and safe use of maintenance tools and materials with an emphasis on the cost of preventive maintenance versus unscheduled maintenance.

## **GTC 127 BLUEPRINT READING AND ESTIMATING (3)**

Prerequisite: None.

A course to provide the student with proficiency in reading and understanding blueprints and their use in locating plumbing, electrical and waste disposal systems. The student will learn the symbols and abbreviations used by architects and draftsmen, how

to apply them to maintenance techniques, and how to estimate material from architectural specifications.

3 hours lecture.

## **GTC 130 ESTIMATING CONSTRUCTION (3)**

Prerequisite: GTC 100 and DFT 100.

Techniques and procedures of contract interpretation; material selection; and materials, labor and time estimation.

3 hours lecture.

## **GTC 131 PRINCIPLES OF TECHNOLOGY I (6)**

Prerequisite: GTC 101.

An introductory course in applied science and associated mathematics to study how concepts such as force, work, rate, resistance and energy apply to mechanical, fluidic, electrical and thermal energy systems for those students preparing to enter high technology career fields.

3 hours lecture; 6 hours lab and/or individualized instruction.

## **GTC 132 PRINCIPLES OF TECHNOLOGY II (6)**

Prerequisite: GTC 131.

An intermediate course in applied science and related mathematics to study how concepts such as power, force transformation, momentum, waves, vibrations and energy conversion apply to mechanical, fluidic, electrical and thermal energy systems for the student preparing to enter high technology career fields.

3 hours lecture; 6 hours lab and/or individualized instruction.

## **GTC 133 PRINCIPLES OF TECHNOLOGY III (6)**

Prerequisite: GTC 132.

An advanced course in applied science and associated mathematics to study how concepts such as transducers, radiation, light, optics, and time constants apply to mechanical, fluidic, electrical and thermal energy systems for students preparing to enter high-technology career fields.

3 hours lecture; 6 hours lab and/or individualized instruction.

## **GTC 134 BUSINESS AND INDUSTRIAL CLEANING (3)**

Prerequisite: None.

A course to provide the student with proficiency in business and industrial cleaning techniques and their practical application with a concern for safety. The student will identify various types of chemicals and equipment used in industrial and business cleaning and how to properly handle, store and safely use them.

2 hours lecture; 3 hours lab.

## **GTC 206 ENGINEERING MATERIALS AND PROCESSES (4)**

Prerequisite: GTC 105

Materials, their structures, properties, fabrication characteristics and applications. Material forming, joining and finishing processes. Automation and quality control.

4 hours lecture.

## **GTC 224 FIELD EXPERIENCE IN MASONRY TECHNOLOGY (1-6)**

Prerequisite: Sophomore standing in a declared major or prior approval of Cooperative Education Program Coordinator.

A supervised Cooperative Education work experience involving the combined efforts of educators and employers to accomplish career objectives in Masonry Technology. Variable credit (1-6) is available by special arrangement. May be taken four times

for a maximum of 16 credit hours, no more than 6 units in a given semester. NOTE: Lower- and upper-division Cooperative Education courses may be combined but cannot exceed 16 units.

## **GTC 225 FIELD EXPERIENCE IN BUSINESS & INDUSTRIAL CLEANING (1-6)**

Prerequisite: Sophomore standing in a declared major or prior approval of Cooperative Education Program Coordinator.

A supervised Cooperative Education work experience involving the combined efforts of educators and employers to accomplish career objectives in Business & Industrial Cleaning. Variable credit (1-6) is available by special arrangement. May be taken four times for a maximum of 16 credit hours, no more than 6 units in a given semester.

NOTE: Lower- and upper-division Cooperative Education courses may be combined but cannot exceed 16 units.

## **GTC 226 FIELD EXPERIENCE IN BUILDING MAINTENANCE TECHNOLOGY (1-6)**

Prerequisite: Sophomore standing in a declared major or prior approval of Cooperative Education Program Coordinator.

A supervised Cooperative Education work experience involving the combined efforts of educators and employers to accomplish career objectives in Building Maintenance Technology. Variable credit (1-6) is available by special arrangement. May be taken four times for a maximum of 16 credit hours, no more than 6 units in a given semester.

NOTE: Lower- and upper-division Cooperative Education courses may be combined but cannot exceed 16 units.

## **GTC 231 MANUFACTURING PROCESSES (4)**

Prerequisite: GTC 105, GTC 206.

A course in both theoretical and practical experience related to the machining of ferrous and nonferrous metals. Designed to develop a basic understanding of machining operations related to drilling, milling, grinding and lathe processes.

3 hours lecture; 2 hours laboratory.

## **GEOGRAPHY**

### **GEO 101\* PHYSICAL GEOGRAPHY (4)**

Prerequisite: None.

An introduction to the various features of the earth's physical environment including the origin and development of landforms and the composition of the earth's crust, weather, climate, vegetation, soils and the mineral resources used by man.

3 hours lecture; 3 hours laboratory.

### **GEO 102 CULTURAL GEOGRAPHY (3)**

Prerequisite: None.

A study of the cultural regions of the world and the important world geographical characteristics.

3 hours lecture.

### **GEO 104 POLITICAL GEOGRAPHY (3)**

Prerequisite: None.

A study of political phenomena in different locations in conjunction with the physical features of the earth's landscape.

3 hours lecture.

### **GEO 105 ECONOMIC GEOGRAPHY (3)**

Prerequisite: None.

A survey of the world's economics, including subsistence economic activities, commercial gathering of animals and plants, commercial bioculture, mining, manufacturing, transportation and trade, and tertiary economic activities centering on basic economics and their relationship to the natural resources

of the area involved and the relationship of the physical features; climate, soil, vegetation, and topography.

3 hours lecture.

### **GEO 121 WORLD REGIONAL GEOGRAPHY (3)**

Prerequisite: ENG 101 or concurrent enrollment.

An exploration of major world geographical regions with emphasis upon human cultural adaptation to the physical habitat.

3 hours lecture.

### **GEO 189 REGIONAL GEOGRAPHY (.5)**

Prerequisite: None.

A progressive (four module) in-depth study of a particular region of man's sequent occupancy, beginning with the physical geography of the major region and continuing through the cultural, economic, and political geography of that region. The four modules are one-half credit per module and are sequential in nature, building on the previous modules.

There are nine major regions in this program, generally oriented to the major language groupings. The alphabetic precursor indicates the major region: the numerics indicate the major functional area of geographic studies.

.5 hour lecture/modules

GEO 189A	Physical - North America
GEO 189B	Physical - Central America
GEO 189C	Physical - South America
GEO 189D	Physical - Europe (non-Slavic)
GEO 189E	Physical - Eurasia (Slavic)
GEO 189F	Physical - North Africa/Southwest Asia (Arabic/Turkic/Farsi)
GEO 189G	Physical - East Asia (non-Slavic)
GEO 189 H	Physical South/Southeast Asia
GEO 189I	Physical - Africa South of the Sahara

## **GEO 190 REGIONAL GEOGRAPHY (.5)**

Prerequisite: None.

A progressive (four module) in-depth study of a particular region of man's sequent occupancy, beginning with the physical geography of the major region and continuing through the cultural, economic, and political geography of that region. The four modules are one-half credit per module and are sequential in nature, building on the previous modules.

There are nine major regions in this program, generally oriented to the major language groupings. The alphabetic precursor indicates the major region: the numerics indicate the major functional area of geographic studies.

.5 hour lecture/modules

GEO 190A	Cultural - North America
GEO 190B	Cultural - Central America
GEO 190C	Cultural - South America
GEO 190D	Cultural - Europe (non-Slavic)
GEO 190E	Cultural - Eurasia (Slavic)
GEO 190F	Cultural - North Africa/Southwest Asia (Arabic/Turkic/Farsi)
GEO 190G	Cultural - East Asia (non-Slavic)
GEO 190H	Cultural - South/Southeast Asia
GEO 190I	Cultural - Africa South of the Sahara

## **GEO 191 REGIONAL GEOGRAPHY (.5)**

Prerequisite: None.

A progressive (four module) in-depth study of a particular region of man's sequent occupancy, beginning with the physical geography of the major region and continuing through the cultural, economic, and political geography of that region. The four modules are one-half credit per module and are sequential in nature, building on the previous modules.

There are nine major regions in this program, generally oriented to the major language groupings. The alphabetic precursor indicates the major region: the numerics indicate the major functional area of geographic studies.

.5 hour lecture/modules

GEO 191A	Economic - North America
GEO 191B	Economic - Central America
GEO 191C	Economic - South America
GEO 191D	Economic - Europe (non-Slavic)
GEO 191E	Economic - Eurasia (Slavic)
GEO 191F	Economic - North Africa/Southwest Asia (Arabic/Turkic/Farsi)
GEO 191G	Economic - East Asia (non-Slavic)
GEO 191H	Economic - South/Southeast Asia
GEO 191I	Economic - Africa South of the Sahara

## **GEO 192 REGIONAL GEOGRAPHY (.5)**

Prerequisite: None.

A progressive (four module) in-depth study of a particular region of man's sequent occupancy, beginning with the physical geography of the major region and continuing through the cultural, economic, and political geography of that region. The four modules are one-half credit per module and are sequential in nature, building on the previous modules.

There are nine major regions in this program, generally oriented to the major language groupings. The alphabetic precursor indicates the major region: the numerics indicate the major functional area of geographic studies.

.5 hour lecture/modules

GEO 192A	Political - North America
GEO 192B	Political - Central America
GEO 192C	Political - South America
GEO 192D	Political - Europe (non-Slavic)
GEO 192E	Political - Eurasia (Slavic)
GEO 192F	Political - North Africa/Southwest Asia (Arabic/Turkic/Farsi)
GEO 192G	Political - East Asia (non-Slavic)
GEO 192H	Political - South/Southeast Asia
GEO 192I	Political - Africa South of the Sahara

## **GEO 193 NATIONAL STUDIES (1)**

Prerequisite: Permission of instructor.

An intensive nation-by-nation study within a given region of the world. This course is a follow-up to the four modules of GEO 192 (Regional Studies). Building on the regional material developed in GEO 192. Each student will conduct an in-depth study of the physical, cultural, economic, and political geography of a particular nation.

GEO 193A National Studies in North America  
GEO 193B National Studies in Central America  
GEO 193C National Studies in South America  
GEO 193D National Studies in Europe (non-Slavic)  
GEO 193E National Studies in Eurasia (Slavic)  
GEO 193F National Studies in North Africa/Southwest Asia (Arabic/Turkic/Farsi)  
GEO 193G National Studies in East Asia (non-Slavic)  
GEO 193H National Studies in South/ Southeast Asia  
GEO 193I National Studies in Africa South of the Sahara

## **GEOLOGY**

### **GLG 101\* INTRODUCTION TO GEOLOGY I (PHYSICAL) (4)**

Prerequisite: None.

Principles of physical geology for both general-interest students and those who plan to major in geology. Includes materials of interest on recent trends in earth science and environmental science.

3 hours lecture; 3 hours laboratory.

### **GLG 102\* INTRODUCTION TO GEOLOGY II (HISTORICAL) (4)**

Prerequisite: None.

Presents the most current model of the development of the surface of our planet and the life found upon it. For general-interest students and those majoring in geology, archaeology, or the biological sciences.

3 hours lecture; 3 hours laboratory.

### **GLG 110 ENVIRONMENTAL GEOLOGY (4)**

Prerequisite: Physical Geology recommended, but not required.

An introduction to understanding geologic events and environmental issues, and their impact on populations. The course will include hazardous geologic aggrading and degrading processes, soils and land use, air, water and waste pollution, mining practices, energy, fossil and nuclear fuels. Population, economic, ecological and bioethical issues are also covered.

3 hours lecture; 3 hours laboratory.

### **GLG 192 SPECIAL TOPICS IN GEOLOGY (.5-1)**

Prerequisite: None.

A rotating forum/seminar emphasizing geological topics of current regional significance; topics to vary in accordance with scientific advances and with changes in student needs and interests. May be repeated for Cochise College credit. Cochise College elective credit only unless otherwise designated in degree programs.

1/2-1 hour lecture.

### **GLG 299 INDIVIDUAL STUDIES (1-4)**

Prerequisite: Approval of the division chair or associate dean and instructor.

Completion of a research problem or an outlined course of study under the direction of a faculty member with contract for the individual study agreed upon by the student, the instructor and the division chair or associate dean prior to initiation of the study. May be repeated for credit.

## **GERMAN**

### **GER 001 CONVERSATIONAL GERMAN (3)**

Prerequisite: None.

Essentials of German conversation in everyday situations designed for students who intend to use the language for business, pleasure or travel. Transferable to a four-year institution only upon satisfactory performance of a proficiency examination.

3 hours lecture.

### **GER 101 ELEMENTARY GERMAN (4)**

Prerequisite: None.

An introduction to the German language through conversation, reading and composition; emphasis on grammar, pronunciation, and listening vocabulary.

4 hours lecture; 1 hour laboratory.

### **GER 102 ELEMENTARY GERMAN (4)**

Prerequisite: GER 101 or permission based on demonstrated competence.

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

4 hours lecture; 1 hour laboratory.

### **GER 201 INTERMEDIATE GERMAN (4)**

Prerequisite: GER 102 or ability to pass corresponding examination.

An intermediate course in speaking, writing, understanding and reading German. Integration and utilization of new structures, with emphasis on longer non-technical essays and analysis of short stories and socially pertinent texts.

4 hours lecture; 1 hour laboratory.

### **GER 202 INTERMEDIATE GERMAN (4)**

Prerequisite: GER 201 or ability to pass corresponding examination.

A continuation of GER 201, with emphasis on understanding of the usage and structure in the language and familiarity with German culture. Students

will read material in such fields as art, literature and technology. Students will also write and present brief term papers.

4 hours lecture; 1 hour laboratory.

## **HEALTH PHYSICAL EDUCATION**

### **HPE 105 COED LOW INTENSITY AEROBIC EXERCISE (1)**

Prerequisite: None.

A practical introduction to low intensity aerobic exercise with emphasis upon the acquisition of basic skills and movements, as well as the improvement and maintenance of individual fitness. Recommended for the poorly conditioned, novice student.

1 hour lecture; 1 hour laboratory.

### **HPE 106 COED AEROBIC EXERCISE (1)**

Prerequisite: None.

A practical introduction to aerobic exercise with emphasis upon the acquisition of basic skills and movements as well as the improvement and maintenance of individual fitness.

1 hour lecture; 1 hour laboratory.

### **HPE 107 AQUA AEROBICS (1)**

Prerequisite: None.

Stretching and toning aerobic exercises conducted in a swimming pool, with emphasis upon cardiovascular fitness. Individual needs and limitations are considered, and each student progresses at his/her own rate. No swim skills necessary.

1 hour lecture; 1 hour laboratory.

### **HPE 110 COED BODY CONDITIONING (1)**

Prerequisite: None.

A practical application of the accepted fitness principles and concepts conducive to the development and maintenance of an adequate level of overall fitness. The course introduces the student to aerobic and anaerobic activities that promote cardiovascular endurance, flexibility, and muscular endurance.

1 hour lecture; 1 hour laboratory.

**HPE 111 COED BODY DYNAMICS (1)**

Prerequisite: None.

A practical introduction to the principles and concepts of physical fitness through the use of various exercise equipment and activities.

1 hour lecture; 1 hour laboratory.

**HPE 112 COED WEIGHT TRAINING (1)**

Prerequisite: None.

An activity course introducing basic skills and knowledge necessary to develop a proper weight training program and cardiovascular development.

1 hour lecture; 1 hour laboratory.

**HPE 113 COED ATHLETIC CONDITIONING & TRAINING (2)**

Prerequisite: None.

A practical introduction to fitness activities conducive to the development of strength, flexibility, endurance and cardiovascular fitness. Designed to enhance athletic performance of the athlete.

1 hour lecture; 3 hours laboratory.

**HPE 114 WEIGHT LIFTING FOR WOMEN (1)**

Prerequisite: None.

The course will introduce female students to anaerobic activities related to the development of muscular strength, muscular endurance and flexibility. It will provide the female student with exercise techniques related to the development of overall body strength and the reduction of body fat.

1 hour lecture; 1 hour laboratory.

**HPE 115 PERSONAL FITNESS I (2)**

Prerequisite: None.

A practical introduction to the theory and skills of lifetime fitness with emphasis upon aerobic activities to maintain and/or improve the student's cardiorespiratory system and overall fitness level. Student Fitness profiles are developed and utilized to determine an individualized exercise program in the Exercise Physiology Lab.

1 hour lecture; 2 hours laboratory.

**HPE 116 PERSONAL FITNESS II (1-2)**

Prerequisite: HPE 115 or permission of instructor.

A continuation of the theory and skills of lifetime fitness introduced in HPE 115 Personal Fitness. Student fitness profiles are developed and utilized to determine an individualized exercise program in the Exercise Physiology Lab.

2-4 hours laboratory.

**HPE 120 BASIC COED JUDO (1)**

Prerequisite: None.

An introduction to the fundamental theory and skills of judo, with emphasis upon practical application of basic judo techniques.

1 hour lecture; 1 hour laboratory.

**HPE 121 INTERMEDIATE COED JUDO (1)**

Prerequisite: HPE 120 or permission of instructor.

A study of intermediate judo with emphasis upon acquisition of intermediate-level skills and techniques. Introduction of selected elements of advanced judo.

1 hour lecture; 1 hour laboratory.

**HPE 122 BEGINNING COED KARATE (1)**

Prerequisite: None.

Introduction to basic karate with emphasis upon the underlying theory and practical application of beginning karate techniques.

1 hour lecture; 1 hour laboratory.

**HPE 123 INTERMEDIATE COED KARATE (1)**

Prerequisite: HPE 122 or permission of instructor.

A theoretical and practical study of intermediate karate skills with emphasis upon sparring and self-defense techniques. Elements of advanced techniques will provide a basis for continued study by the individual student.

1 hour lecture; 1 hour laboratory.

**HPE 124 PRACTICAL SELF-DEFENSE (1)**

Prerequisite: None.

An introduction to the art of self-defense with emphasis upon practical instruction in various self-defense techniques and their appropriate situational applications and the prevention of dangerous or compromising situations.

1 hour lecture; 1 hour laboratory.

**HPE 125 COED HIKING (1)**

Prerequisite: None.

An introduction to wilderness trail and off-trail hiking with emphasis on the care and handling of equipment, the use of maps, the care and protection of wilderness trails, the use of emergency first aid, and the importance of physical conditioning.

1 hour lecture; 1 hour laboratory.

**HPE 126 COED BACKPACKING (1)**

Prerequisite: HPE 125 or its equivalent or permission of instructor.

A study of back-country hiking and camping designed to develop skills in wilderness living and travel. Emphasis on developing a wilderness philosophy and an awareness of the individual's ability to live in the back country. Students must furnish boots, packs, sleeping bags and shelter.

1 hour lecture; 1 hour laboratory.

**HPE 130 BEGINNING COED SWIMMING (1)**

Prerequisite: None.

An introduction to the primary skills of swimming for the non-swimmer with emphasis upon water safety, basic strokes and developing the ability to swim thirty yards.

1 hour lecture; 1 hour laboratory.

**HPE 131 INTERMEDIATE COED SWIMMING (1)**

Prerequisite: HPE 130 or permission of instructor.

A practical study of swimming designed to improve skills in the four fundamental strokes: crawl, breast, back and side. Upon course completion, students

will have the ability to swim continuously for five minutes on front, side, and back.

1 hour lecture; 1 hour laboratory.

**HPE 132 ADVANCED COED SWIMMING AND WATER SPORTS (1)**

Prerequisite: HPE 131 or permission of instructor.

A study of advanced swimming techniques, emphasizing variations on the four fundamental strokes, water sports, synchronized swimming and other aquatic activities.

1 hour lecture; 1 hour laboratory.

**HPE 133 COED LIFE SAVING AND WATER SAFETY (1)**

Prerequisite: HPE 131 or permission of instructor.

A practical study of life saving skills and water safety with emphasis upon water extrication/rescue, emergency first aid and cardiorespiratory resuscitation. American Red Cross Advanced Life Saving certificate available to successful course completors.

1 hour lecture; 1 hour laboratory.

**HPE 134 WATER SAFETY INSTRUCTOR (2)**

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

Development of swimming and life-saving instructional skills. Meets the requirements for American National Red Cross Water Safety Instructor Certification.

2 hours lecture; 1 hour laboratory.

**HPE 135\* COED SKIN AND SCUBA DIVING (2)**

Prerequisite: Students must be comfortable in the water.

A basic introduction to fundamental skin-diving and scuba-diving techniques. PADI International Life-time Open Water Certification achieved upon the successful course completion.

1 hour lecture; 3 hours laboratory.

**HPE 140 COED ARCHERY (1)**

Prerequisite: None.

A practical introduction to archery with emphasis upon the acquisition of the basic skills and knowledge of archery and an appreciation for the sport as a lifelong leisure activity. Demonstrate an appreciation for the competitive archer's skills.

1 hour lecture; 1 hour laboratory.

**HPE 141 COED BADMINTON (1)**

Prerequisite: None.

A practical introduction designed to provide the student with the basic skills, rules and strategies necessary to participate in recreational badminton as a lifelong leisure activity.

1 hour lecture; 1 hour laboratory.

**HPE 142 COED BASKETBALL (1)**

Prerequisite: None.

A practical introduction to the basic skills, rules and strategies of recreational basketball to prepare the student for participation in a lifelong leisure activity.

1 hour lecture; 1 hour laboratory.

**HPE 143 BEGINNING COED BOWLING (1)**

Prerequisite: None.

A practical introduction to bowling with emphasis on the acquisition of basic skills and knowledge of bowling and on bowling as a lifelong leisure activity.

1 hour lecture; 1 hour laboratory.

**HPE 144 INTERMEDIATE COED BOWLING (1)**

Prerequisite: HPE 143 or permission of instructor.

A practical introduction to the advanced skills and knowledge of bowling with emphasis on the acquisition of a lifelong leisure activity.

1 hour lecture; 1 hour laboratory.

**HPE 145 BEGINNING COED GOLF (1)**

Prerequisite: None.

A practical introduction to the basic skills, rules and etiquette of golf to prepare the student for participation in a lifelong leisure activity.

1 hour lecture; 1 hour laboratory.

**HPE 146 INTERMEDIATE COED GOLF (1)**

Prerequisite: HPE 145.

A practical introduction to the advanced skills and strategies of golf with emphasis on the acquisition of a lifelong leisure activity.

1 hour lecture; 1 hour laboratory.

**HPE 147 BEGINNING COED HANDBALL (1)**

Prerequisite: None.

A practical introduction to handball with emphasis upon the acquisition of the basic skills and knowledge necessary for participation in handball. The student shall also acquire an appreciation for the sport as a lifelong leisure activity.

1 hour lecture; 1 hour laboratory.

**HPE 148 BEGINNING COED RACQUETBALL (1)**

Prerequisite: None.

A practical introduction to racquetball with emphasis upon the acquisition of the basic skills and knowledge necessary for participation in racquetball. The student shall also acquire an appreciation for the sport as a lifelong leisure activity.

1 hour lecture; 1 hour laboratory.

**HPE 150 COED SOFTBALL (1)**

Prerequisite: None.

A practical introduction designed to provide the student with the basic skills, rules and strategies necessary to participate in recreational softball as a lifelong leisure activity.

1 hour lecture; 1 hour laboratory.

**HPE 151 COED BEGINNING TENNIS (1)**

Prerequisite: None.

A practical introduction designed to provide the student with the basic skills, rules and strategies necessary to participate in recreational tennis as a lifelong leisure activity.

1 hour lecture; 1 hour laboratory.

**HPE 152 COED INTERMEDIATE TENNIS (1)**

Prerequisite: HPE 151.

A practical introduction designed to provide the student with the advanced skills and strategies necessary to participate in recreational tennis as a lifelong leisure activity.

1 hour lecture; 1 hour laboratory.

**HPE 153 COED VOLLEYBALL (1)**

Prerequisite: None.

A practical introduction to the basic skills, rules and strategies of recreational volleyball to prepare the student for participation in a lifelong leisure activity.

1 hour lecture; 1 hour laboratory.

**HPE 165 PISTOL MARKSMANSHIP (1)**

Prerequisite: None.

An activity course emphasizing firearms safety and care for pistols that supplements law enforcement education, physical education, and competition sports from collegiate to Olympic levels. Students will be required to provide a .22 caliber pistol and ammunition.

1 hour lecture; 1 hour laboratory.

**HPE 166 RIFLE MARKSMANSHIP (1)**

Prerequisite: None.

An activity course emphasizing firearms safety and care for rifles that supplements law enforcement education, physical education, and competition sports from collegiate to Olympic levels. Students will be required to provide a .22 caliber rifle and ammunition.

1 hour lecture; 1 hour laboratory.

**HPE 170 VARSITY BASEBALL (1)**

Prerequisite: None.

Designed to provide the intermediate/advanced athlete with the skills and strategies necessary to compete at the intercollegiate level.

1 hour lecture; 3 hours laboratory.

**HPE 171 VARSITY MEN'S BASKETBALL (1)**

Prerequisite: None.

Designed to provide the intermediate/advanced athlete with the skills and strategies necessary to compete in basketball at the intercollegiate level.

1 hour lecture; 3 hours laboratory.

**HPE 172 VARSITY WOMEN'S BASKETBALL (1)**

Prerequisite: None.

Designed to provide the intermediate/advanced athlete with the skills and strategies necessary to compete at the intercollegiate level.

1 hour lecture; 3 hours laboratory.

**HPE 173 VARSITY VOLLEYBALL (1)**

Prerequisite: None.

Designed to provide the intermediate/advanced athlete with the skills and strategies necessary to compete at the intercollegiate level.

1 hour lecture; 3 hours laboratory.

**HPE 175 CHEERLEADING (1)**

Prerequisite: Permission of instructor and tryouts.

An applied study of cheerleading emphasizing individual and group physical exercises, stunts, dances, routines, and chants with demonstration of these skills at school rallies and games.

1 hour lecture; 1 hour laboratory.

**HPE 170 LIFELONG WELLNESS (3)**

Prerequisite: None.

A practical and theoretical introduction to current practices necessary for wellness and optimum health. The student will develop an individualized program of diet and exercise supervised by the instructor.

3 hours lecture.

**HPE 180 ORIENTATION TO PHYSICAL EDUCATION (3)**

Prerequisite: None.

A comprehensive introduction to the basic foundations of physical education and sport. Includes an examination of career preparation and opportunities.

3 hours lecture.

**HPE 181 ORIENTATION TO RECREATION (3)**

Prerequisite: None.

A comprehensive introduction to the basic foundations of recreation. An examination of career opportunities in the field of recreation.

3 hours lecture.

**HPE 183 CARDIOPULMONARY RESUSCITATION AND ELEMENTS OF FIRST AID (.5)**

Prerequisite: None.

A basic course in CPR and first aid for the first responders. Upon completion of the course, the student will be certifiable by the American Heart Association in CPR.

1/2 hour lecture.

**HPE 185 ELEMENTARY SCHOOL PHYSICAL EDUCATION (3)**

Prerequisite: None.

A comprehensive overview of child development theories, general and specific physical education instructional procedures, and activity sequences.

3 hours lecture.

**HPE 186 SCHOOL AND COMMUNITY HEALTH (3)**

Prerequisite: None.

The basic plan of the school health program, health services, health instruction and healthful school environment. The role of the teacher in relation to the school health program and the community health program.

3 hours lecture.

**HPE 187 PERSONAL HEALTH (3)**

Prerequisite: None.

A survey of human adaptation emphasizing study of birth, growth and development, drugs, disease, life style, marriage and parenthood, quality life and death.

3 hours lecture.

**HPE 188 FIRST AID AND CPR (1)**

Prerequisite: None.

A study of first aid and cardiopulmonary resuscitation skills for first responders in an emergency. American Red Cross First Aid and CPR certification awarded upon successful course completion.

1 hour lecture.

**HPE 189 FIRST AID AND SAFETY (3)**

Prerequisite: None.

A study of first aid and cardiopulmonary resuscitation skills for first responders in an emergency. American Red Cross First Aid and CPR certification and the option to qualify for instructor status will be awarded upon successful course completion.

3 hours lecture.

**HPE 190 SPORTS OFFICIATING (3)**

Prerequisite: None.

An overview of officiating skills in several sports including baseball, basketball, football and volleyball. Emphasis upon the acquisition of skills and knowledge essential to serve as a coach and/or as an official with the Arizona Interscholastic Association.

3 hours lecture.

**HPE 192 COACHING TEAM SPORTS (2)**

Prerequisite: None.

An overview of coaching skills and theory with emphasis upon coaching team sports at the youth and secondary levels. Introduces the student to career and professional opportunities in the coaching field. Basic and intermediate skills inherent in several team sports (as selected by the instructor) will be introduced to the student.

2 hours lecture.

**HPE 193 THEORY OF COACHING  
BASEBALL (3)**

Prerequisite: None.

An overview of coaching skills and theory with emphasis upon coaching baseball at the youth and secondary levels. Introduces the student to the aspects of coaching baseball at the collegiate level.

3 hours lecture.

**HPE 194 THEORY OF COACHING  
BASKETBALL (3)**

Prerequisite: None.

A theoretical and practical study of coaching with emphasis upon coaching basketball at the youth and secondary levels. Introduces the student to the aspects of coaching basketball at the collegiate level.

3 hours lecture.

**HPE 195 THEORY OF COACHING  
VOLLEYBALL (3)**

Prerequisite: None.

An overview of coaching skills and theory with emphasis upon coaching volleyball at the youth and secondary levels. Introduces the student to the aspects of coaching volleyball at the collegiate level.

3 hours lecture.

**HPE 197 CARE & PREVENTION OF  
ATHLETIC INJURIES (3)**

Prerequisite: None.

A theoretical and practical study of common athletic injuries including appraisal, treatment, prevention, psychological implications, and legal issues.

3 hours lecture.

**HPE 224 FIELD EXPERIENCE IN  
RECREATION OCCUPATIONS (1-6)**

Prerequisite: Sophomore standing in a declared major and prior approval of Cooperative Education Program Coordinator.

A supervised Cooperative Education work experience involving the combined efforts of educators and employers to accomplish career objectives in recreation occupations. Variable credit (1-6) is available by special arrangement. May be taken four times for a maximum of 16 credit hours, no more than 6 units in a given semester.

**HPE 250 INTRODUCTION TO PHYSICAL  
THERAPY (3)**

Prerequisite: BIO 160 or 201 or 202 or permission of instructor.

A course in applied biomechanics and physiology designed to prepare the prospective physical educator (i.e., athletic trainer, physical therapist, physical educator) to identify and correctly describe disorders of body posture and movement. The use of exercise will be emphasized to correct postural and movement disorders. Referral to appropriate medical professionals will also be addressed. Additionally, the topic of physical therapy as an occupation, with an emphasis upon the requirements for entering the profession, will be included.

3 hours lecture.

## **HPE 299 INDIVIDUAL STUDIES (1-4)**

Prerequisite: Approval of the division chair or associate dean and instructor.

Completion of a research problem or an outlined course of study under the direction of a faculty member with contract for the individual study agreed upon by the student, the instructor and the division chair or associate dean prior to initiation of the study.

## **HEALTH TECHNOLOGY**

### **HLT 109 NURSING ASSISTANT ONE (4)**

State Certificate of Achievement

Prerequisite: 8th grade reading level. (Placement testing must be done.)

A course to prepare and certify the basic level of nursing assistant to meet the criteria of Medicare with emphasis on basic concepts of communication, patient safety, anatomy and physiology, nursing process, patient rights, legal and professional responsibilities, and specific patient care skills. The student will learn to recognize and meet basic physical, psychosocial, and cultural needs of patients, especially those of the geriatric patient.

1 hours lecture; 3 hours clinical.

### **HLT 114 HOME HEALTH ASSISTANT (3)**

Prerequisite: Nursing Assistant.

A course to prepare the nursing assistant to function in a home setting either performing specifically assigned tasks or giving complete care within the legal and ethical limits of the role. Adaptation of existing certified nursing assistant skills and those new skills such as food preparation, asepsis in the home and good communications skills necessary for giving safe care in the home are included. A certificate of completion will be awarded following satisfactory completion of this course.

1 hours lecture; 3 hours laboratory.

### **HLT 177 FIRST AID INSTRUCTOR TRAINING (3)**

Prerequisite: a. HPE 189, EMT 174, 176, or permission of instructor. b. Certified in Advanced First Aid by American National Red Cross. c. Or be certified as an EMT with the Arizona Department of Public Safety, Emergency Medical Services Division.

This American National Red Cross course, intended for persons certified in advanced first aid or emergency medical technology, will prepare students to instruct all phases of American National Red Cross first aid.

3 hours lecture.

### **HLT 225 MEDICAL ETHICS (3)**

Prerequisite: None.

An introduction to medical ethics with an emphasis on analysis and problem-solving techniques within the medical/nursing arena. Medical ethical theories are explored. Ethical/legal case studies in a broad range of areas are considered.

3 hours lecture

## **HEBREW**

### **HEB 101 ELEMENTARY HEBREW (4)**

Prerequisite: None

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

4 hours lecture; 1 hour laboratory.

### **HEB 115 BIBLICAL HEBREW (3)**

Prerequisite: None.

Reading and understanding Biblical Hebrew in order to comprehend both Old and New Testament texts in the original Hebrew. Students will also learn rudiments of modern Hebrew.

3 hours lecture.

## **HISTORY**

### **HIS 110 HISTORY OF THE UNITED STATES 1607-1877 (3)**

Prerequisite: None.

A study of development of American characteristics and nationality from colonial beginnings through the period of Reconstruction, emphasizing the factors and forces which produced the Revolution, the Constitution, westward expansion, sectionalism and the Civil War.

3 hours lecture.

### **HIS 111 HISTORY OF THE UNITED STATES SINCE 1877 (3)**

Prerequisite: None.

A study of the social, economic, and political forces that moved the United States through changing times from the post-Reconstruction era to the present, focusing on both domestic and foreign affairs in the country's last century of development.

3 hours lecture.

### **HIS 115 SURVEY OF THE AMERICAN WEST (3)**

Prerequisite: None.

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

3 hours lecture.

### **HIS 130 ARIZONA HISTORY (3)**

Prerequisite: None.

The history of Arizona from the entrance of the Spaniards in 1539 to its emergence as a modern state in the Southwest.

3 hours lecture.

### **HIS 140 SURVEY OF WESTERN CIVILIZATION I (THE FORMATION OF WESTERN CIVILIZATION TO 1400) (3)**

Prerequisite: None.

A study of the major historical trends from the emergence of Western Civilization through the High Middle Ages, with emphasis upon the cultural development of mankind and historical relationships.

3 hours lecture.

### **HIS 141 SURVEY OF WESTERN CIVILIZATION II (EARLY MODERN CIVILIZATION FROM 1400 TO 1800) (3)**

Prerequisite: None.

A study of the major historical trends in Western Civilization from the High Middle Ages to the Age of Napoleon with emphasis upon the cultural development of mankind and historical relationships.

3 hours lecture.

### **HIS 142 SURVEY OF WESTERN CIVILIZATION III (MODERN CIVILIZATION FROM 1800 TO THE PRESENT) (3)**

Prerequisite: None.

A study of the major historical trends in Western Civilization from 1800 to the present with emphasis upon the cultural development of mankind and historical relationships.

3 hours lecture.

### **HIS 160 AN INTRODUCTION TO THE HISTORY OF THE SOVIET UNION (3)**

Prerequisite: None.

A survey of Russian history since 1916, emphasizing revolutionary movements leading to the Bolshevik triumph (the early Soviet triumph), the early Soviet governments, the Stalin Era, Russia in World War II, the Khrushchev Era, and the USSR in the contemporary world.

3 hours lecture.

## **HIS 192 SPECIAL TOPICS IN HISTORY (.5-1)**

Prerequisite: None.

A rotating forum/seminar emphasizing local, regional and international historical topics which will vary with changes in student needs and interests. May be repeated for Cochise College credit. Cochise College elective credit only unless otherwise designated in degree programs.

HIS 192A	The History of Rodeo
HIS 192B	Ghost Towns of Cochise County
HIS 192C	History of Transportation in Arizona
HIS 192D	Arizona Place Names
HIS 192E	Women and the West
HIS 192F	John H. (Doc) Holliday
HIS 192G	History of Tombstone during Arizona's Territorial Period
HIS 192H	History of Cochise County
HIS 192I	Coronado and the Spanish Legacy in the West
HIS 192J	History of the American West as seen through the Writings of John Myers
HIS 192K	The Real West (the Good, Bad and the Ugly)
HIS 192L	The History of Southwestern Ranching
HIS 192M	Military History of Fort Huachuca, Arizona
HIS 192N	Islamic Civilization in World History
HIS 192O	Family History (Genealogy)
HIS 192P	History and Art of Heraldry
HIS 192Q	Conflict in the Middle East

1/2 to 1 hour lecture.

## **HIS 193 SPECIAL TOPICS IN HISTORY (1)**

Prerequisite: None.

A rotating forum/seminar emphasizing local, regional and international historical topics which will vary with changes in student needs and interests. May be repeated for Cochise College credit. Cochise College elective credit only unless otherwise designated in degree programs.

HIS 193A	The History of Rodeo
HIS 193B	Ghost Towns of Cochise County
HIS 193C	History of Transportation in Arizona
HIS 193D	Arizona Place Names
HIS 193E	Women and the West
HIS 193F	John H. (Doc) Holliday
HIS 193G	History of Tombstone during Arizona's Territorial Period
HIS 193H	History of Cochise County
HIS 193I	Coronado and the Spanish Legacy in the West
HIS 193J	History of the American West as seen through the Writings of John Myers
HIS 193K	The Real West (the Good, Bad and the Ugly)
HIS 193L	The History of Southwestern Ranching
HIS 193M	Military History of Fort Huachuca, Arizona
HIS 193N	Islamic Civilization in World History
HIS 193O	Family History (Genealogy)
HIS 193P	History and Art of Heraldry
HIS 193Q	Conflict in the Middle East
HIS 193R	The Border: From Heroic Past to Present-day Controversies

1 hour lecture.

## **HIS 229 HISTORY OF MEXICO I (3)**

Prerequisite: None.

A study of political, economic, social, and cultural developments from pre-Columbian civilizations to the War for Independence.

3 hours lecture.

**IIS 230 HISTORY OF MEXICO II (3)**

Prerequisite: None.

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

1 hours lecture.

**HOSPITALITY ADMINISTRATION****HAD 100 INTRODUCTION TO THE HOSPITALITY INDUSTRY (3)**

Prerequisite: None.

An introductory course of the hospitality industry which includes the hotel-restaurant-resort career, a review of the industry's history, career opportunities, training and motivation, labor relations and management principles as they relate to the hospitality industry.

3 hours lecture.

**HAD 120 INTRODUCTION TO PROPERTY MANAGEMENT (3)**

Prerequisite: None.

An introductory course of professional housekeeping and housekeeping administration, including maintenance and logistical supply, employee supervision and safety.

3 hours lecture.

**HAD 210 GUEST SERVICES MANAGEMENT (3)**

Prerequisite: HAD 100.

Front desk management and operations of a hotel, including bell service, clerking, cashier functions, guest reception, reservation systems, guest and building security, night audit and inter-organizational liaison.

3 hours lecture.

**HAD 224 FIELD EXPERIENCE IN HOSPITALITY ADMINISTRATION (1-6)**

Prerequisite: Sophomore standing in a declared major and prior approval of Cooperative Education Program Coordinator.

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

**HAD 235 HOSPITALITY LAW (3)**

Prerequisite: HAD 100 and HAD 120.

Common law and its application to the hospitality industry, including basic contracts, administrative law and government regulations and legal concerns resulting from the innkeeper-guest relationship and the establishment and operation of a place of public accommodation. The impact of the legal environment and process on the day to day aspects of the hospitality industry, including preventative measures to limit or eliminate liability and litigation.

3 hours lecture.

**HAD 240 COMMERCIAL FOOD PREPARATION THEORY (3)**

Prerequisite: None.

A course outlining the basic principles of food selection and purchase, storage, menu planning, preparation, service, kitchen organization and sanitation in commercial food preparation.

3 hours lecture.

**HAD 241 ADVANCED COMMERCIAL FOOD PREPARATION AND LAB (4)**

Prerequisite: HAD 240.

Basic principles, procedures, operations and techniques in quantity commercial food preparation and service, including planning, storage, cooking equipment, sanitation and service.

2 hours lecture; 8 hours laboratory.

## **HAD 250 HOSPITALITY FINANCIAL MANAGEMENT (3)**

Prerequisite: BUS 201.

A study of financial statement analysis, management of assets, ratio analysis, analytical techniques and investment decision making as they apply to the hospitality industry.

3 hours lecture; 2 hours laboratory.

## **HAD 270 HOSPITALITY AUTOMATION (3)**

Prerequisite: HAD 210.

An exploration and application of computer technology to front desk operations, including reservations, guest accounting and manager's reports.

3 hours lecture.

## **HORTICULTURE**

The horticulture courses are designed for the Arizona Department of Corrections in Douglas.

### **HRT 101 BASIC HORTICULTURE (3)**

Prerequisite: High School diploma, GED or instructor approval.

An examination of the horticulture industry, including the study of safety measures, terminology and tools with an emphasis on available occupational opportunities.

2 hours lecture; 3 hours laboratory.

### **HRT 110 LANDSCAPE PLANT MATERIAL (3)**

Prerequisite: HRT 101.

Identification and utilization of plant materials used for landscaping purposes in the desert southwest with emphasis on cultural requirements, soils and water-plant relationships.

2 hours lecture; 3 hours laboratory

### **HRT 111 LANDSCAPE CONSTRUCTION AND MAINTENANCE (3)**

Prerequisite: HRT 110.

A study of landscape materials, the planting and maintenance of commercial and residential landscapes, sprinkler systems and the use of concrete, brick and wood in landscape construction.

2 hours lecture; 3 hours laboratory.

### **HRT 115 GARDEN CROP PRODUCTION (3)**

Prerequisite: HRT 110, 111, or permission of instructor.

A review of propagation, cultivation, and harvest of popular garden fruits and vegetables, from seedbed preparation to retail/wholesale distribution. Focus is on original production of high-demand products created from raw materials and labor.

1 hour lecture, 5 hours laboratory

### **HRT 118 FLORICULTURE (3)**

Prerequisite: HRT 110 or permission of instructor.

Hands-on introduction to creation of floral arrangements and a practical review of propagation, culture, and economic production of flower and foliage plants.

1 hour lecture, 5 hours laboratory.

### **HRT 120 PEST CONTROL (3)**

Prerequisite: HRT 111.

A practical analysis of plant pest identification and control methods. Environmental protection agency regulations and pertinent federal laws will be covered.

2 hours lecture, 3 hours laboratory.

### **HRT 130 ORGANIC GARDENING (3)**

Prerequisite: HRT 101

Practical applications in the utilization of natural, organic methods of pest control and soil fertilization. Advantages and disadvantages of organic gardening routines will be examined.

1 hour lecture, 5 hours laboratory.

## **HRT 140 LANDSCAPE IRRIGATION SYSTEMS (3)**

Prerequisite: HRT 111 or permission of instructor.

The course will develop skills in designing, installing, operating and maintaining traditional irrigation systems, emphasis on current developments to include sprinklers, bubblers, drip emitters, manual and automated systems.

3 hours lecture.

## **HRT 201 LANDSCAPE DESIGN (3)**

Prerequisite: HRT 120.

The principles of landscape design focusing on the utilization of varied plant materials, environmental requirements, drawing and layout techniques and reading landscape blueprints.

3 hours lecture; 1 hour laboratory.

## **HRT 208 GREENHOUSE MANAGEMENT (3)**

Prerequisite: HRT 110, 111 and 120.

Focus on actual problems and opportunities in daily activities as well as seasonal projects involved in greenhouse operation. Emphasis will include greenhouse construction, maintenance, environment control, and commercially-oriented production.

1 hour lecture; 5 hours laboratory.

## **HRT 216 LANDSCAPE ESTIMATING (3)**

Prerequisite: HRT 111, 140, 201, or permission of instructor.

Emphasis on completed job estimates based on current labor costs and material prices. Various practical projects including landscape construction, installation, and maintenance contract bids will be developed.

1 hour lecture; 5 hours laboratory.

## **HRT 224 CERTIFIED NURSERY PROFESSIONAL (3)**

Prerequisite: None.

A review of technical practices and knowledge necessary in the nursery/landscape industry as speci-

fied by the Arizona Nursery Association. Emphasis is on preparation for the examination leading to certification as a nursery professional.

2 hours lecture; 4 hours laboratory and directed study.

## **HUMANITIES**

All humanities courses except HUM 011 and HUM 100 may be used to fulfill the humanities and fine arts requirements for the AA and AS degrees. Students must consult an advisor for university transfer requirements.

## **HUM 011 HUMANITIES IN MODERN AMERICAN LIFE (3-4)**

Prerequisite: Recommendation from testing.

Reading and discussion of material which has cultural content relevant to the United States with consequent enlarging of vocabulary and basic understanding of certain American cultural concepts.

3-4 hours lecture

## **HUM 093 CULTURAL CONTEXT: CASE STUDIES (1)**

Prerequisite: Concurrent enrollment in ESL 013 or 014 or permission of instructor

Introduction to the social norms, cultural values and assumptions underlying workplace behavior with emphasis on case studies and practical application.

2 hours laboratory.

## **HUM 100 AMERICAN CULTURE (3)**

Prerequisite: Concurrent placement in ENG 100, or 106 or higher, or permission of instructor

A course for students from non-English-speaking cultures and for others who wish to increase their awareness of American cultural values. Students will receive and practice key concepts about contemporary American social behavior and values

3 hours lecture

## **HUM 101 HUMANITIES IN CONTEMPORARY LIFE (3)**

Prerequisite: None.

A study of contemporary thought, literature, music and art as they occur in mass media, journalism, television, and motion pictures; written student critiques of required lectures, plays, motion pictures, concerts, and art exhibits.

3 hours lecture.

## **HUM 104 HERITAGE FROM MEXICO (3)**

Prerequisite: None.

A study of the various facets of culture and their historical settings which have contributed to the traditions, life style and uniqueness of Mexicans and Americans of Mexican heritage both past and present.

3 hours lecture.

## **HUM 110 INTRODUCTION TO FILM AND VIDEO (3)**

Prerequisite: None.

A study of film and video as art forms and as media for the expression of ideas and an introduction to the principles of film criticism.

3 hours lecture.

## **HUM 115 CULTURAL HERITAGE OF THE SOUTHWEST: INDIAN, HISPANIC, NORTH AMERICAN (3)**

Prerequisite: None.

A general survey of the cultural heritage in the Southwest. A cultural look at the significant events, historical figures, customs, ways and institutions that have contributed to the unique cultural heritage of the Southwest.

3 hours lecture.

## **HUM 167 CULTURAL VALUES IN THE BORDERLANDS WORKPLACE (3)**

Prerequisite: Completion of ENG 101 with a grade of C or better; concurrent enrollment in HUM 101 or HUM 104 preferred

An overview of cultural patterns, values, beliefs and customs prevalent in business and industry on the United States/Mexico border, with emphasis on practical application.

3 hours lecture.

## **HUM 192 SPECIAL TOPICS IN THE HUMANITIES (.5-1)**

Prerequisite: None.

A rotating forum/seminar emphasizing connections among literature, philosophy and the arts. Topics will vary in accordance with changes in student need and interest. Cochise College elective credit only unless otherwise designated in degree programs.

1/2 to 1 hour lecture.

## **HUM 205 MAJOR ANCIENT CULTURES (3)**

Prerequisite: ENG 101, 102 or permission of instructor.

Art, literature, music and ideas in the Western World from Ancient times through the late Middle Ages, with emphasis on man's relation to his gods or God.

3 hours lecture

## **HUM 206 EUROPEAN CULTURE (3)**

Prerequisite: ENG 101, 102 or permission of instructor.

Art, literature, music and philosophy from Renaissance to the Industrial Revolution with emphasis on the development of humanism and science.

3 hours lecture

## **HUM 207 THE MODERN WORLD (3)**

Prerequisite: ENG 102 or permission of instructor

Art, literature, and ideas in the West from the Romantic Age through the twentieth century with emphasis on the importance of science and technology on arts and ideas

3 hours lecture

## **HUM 299 INDIVIDUAL STUDIES (1-4)**

Prerequisite: Approval of the division chair and instructor.

Completion of a research problem, or an outlined course of study, under the direction of a faculty member with a contract for the individual study agreed upon by the student, the instructor and the division chair prior to initiation of the study. May be repeated for credit.

## **INTERCULTURAL STUDIES**

### **ICS 193 SPECIAL TOPICS IN INTERCULTURAL STUDIES (1)**

Prerequisite: High school level reading ability in English or Spanish, and some speaking knowledge of both English and Spanish preferred

A rotating forum/seminar on a variety of topics of interest to individuals who wish to learn more about the values and interactions of Spanish-speaking and English-speaking people and their cultural foundation. Topics will vary in accordance with changes in student need and interest.

## **JOURNALISM**

### **JRN 101 INTRODUCTION TO MASS COMMUNICATION (3)**

Prerequisite: Completion of ENG 101 or permission of instructor.

An introduction of mass communications media with emphasis on understanding basic concepts of gathering, writing, and evaluating news and other kinds of communication in newspapers, television, radio, magazines, wire services, syndication, books, movies, computer/digital and other media. Identical to MED 101.

3 hours lecture.

### **JRN 102 BASIC REPORTING (3)**

Prerequisite: Completion of ENG 101 or permission of instructor.

Entry-level course in media arts/communications and journalism. Students will be introduced to news

writing, editing, assignments, deadlines and general print production. Identical to MED 102.

2 hours lecture; 2 hours laboratory.

### **JRN 103 NEWS REPORTING (3)**

Prerequisite: JRN/MED 102 or permission of instructor.

A course in writing and editing news and feature articles. Special emphasis on news gathering and reporting of real-life situations. Class will supply articles for the journalism workshop newsletter or college newspaper. Identical to MED 103.

2 hours lecture; 2 hours laboratory.

### **JRN 201 STUDENT NEWSPAPER (3)**

Prerequisite: JRN/MED 102 or JRN/MED 207, CIS 285 or permission of instructor.

A guided workshop for publication of a student-based college newspaper, emphasizing techniques for editing, layout, headline and caption writing, photo/art assignment and selection, and computer production techniques. May be repeated twice for Cochise College degree credit. Identical to MED 201.

2 hours lecture; 4 hours laboratory.

### **JRN 207 INTRODUCTION TO DESKTOP PUBLISHING (3)**

Prerequisite: Typing, word processing or computer experience helpful

Principles and practice of creating printed materials combining text and graphics using major desktop publishing programs, with emphasis on the practical aspects of production. Identical to CIS 285 and MED 207.

3 hours lecture

### **JRN 224 FIELD EXPERIENCE IN COMMUNICATION & MEDIA TECHNOLOGY (1-6)**

Prerequisite: Sophomore standing in a declared major and prior approval of Cooperative Education Program Coordinator

A supervised Cooperative Education work experience involving the combined efforts of educators and

employers to accomplish career objectives in communication and media technology. Variable credit (1-6) is available by special arrangement. May be taken four times for a maximum of 16 credit hours, no more than 6 units in a given semester.

### **JRN 287 COMPUTERIZED PHOTOGRAPHY I (3)**

Prerequisite: None.

An introduction to digital photography and the electronic darkroom. A blending of traditional film-based picture-taking techniques with computer-aided photo manipulation. Photo lab and computer lab will both be used. Emphasis on scanning and on-screen photo-manipulation software. Identical to MED 287.

3 hours lecture/discussion/demonstration with practical experimentation.

### **JRN 299 INDIVIDUAL STUDIES (1-4)**

Prerequisite: Approval of the division chair or associate dean and instructor.

Completion of a research problem or an outlined course of study under the direction of a faculty member with contract for the individual study agreed upon by the student, the instructor, and the division chair or associate dean prior to initiation of the study. May be repeated for credit.

## **LATIN**

### **LAT 101 ELEMENTARY LATIN (4)**

Prerequisite: None.

A study of the grammar and vocabulary of Latin and of ancient authors with emphasis on the etymological indebtedness of English to Latin.

4 hours lecture.

### **LAT 102 ELEMENTARY LATIN (4)**

Prerequisite: LAT 101.

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

4 hours lecture.

## **LINGUISTICS**

### **LIN 101 INTRODUCTION TO LINGUISTICS (3)**

Prerequisite: ENG 101 or 107. Previous foreign language experience or permission of instructor.

Survey of linguistic concepts and methods; communication among animals; physiology of human speech; elementary phonology, morphology, syntax and semantics; language variation, borrowing and change; language and the brain; language and thought.

3 hours lecture.

### **LIN 180 EFFECTIVE MESSAGES (3)**

Prerequisite: ENG 167 and SPA 267 or equivalent proficiency as determined by the instructor on the basis of prescribed placement tests.

Theory and practice of encoding and decoding electronically transmitted messages: telegraph or Telex, telephone or radio, television. Consideration of teleconferencing included. Communications strategies to reduce interference and ambiguity in messages; techniques to increase comprehension. Taught in English and Spanish.

2 hours lecture; 3 hours laboratory.

### **LIN 290 FUNDAMENTALS OF TRANSLATION AND INTERPRETATION (3)**

Prerequisite: ENG 167 and SPA 267 or permission of instructor based on prescribed proficiency tests; concurrent enrollment in LIN 180 preferred.

An introduction to translation and interpretation theory and practice. Emphasis on application; translation of representative texts chosen from general and commercial contexts; interpretation of representative discourse chosen from a variety of social and business contexts. Familiarity with professional translation and interpretation practices, ethics and technology.

3 hours lecture.

## **MATHEMATICS**

### **MAT 005\* DEVELOPMENTAL MATH (3)**

Prerequisite: Math placement test scores below requirements for successful completion of MAT 072.

MAT 005 is a self-paced course in basic mathematics. Math pre-test and student inventory responses are used to develop individual course plans. One-to-one or small group instruction is provided as needed. Laboratory assignments, homework and unit exam grades determine individual's progress and course completion rates. Acceptable course progress is indicated by a final grade of incomplete (I) until course work is completed with a final grade of C or better.

3 hours lecture.

### **MAT 015 PREPARATORY MATH FOR NURSES (2)**

Prerequisite: For entering nursing students who receive less than 90 on the nursing math placement test.

A course designed for nursing students to improve their mathematical accuracy in solving problems commonly encountered in nursing: fractions, decimals, percentages, proportions, conversions, units, Roman numerals and word problems. (Only offered during summer session.)

2 hours lecture.

### **MAT 072 FUNDAMENTAL MATHEMATICS (3)**

Prerequisite: Indicated mathematics deficiency.

A study of basic arithmetic concepts with drill in skills and techniques of computation. Includes fundamental operations with whole numbers, fractions and decimals, percent, units of measure, geometry, scientific notation, ratio and proportion, averages, basic operations with signed numbers and solving simple algebraic equations.

3 hours lecture.

### **MAT 082 ELEMENTARY ALGEBRA (3)**

Prerequisite: Acceptable score in placement examination or C or better in MAT 072.

An introduction to the basic algebra normally included in a first-year high school algebra course. Includes fundamental axioms and operations applied to rational numbers, laws of integral exponents, solution of equations, polynomials and factoring, systems of equations, graphing equations and inequalities, rational expressions, radicals and quadratic equations.

3 hours lecture.

### **MAT 122 INTERMEDIATE ALGEBRA (3)**

Prerequisite: One year of high school algebra or MAT 082 with grade of C or better or appropriate placement score.

A continuation of algebra concepts which parallels the content generally included in a second-year high school algebra course: real number system, linear equations, absolute value and inequalities, functions, basic analytical geometry, systems of equations, polynomials, exponents, radicals and quadratic equations. May or may not transfer for credit to four-year universities.

3 hours lecture

### **MAT 125 MATHEMATICS FOR ELEMENTARY EDUCATION MAJORS I (3)**

Prerequisite: MAT 122 or equivalent.

The objective of this course is to provide an understanding of problem solving, sets and functions, numeration systems, whole numbers, integers, rational numbers, decimals, and number theory.

3 hours lecture

### **MAT 126 MATHEMATICS FOR ELEMENTARY EDUCATION MAJORS II (3)**

Prerequisite: MAT 125 or equivalent.

The objective of this course is to provide an understanding of probability, statistics, introductory geometrics, problem solving and LOGO turtle graphics (optional).

3 hours lecture

**MAT 151 COLLEGE ALGEBRA(4)**

Prerequisite: Two years of high school algebra, or MAT 122 with a grade of "C" or better.

Logical development of the real number system, field axioms as applied to algebra, sets and set notation, inequalities and absolute value, polynomial functions and their graphs, determinants and matrices, inverse functions, logarithmic and exponential functions, complex numbers, sequences, binomial theorem, and mathematical induction.

3 hours lecture.

**MAT 172 FINITE MATHEMATICS (3)**

Prerequisite: Satisfactory completion of a course in College Algebra MAT 151 or permission of instructor.

A nonrigorous, yet mathematically sound, introduction to finite mathematics, the branch of mathematics not involving infinite sets, limits, and continuity including linear equations with applications in two space to supply demand functions, systems of linear equations with applications to optimization and two-product supply and demand analysis, systems of linear inequalities with application, linear programming and the simplex method, the primal and dual problems with shadow prices and matrices, summations with application to elementary statistics, common and natural logarithms, and mathematics of finance.

3 hours lecture.

**MAT 182 PLANE TRIGONOMETRY (3)**

Prerequisite: MAT 151 or approval of instructor.

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

3 hours lecture.

**MAT 187 PRECALCULUS (5)**

Prerequisite: MAT 122

Topics from college-level algebra and trigonometry essential to the study of calculus and analytic geometry. Includes algebraic, exponential, logarithmic, trigonometric, and inverse trigonometric functions, complex numbers, linear and nonlinear systems of equations and inequalities, and sequences and series.

5 hours lecture.

**MAT 212 CALCULUS FOR BUSINESS (3)**

Prerequisite: MAT 151 and MAT 172 with satisfactory grade, or equivalent.

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

3 hours lecture.

**MAT 220 CALCULUS I (5)**

Prerequisite: Four years of high school mathematics or MAT 151 and MAT 182 or permission of instructor.

An integrated study in which analytic geometry is used to develop, understand, and apply calculus concepts. Includes absolute value and inequality, relations and functions, graphs, limits and continuity, definition and application of the derivative, antiderivative and definite integral.

5 hours lecture

**MAT 227 DISCRETE MATH (3)**

Prerequisite: MAT 151 or equivalent. Strongly recommend completion of MAT 220.

The objective of this course is to provide an understanding of elementary set theory, permutations and combination, discrete functions, generating functions, difference equations, relations, graphs, trees, circuits, cut-sets, and network flow problems.

3 hours lecture.

**MAT 231 CALCULUS II (4)**

Prerequisite: MAT 220 with a grade of "C" or better.

A continuation of MAT 220. Includes techniques of differentiating and integration of transcendental functions, and an introduction to infinite series. Also covers topics in analytic geometry, parametric equations, and polar coordinates.

4 hours lecture

**MAT 241 CALCULUS III (4)**

Prerequisite: MAT 231 with grade of "C" or better.

A continuation of MAT 231 to conclude the three-semester calculus sequence. Topics include vectors, vector-valued functions, partial differentiating, and multiple integration.

4 hours lecture

**MAT 252 INTRODUCTION TO LINEAR ALGEBRA (3)**

Prerequisite: MAT 231.

Matrices and systems of linear equations, determinants, vector spaces, linear transformations, eigenvalues and eigenvectors, and applications.

For math majors, physics majors, pre-engineering, and computer science majors.

3 hours lecture.

**MAT 262 DIFFERENTIAL EQUATIONS (3)**

Prerequisite: MAT 231 with a grade of C or better.

Ordinary differential equations with applications including linear equations, nonlinear and separable equations, homogeneous equations, power series solutions, Euler equations, LaPlace transforms (optional) and numerical methods (optional).

3 hours lecture.

**MAT 299 INDIVIDUAL STUDIES (1-4)**

Prerequisite: Approval of the division chair or associate dean and instructor.

Completion of a research problem or an outlined course of study under the direction of a faculty member with contract for the individual study agreed upon

by the student, the instructor and the division chair or associate dean prior to initiation of the study. May be repeated for credit.

**MEDIA****MED 101 INTRODUCTION TO MASS COMMUNICATIONS (3)**

Prerequisite: Completion of ENG 101 or permission of instructor.

An introduction to mass communications media with emphasis on understanding basic concepts of gathering, writing and evaluating of news and other kinds of communication in newspapers, television, radio, magazines, wire services, syndication, books, movies, computer/digital and other media. Identical to JRN 101

3 hours lecture.

**MED 102 BASIC REPORTING (3)**

Prerequisite: Completion of ENG 101 or permission of instructor.

Entry level course in media arts/communications and journalism. Students will be introduced to news writing, editing, assignments, deadlines, and general print production. Identical to JRN 102.

2 hours lecture; 2 hours laboratory.

**MED 103 NEWS REPORTING (3)**

Prerequisite: MED/JRN 102 or permission of instructor.

A course in writing and editing news and feature articles. Special emphasis on news gathering and reporting of real-life situations. Class will supply articles for the journalism workshop newsletter or College newspaper. Identical to JRN 103.

2 hours lecture; 2 hours laboratory.

## **MED 125\* INTRODUCTION TO VIDEO PRODUCTION (3)**

Prerequisite: Placement in ENG 101 or permission of instructor.

An introduction to the elements of video production. Includes operation of video, audio, lighting, and other resources. Emphasis is placed on theory and practical applications used in video production.

3 hours lecture.

## **MED 130 INTRODUCTION TO TV, RADIO, AND FILM PRODUCTION (3)**

Prerequisite: None.

An introduction to the elements of television, radio, and film production. Includes operation of video, audio, lighting, sound, and other resources. Emphasis is placed on theory and practical applications used in all aspects of production.

3 hours lecture and studio.

## **MED 192\* SPECIAL TOPICS IN MEDIA (1-3)**

Prerequisite: None.

A rotating forum/seminar emphasizing a variety of areas in media including, but not limited to, television, radio, film, electronic media, newspapers, magazines, and books. Topics will vary in accordance with changes in student need and interest. Cochise College elective credit only, unless otherwise designated in degree programs.

1-3 hours lecture.

## **MED 201 STUDENT NEWSPAPER (3)**

Prerequisite: JRN/MED 102 or JRN/MED 207/CIS 285 or permission of instructor.

A guided workshop for the publication of a student-based college newspaper, emphasizing techniques for editing, layout, headline and caption writing, photo/art assignment and selection, and computer production techniques. May be repeated twice for Cochise College degree credit. Identical to JRN 201.

2 hours lecture; 4 hours laboratory.

## **MED 207 INTRODUCTION TO DESKTOP PUBLISHING (3)**

Prerequisite: Typing, wordprocessing, or computer experience helpful.

Principles and practice of creating printed materials combining text and graphics using major desktop publishing programs, with emphasis on the practical aspects of production. Identical to CIS 285 and JRN 207.

3 hours lecture.

## **MED 209\* COMPUTER ILLUSTRATION & DESIGN (3)**

Prerequisite: ART 103 or permission of instructor.

Principles and practices of art and design in applications of computer graphics and the fine arts using Correl Draw and Windows Paintbrush. Emphasis on the practical aspects of production as well as personal growth and self-expression.

3 hours lecture.

## **MED 265\* BEGINNING COMMERCIAL DESIGN (3)**

Prerequisite: MED/ART 103 or permission of instructor.

A study of the principle of commercial design and the techniques of advertising layout, their practical application, and the tools and materials used in the field of advertising. Identical to ART 265. For students interested in Commercial Design for career opportunities, as well as for personal growth and self-expression.

2 hours lecture; 4 hours laboratory.

## **MED 285\* BEGINNING PHOTOGRAPHY (3)**

Prerequisite: None.

An introduction to the use and function of the camera and black-and-white darkroom technique. Students must have access to a fully adjustable 35mm camera. Identical to ART 285.

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

2 hours lecture; 4 hours laboratory.

## **MED 286\* INTERMEDIATE PHOTOGRAPHY (3)**

Prerequisite: ART/MED 285 or permission of instructor.

An intermediate course in photography for students who understand the basics of black-and-white film exposure, development, and printing. Emphasis on photojournalism, art photography, portraiture, and landscapes, depending upon the needs of the student. Students must have access to a fully adjustable 35mm camera. Identical to ART 286.

2 hours lecture; 4 hours laboratory.

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

## **MED 287\* COMPUTERIZED PHOTOGRAPHY I (3)**

Prerequisite: None.

An introduction to digital photography and the electronic darkroom. A blending of traditional film-based picture-taking techniques with computer-aided photo manipulation. Photo lab and computer lab will both be used. Emphasis on scanning and on-screen photo-manipulation software. Identical to JRN 287.

3 hours lecture/discussion/demonstration with practical experimentation.

## **MOTOR TRANSPORTATION TECHNOLOGY**

### **MTT 101 TRANSPORT BASIC (4)**

Prerequisite: Satisfactory completion of physical examination and truck driver license applications, minimum age 21 years.

A beginning course preparing the student to understand the role of motor transportation industry and to prepare for the Arizona State License and Department of Transportation's certification examinations. Initial development of basic skills and techniques required to control the tractor-trailer transport vehicle.

2 hours lecture; 4 hours laboratory.

## **MTT 102 OVER THE ROAD OPERATIONS (5)**

Prerequisite: Satisfactory completion of MTT 101.

Students will study and operate in the highway traffic environment to develop vehicle handling skills, safe and efficient operating practices, perceptual skills necessary to recognize potential hazards, and manipulative skills needed to handle a vehicle in an emergency. A study and practice of defensive driving techniques, accident prevention in heavy vehicle operation, and the use of energy efficient driving techniques.

3 hours lecture; 5 hours laboratory.

## **MTT 103 VEHICLE MAINTENANCE AND INSPECTION (1.5)**

Prerequisite: MTT 101 or concurrent enrollment.

This course provides the student with knowledge and skills required to keep a tractor-trailer rig in safe and efficient operating condition.

1 hour lecture; .5 hour laboratory

## **MTT 104 FREIGHT AND TRUCK OPERATIONS (5.5)**

Prerequisite: MTT 101 or concurrent enrollment.

A course designed to cover non-driving activities which must be performed by tractor-trailer drivers. Students will perform these auxiliary activities to assure safety to the driver, the vehicle, cargo, and other road users. Development of knowledge and skills to assist the student in securing desired employment, understanding the importance of health maintenance practices and industrial safety procedures, effectively communicating in verbal and written forms, and positively interacting with fellow employees, customers, and the general public.

3.5 hours lecture; 4 hours laboratory.

## **MTT 105 COMMERCIAL DRIVER LICENSE (2)**

Prerequisite: At least 21 years of age and eligible to apply for a Commercial Driver's License (CDL) or at least 18 years of age and eligible for a restricted CDL for in-state driving.

Designed to train third party examiners in the conduct of CDL test administration procedures. Through implementation of the Arizona Department of Transportation (ADOT) Motor Vehicle Division (MVD) approved training program, the course will prepare the examiner in accordance with the guidelines and criteria established by the Arizona Association of Motor Vehicle Administrators (AAMVA).

1 hour lecture; 2 hours laboratory.

## **MTT 224 FIELD EXPERIENCE IN MOTOR TRANSPORTATION TECHNOLOGY (1-6)**

Prerequisite: Successful completion of MTT 101, 102, 103, and 104.

A supervised Cooperative Education work experience involving the combined efforts of educators and employers to accomplish career objectives in the students chosen occupation. Variable credit (1-6) is available by special arrangement. May be taken four times for a maximum of 16 credit hours, no more than 6 units in a given semester.

# **MUSIC**

## **MUS 100 FUNDAMENTALS OF MUSIC NOTATION (3)**

Prerequisite: None.

An introduction to the fundamentals of music, specifically rhythm, scales, intervals, harmonization, and beginning composition. No previous musical background is necessary.

1 hour lecture; 2 hours laboratory.

## **MUS 101 INTRODUCTION TO MUSIC (3)**

Prerequisite: None.

An introduction to the elements, form and design of music, illustrated with recordings of important musi-

cal literature from various periods of music history with an emphasis on the Medieval, Renaissance and Baroque periods of music history.

3 hours lecture.

## **MUS 102 INTRODUCTION TO MUSIC (3)**

Prerequisite: None.

A introduction to the elements, form and design of music, illustrated with recordings of important musical literature from various periods of music history, with an emphasis on the classical, romantic, and twentieth-century periods of music history.

3 hours lecture.

## **MUS 103 VOICE CLASS INSTRUCTION (1)**

Prerequisite: None.

The study of basic foundations of vocal techniques, i.e., breath control, tonal support, tone production, vocal projection and diction.

1 hour lecture/laboratory.

## **MUS 104 VOICE CLASS INSTRUCTION (1)**

Prerequisite: MUS 103.

An intermediate study of basic foundations of vocal techniques, i.e., breath control, tonal support, tone production, vocal projection and diction.

1 hour lecture/laboratory.

## **MUS 105 THEATRE DANCE (1)**

Prerequisite: None.

Study and practice in stage movement and choreography for theatrical production designed for students in musical theatre productions. Meets one day a week for three hours. (Not intended for transfer credit.)

## **MUS 109 ORCHESTRA (1)**

Prerequisite: Audition or permission of instructor.

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

3 hours laboratory.

**MUS 110 CHORUS (1)**

Prerequisite: Audition.

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

3 hours rehearsal.

**MUS 111 COLLEGE BAND (1)**

Prerequisite: Audition or permission of instructor.

Study and performance of instrumental music from various periods of musical composition. May be repeated for credit.

3 hours rehearsal.

**MUS 112 INSTRUMENTAL CLASS  
INSTRUCTION (1)**

Prerequisite: None.

An introduction to and development of basic instrumental skills, note reading, coordination, rhythm, and sight reading. May be repeated for credit.

1 hour lecture/laboratory.

MUS 112A Piano Class

MUS 112B Brass Class

MUS 112C Woodwind Class

MUS 112D Percussion Class

MUS 112E String Class

MUS 112F Guitar Class

**MUS 113\* INSTRUMENT-INDIVIDUAL  
INSTRUCTION (1-2)**

Prerequisite: Audition or permission of instructor.

A semester-long systematic study in technique and repertoire of an instrument of student's choice. May be repeated for credit.

1/2 hour per week per unit.

MUS 113A Piano

MUS 113B Brass

MUS 113C Woodwind

MUS 113D Percussion

MUS 113E Strings

MUS 113F Guitar

**MUS 115\* VOICE-INDIVIDUAL  
INSTRUCTION (1-2)**

Prerequisite: Audition or permission of instructor.

A semester-long study of basic foundations of vocal techniques and preparation of vocal literature. May be repeated for credit.

1/2 hour lesson per week per unit.

**MUS 130 KEYBOARD HARMONY (1)**

Prerequisite: Some experience in musical performance, either singing or playing a musical instrument and a knowledge of scales, key signatures, triads, and intervals.

Special work on the application of musical theory to the keyboard emphasizing exercises in scales, chords, and especially harmonic progression to provide the student with a functional knowledge of the keyboard for further study of music or as a vehicle of classroom demonstration.

**MUS 132 MUSIC THEORY (3)**

Prerequisite: MUS 100 or permission of the instructor. The students must take Aural Skills in conjunction with this course unless excused by the instructor.

Music theory is a systematic study of the construction of music encompassing notation, scales, keys, intervals, chords, cadences, non-harmonic tones, form and voice leading.

3 hours lecture/laboratory.

**MUS 133 MUSIC THEORY (3)**

Prerequisite: MUS 132 or permission of the instructor. The students must take Aural Skills in conjunction with this course unless excused by the instructor.

Music theory is a systematic study of the construction of music encompassing notation, scales, keys, intervals, chords, cadences, non-harmonic tones, form and voice leading.

3 hours lecture/laboratory.

## **MUS 201 ENSEMBLE (1)**

Prerequisite: Audition.

Trios, quartets, quintets, etc., will be formed to perform and study music written or arranged for the small ensemble. In addition to rehearsal, groups will occasionally perform in public, either on campus or in surrounding communities. Course may be repeated for credit.

MUS 201A Voice Ensemble

MUS 201B Brass Ensemble

MUS 201C Woodwind Ensemble

MUS 201D Percussion Ensemble

MUS 201E String Ensemble

MUS 201F Guitar Ensemble

MUS 201G Jazz Ensemble

2 hours rehearsal.

## **MUS 210 MUSIC THEATRE WORKSHOP (1-3)**

Prerequisite: Audition or permission of instructor.

Participation in a college musical or operatic production either in a performance capacity or as production crew.

3-6 hours rehearsal/lab plus performances.

## **MUS 230 ART SONG REPERTORY I (1)**

Prerequisite: Two semesters of voice instruction and permission of instructor.

Class performance of representative selections from the standard vocal repertory. Art songs in German, Italian, French and English will be sung as well as other vocal literature.

1 hour lecture; 1 hour studio.

## **MUS 231 ART SONG REPERTORY II (1)**

Prerequisite: Two semesters of voice instruction and permission of instructor.

Class performance of representative selections from the standard vocal repertory. Art songs in German, Italian, French and English will be sung as well as other vocal literature.

1 hour lecture; 1 hour studio.

## **MUS 260 MUSIC FUNDAMENTALS THROUGH EXPERIENCE (3)**

Prerequisite: None.

An introduction to musical skills, the mechanics of music, and musical experiences as a background for teaching music to children. Introduction to playing keyboard, autoharp, and recorder, as well as singing. Previous musical experience is not required. Fulfills the music education requirement for teacher certification.

3 hours lecture with laboratory.

## **NURSING**

### **NUR 120 TRANSITION NA/PN (2)**

Prerequisite: Concurrent enrollment in NUR 123.

This course provides the challenging, transferring or re-entering Nursing student with an understanding of the philosophy, policies and procedures of the Nursing Program. The course emphasizes the theory base and use of patient care planning, nursing documentation of care, and therapeutic use of self.

2 hours lecture.

### **NUR 121 MEDICATION MATH (1)**

Prerequisite:

- a. Admission to Nursing Program, or
- b. 52% on the Nursing Entrance Test, or
- c. Score of >12 in Math Placement Test

The accurate calculation of drug dosages is an essential skill in nursing. This course will review basic math skills and give the student experience in calculation of drug dosages. Experience is provided in calculation of oral dosages, parenteral dosages, pediatric dosages, solutions, and intravenous flow rates.

1 hour lecture.

### **NUR 122\* NURSING I (8)**

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: Areas which are included in this course are 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 in recognizing and meeting the basic physiological and cultural needs of persons of all ages.

4 hours lecture; 12 hours laboratory.

### **NUR 123\* NURSING II (10)**

Prerequisite: NUR 122, 121, BIO 201, ENG 1C1.

A course designed to help the student utilize the knowledge of an individuals needs/problems throughout the lifespan focusing on the planning of nursing interventions with an increasing knowledge of nursing assessments and emphasizing acquisition of nursing concepts and skills toward practical nursing or eventual assumption of the role of the Associate Degree Nurse.

6 hours lecture; 12 hours laboratory.

### **NUR 203 UPDATE ON PHARMACOLOGY (3)**

Prerequisite: License for administration of medications or one semester of nurse's (LPN/RN) training.

This course aimed at RNs, LPNs and students in those fields, will review basic pharmacology by specific organ systems and body functions. Current medications will be presented and reviewed for actions, interactions, and reactions. Decision making and references in medication usage will be explored.

3 hours lecture.

### **NUR 220 TRANSITION LPN/RN (1)**

Prerequisites: Acceptance into Nursing III - NUR 232, Concurrent class - NUR 232.

This course will provide the challenging, transferring or re-entering Nursing student with an understanding of the philosophy, policies and procedures of the Nursing Program. The emphasis will be on the theory base and use of patient care planning, nursing documentation of care, and therapeutic use of self.

## **NUR 224 FIELD EXPERIENCE IN NURSING (1-6)**

Prerequisite: Sophomore standing in a declared major and prior approval of Cooperative Education Program Coordinator.

A supervised Cooperative Education work experience involving the combined efforts of educators and employers to accomplish career objectives in Nursing. Variable credit (1-6) is available by special arrangement. May be taken four times for a maximum of 16 credit hours, no more than 6 units in a given semester. NOTE: Lower- and upper-division Cooperative Education courses may be combined but cannot exceed 16 units.

### **NUR 232-233\* NURSING III-IV (9-9)**

Prerequisite: For NUR 232 - NUR 122, 123, 121, BIO 201-202, ENG 101, PSY 101.

For NUR 233 - All of the above plus BIO 203, SOC 101 NUR 232 and one controlled elective.

These courses are based on nursing practice at the Associate 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 are presented. Within these areas, nursing care to be explained will include the use of a framework which promotes effective communication, understanding philosophies of human development, and the intervention and evaluation.

5 hours lecture; 12 hours laboratory.

## **OFFICE ADMINISTRATION**

### **OAD 101\* COMPUTER KEYBOARDING (3)**

Prerequisite: None.

Specifically designed for (but not limited to) students with no knowledge of touch typing or prior computer experience. Skill development on keyboarding and data entry techniques will be utilized to develop speed and accuracy. Same as CIS 113.

3 hours lecture.

## **OAD 102\* ELEMENTARY DOCUMENT PREPARA1ION (3)**

Prerequisite: OAD 101 or permission of instructor. Must key 25 WPM.

Continuing development of keyboarding 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.

## **OAD 103\* INTERMEDIATE DOCUMENT PREPARATION (3)**

Prerequisite: OAD 102 with a grade of C or better or permission of instructor. Must key 30 WPM.

Continuation of Elementary Document Preparation. Includes further development of letters, tables, manuscripts, and speed. Expected accuracy drills of 50 WPM for five minutes.

3 hours lecture; 1 hour laboratory.

## **OAD 104 BUSINESS MATHEMATICS (3)**

Prerequisite: MAT 072 or equivalent.

The fundamentals of business mathematics and ability to communicate with the number language of the business world. Cross list with BUS 104.

3 hours lecture.

## **OAD 111\* BUSINESS ENGLISH (3)**

Prerequisite: ENG 100 (C or better) or placement in ENG 101. College-level reading.

An in-depth study of the mechanics of English and punctuation required in the workplace for effective communication. Emphasis is placed on grammar, word usage, conciseness, clarity, punctuation and spelling. The rules and recommendations covered are those that should prove most helpful in the business community.

3 hours lecture.

## **OAD 116\* LEARN TO USE MICROCOMPUTERS (3)**

Prerequisite: None.

A concentrated study of computerized office applications for occupational or instructional use. This lecture-based, hands-on approach leads the student step by step through the various stages of the application being presented. Students acquire entry-level job skills with wordprocessing, database and spreadsheet software.

3 hours lecture.

## **OAD 146 INTRODUCTION TO ACCOUNTING (3)**

Prerequisite: BUS 104 or permission of instructor.

The basic accounting cycle: business transactions, journalizing, posting and financial statements; cash control and banking; payroll preparation; credit and receivable control; inventory control; sources of funds, budgeting and ration analysis. This class is not designed for transfer to a university. Identical to BUS 146.

3 hours lecture; 1 hour laboratory.

## **OAD 150 YOUR PROFESSIONAL IMAGE (3)**

Prerequisite: None.

A study of topics and preparation of a portfolio designed to help prepare individuals to project a professional image in their chosen profession.

3 hours lecture.

## **OAD 161 WRITING WITHIN ORGANIZATIONS (1)**

Prerequisite: None.

The study of organizational writing to include its purposes, strategies, and processes. Students will learn to produce clear, concise, and accurate communications ranging in form from simple to complex memos for technical writers, managers and supervisors, to short reports, long reports, proposals, feasibility studies and evaluation reports.

1 hour lecture.

## **OAD 167 BUSINESS COMMUNICATIONS (3)**

Prerequisite: ENQ /OAD 111 or ENQ/CIS 179 or permission of 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. Same as BUS 167 and ENG 167.

3 hours lecture.

## **OAD 180\* COMPUTERIZED ACCOUNTING (3)**

Prerequisite: BUS 101 or OAD 146.

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

3 hours lecture.

## **OAD 193\* CURRENT OFFICE APPLICATIONS (1)**

Prerequisite: None.

One-unit modules designed for personal/professional improvement. Principles and practice of various office applications; each session is focused on mastering a particular application, with emphasis on the effective use of the software under study.

- OAD 193A Elementary Keyboarding
- OAD 193B Intermediate Keyboarding
- OAD 193C Advanced Keyboarding
- OAD 193D Beginning Data Entry
- OAD 193E Intermediate Data Entry
- OAD 193F Advanced Data Entry
- OAD 193G MS-DOS I
- OAD 193H MS-DOS II
- OAD 193I MS-DOS III
- OAD 193J Typing Review I
- OAD 193K Typing Review II
- OAD 193L Typing Review III
- OAD 193M WordPerfect I
- OAD 193N WordPerfect II
- OAD 193O WordPerfect III
- OAD 193Q Printmaster

- OAD 193R Introduction to Computers I
- OAD 193S Introduction to Computers II
- OAD 193T Introduction to Computers III
- OAD 193U Beginning E Mail
- OAD 193V Word for Windows I
- OAD 193W Word for Windows II
- OAD 193X Word for Windows III
- OAD 193Z Windows - Quick Start
- OAD A193 Bookkeeping on Computers I
- OAD B193 Bookkeeping on Computers II
- OAD C193 Bookkeeping on Computers III
- OAD D193 Records Management I
- OAD E193 Records Management II
- OAD F193 Records Management III
- OAD G193 Computerized Accounting I
- OAD H193 Computerized Accounting II
- OAD I193 Computerized Accounting III
- OAD J193 Developing Proofreading Skills I
- OAD K193 Developing Proofreading Skills II
- OAD L193 Developing Proofreading Skills III
- OAD M193 Notetaking I
- OAD N193 Notetaking II
- OAD O193 Notetaking III

1 hour lecture/laboratory

## **OAD 201\* ADVANCED DOCUMENT PREPARATION (3)**

Prerequisite: OAD 103 with a grade of C or permission of instructor. Must key 40 WPM.

A study of advanced document preparation skills needed to become proficient at typing business letters, printed forms, manuscripts, minutes and tabulation problems in the employment field through the use of individualized units of work with an expected outcome of 60 wpm for 5 minutes.

3 hours lecture.

## **OAD 202\* PROFESSIONAL DOCUMENT PREPARATION (3)**

Prerequisite: OAD 201 with a grade of C or permission of instructor.

A comprehensive study of professional document preparation techniques using the computer and a variety of document preparation software. Students will explore production skills used in today's offices including specialized documents, sophisticated business letters, manuscripts, tabulations, and various forms.

3 hours lecture.

## **OAD 204\* SHORTHAND I (3)**

Prerequisite: None.

An intensive study of Alpha Hand speedwriting in order to develop proficiency in taking notes rapidly and easily for personal or vocational use.

3 hours lecture; 1 hour laboratory.

## **OAD 205\* SHORTHAND II (3)**

Prerequisite: OAD 204 or equivalent, or permission of instructor, and a minimum speed of 70 wpm.

A comprehensive study of Alpha Hand, a speedwriting system, to develop spelling, punctuation, and speed building skills for vocational transcription.

3 hours lecture; 1 hour laboratory.

## **OAD 206\* RECORDS MANAGEMENT (3)**

Prerequisite: OAD/CIS 116, sophomore standing with permission of instructor.

A study of the principles and procedures of actual filing and practices in the basic systems through the use of established management systems.

3 hours lecture.

## **OAD 207 PRINCIPLES OF OFFICE ADMINISTRATION (3)**

Prerequisite: OAD/CIS 116, OAD 111, or permission of instructor.

An analysis of functions of office departments, their organization and administration; management prin-

ciples and functions; problem solving using critical-thinking techniques; interpersonal skills; employee selection, training and promotion of office employees; quality and quantity of office production. This course is designed for prospective office supervisors, training directors, and executive secretaries.

3 hours lecture.

## **OAD 209 BUSINESS SPEECH COMMUNICATIONS (3)**

Prerequisite: None.

A study of the principles of business speech communications, integrating nonverbal skills, vocabulary building, business persuasion, presentations, one-to-one communications, machine dictation, and group communications.

3 hours lecture.

## **OAD 210\* AUTOMATED OFFICE PROCEDURES (3)**

Prerequisite: Concurrent enrollment or prior completion of OAD 102, 103, 213 and OAD/ENG 111 or permission of instructor.

An introduction to the basic skills, responsibilities, and duties of office workers. These include utilizing mathematical skills on calculating machines, and document-processing skills with both transcription equipment and the microcomputer. Practice sets are available in specialized areas: legal, medical, and executive.

3 hours lecture.

## **OAD 211\* AUTOMATED OFFICE PRACTICE (3)**

Prerequisite: OAD 210, ENG 111 or permission of instructor.

Practice in using transcription equipment, preparing business letters, news releases, and reports. Workflow procedures and standards, and personal grooming techniques will also be reviewed using practice sets in specialized areas: executive, medical, and legal.

3 hours lecture.

## **OAD 212\* TRANSCRIPTION/TERMINOLOGY (3)**

Prerequisite: ENG 111 and OAD 213.

A study of complex terminology encountered in medical records, legal documents, or technical business documents with emphasis on machine transcription. Practice sets in medical records, legal documents, or technical documents will be utilized.

1 hours lecture.

## **OAD 213\* WORD PROCESSING (3)**

Prerequisite: OAD 101 or Keyboarding Skills with 25 VPM, OAD/CIS 116 or permission of instructor.

A study of the major aspects of word processing, including concepts, systems and equipment with instruction in using text-editing equipment.

3 hours lecture; 1 hour laboratory.

## **OAD 214\* ADVANCED WORD PROCESSING (3)**

Prerequisite: OAD 213.

An advanced study of the major aspects of word processing, including concepts, systems and equipment with instruction in using word processing equipment and special entry/editing techniques.

3 hours lecture; 1 hour laboratory.

## **OAD 215\* ADVANCED MEDICAL TRANSCRIPTION/TERMINOLOGY (3)**

Prerequisite: OAD 213 and OAD 212.

A further study of medical terminology encountered in medical records and medical office machine transcription. Practice sets in medical records will be utilized.

3 hours lecture.

## **OAD 216\* COMPUTERIZED OFFICE MANAGEMENT (3)**

Prerequisite: None.

An advanced study of computerized office applications including correspondence, mailings, inventory, budgets, personnel, time management, records

management, accounts management, software management and space management. Techniques will be taught on the microcomputer. The course is designed to prepare the individual for a better-than-entry-level position.

3 hours lecture.

## **OAD 217\* ADVANCED COMPUTERIZED OFFICE MANAGEMENT (3)**

Prerequisite: OAD 216.

A concentrated study of electronic records management for occupational or personal use. This lecture-based, hands-on approach leads the student through various electronic records management programs, systems, technologies, equipment and methods.

3 hours lecture.

## **OAD 220 INTRODUCTION TO PARALEGALISM (3)**

Prerequisite: OAD 213, CIS 179, OAD 104, or permission of instructor.

A study of law office procedures, legal procedures, basic document preparation, legal ethics, and an introduction to the legal system.

3 hours lecture.

## **OAD 221 LEGAL ASSISTANT I (3)**

Prerequisite: OAD 220.

The above may be waived by permission of the instructor or department head.

A study of legal writing, legal analysis, interviewing, non-verbal communications, human relations, legal terminology, legal ethics, general law, the American legal system, and judicial remedies.

3 hours lecture.

## **OAD 222 LEGAL ASSISTANT II (3)**

Prerequisite: OAD 221.

The above may be waived by permission of the instructor or department head.

A study of the areas of law and the basic documents required in initiating contested and noncontested actions and finalizing default actions.

3 hours lecture.

## **OAD 223 BASIC LEGAL RESEARCH (3)**

Prerequisite: CIS 179, OAD 213, OAD 222

The above may be waived with permission of the instructor or department head.

A continuing study of legal writing and analysis; a review of the organizational structure of the American court system; study of case reporting systems and other legal research tools; finding and verifying validity of case opinions; case citation; and electronic research.

3 hours lecture.

## **OAD 224 FIELD EXPERIENCE IN OFFICE TECHNOLOGY (1-6)**

Prerequisite: Sophomore standing in a declared major and prior approval of Cooperative Education Program Coordinator.

A supervised Cooperative Education work experience involving the combined efforts of educators and employers to accomplish career objectives in office technology. Variable credit (1-6) is available by special arrangement. May be taken four times for a maximum of 16 credit hours, no more than 6 units in a given semester.

## **OAD 268\* TECHNICAL PRESENTATIONS (3)**

Prerequisite: CIS 181 or permission of instructor.

A study of the principles of effective communication skills integrating the latest electronic technology in order to prepare and deliver state-of-the-art business and technical presentations.

3 hours lecture.

## **OAD 293\* ADVANCED CURRENT OFFICE APPLICATIONS (1)**

Prerequisite: Permission of Division Advisor.

One-unit modules designed for personal/professional improvement. Principles and practice of various computer applications, each session is focused on a particular application with emphasis on the effective use of the software under study.

1 hour lecture/laboratory.

OAD 293A	WordPerfect 5.1 IV
OAD 293B	Advanced WordPerfect Applications I
OAD 293C	Advanced WordPerfect Applications II
OAD 293D	Advanced WordPerfect Applications III
OAD 293E	Machine Transcription/Terminology
OAD 293F	Legal Terminology
OAD 293G	Legal Transcription
OAD 293H	Medical Terminology
OAD 293I	Medical Transcription
OAD 293J	Legal Applications for Secretaries
OAD 293K	Medical Applications for Secretaries
OAD 293L	Executive Document Preparation 1
OAD 293M	Executive Document Preparation 2
OAD 293N	Executive Document Preparation 3
OAD 293O	MultiMate IV

## **OFFICE MACHINE REPAIR**

The following courses, OMR 100, OMR 102, OMR 104, OMR 106, OMR 200, OMR 202, OMR 204, OMR 205, OMR 206, OMR 207 and OMR 208 were designed specifically for the Arizona Department of Corrections in Douglas.

## **OMR 100 IBM SELECTRIC I & II REPAIR (4)**

Prerequisite: General Electronic Technician Certificate.

A course designed to provide the student with proficiency in the repair and maintenance of the IBM Selectric typewriter. The student will learn the mechanical theory of operation of all components of the typewriter, and how to clean, service, relubricate and perform preventive maintenance inspections. The student will learn how to use hand tools, specialized gauges, materials, parts and supplies in performing

service procedures; with emphasis on the cost effectiveness of preventive maintenance as opposed to unscheduled maintenance.

4 hours lecture plus individualized laboratory instruction.

### **OMR 102 ELECTRONIC CALCULATOR REPAIR (3)**

Prerequisite: OMR 100.

A course designed to make the student proficient in electronic calculator repair. The student will learn the electronic and mechanical theory of operation of all components of the calculator, and how to clean, service, relubricate and perform preventive maintenance inspections. Students will learn how to use hand tools, specialized gauges and test equipment, materials, parts and supplies in performing service procedures; and how to schedule maintenance and allot maintenance task hours, with emphasis on the cost effectiveness of preventive maintenance instead of unscheduled maintenance.

3 hours lecture plus individualized laboratory instruction.

### **OMR 104 ELECTRONIC TYPEWRITER REPAIR (3)**

Prerequisite: OMR 100.

A course designed to make the student proficient in electronic typewriter repair. The student will learn the electronic and mechanical theory of operation, and how to troubleshoot and repair by safely using maintenance tools, test equipment, special gauges, materials and supplies, and learn how to schedule maintenance and allot maintenance task hours, with emphasis on the cost effectiveness of preventive maintenance versus unscheduled maintenance.

3 hours lecture plus individualized laboratory instruction.

### **OMR 106 DICTATING MACHINE REPAIR (3)**

Prerequisite: OMR 100.

A course designed to make the student proficient in dictating machine repair. The student will learn the electronic and mechanical theory of operation, and how to troubleshoot and repair by safely using maintenance tools, gauges, materials, and supplies and how to schedule maintenance and allot maintenance task hours, with emphasis on the cost effectiveness of preventive maintenance versus unscheduled maintenance.

3 hours lecture plus individualized laboratory instruction.

### **OMR 200 ELECTRONIC MEMORY TYPEWRITER REPAIR (4)**

Prerequisite: OMR 104.

A course designed to make the student proficient in electronic memory typewriter repair. The student will learn the electronic and mechanical theory of operation, and how to troubleshoot and repair by safely using maintenance tools, test equipment, specialized gauges, materials and supplies, and how to schedule maintenance and allot maintenance task hours, with emphasis on the cost effectiveness of preventive maintenance as opposed to unscheduled maintenance.

4 hours lecture plus individualized laboratory instruction.

### **OMR 202 BASIC PHOTOCOPIER REPAIR (4)**

Prerequisite: OMR 100.

A course designed to make the student proficient in basic photocopier repair. The student will learn the electronic and mechanical theory of operation, and how to troubleshoot and repair by safely using maintenance tools, test equipment, gauges, materials and supplies, and how to schedule maintenance and allot maintenance task hours, with emphasis on the cost effectiveness of preventive maintenance as opposed to unscheduled maintenance.

4 hours lecture plus individualized laboratory instruction.

## **OMR 204 ADVANCED PHOTOCOPIER REPAIR (4)**

Prerequisite: OMR 202.

A course designed to make the student proficient in advanced photocopier repair. The student will learn the electronic and mechanical theory of operation, and how to troubleshoot and repair by safely using maintenance tools, test equipment, gauges, materials and supplies, and how to schedule maintenance and allot maintenance task hours, with emphasis on the cost effectiveness of preventive maintenance as opposed to unscheduled maintenance.

4 hours lecture plus individualized laboratory instruction.

## **OMR 205 BASIC MICROCOMPUTER REPAIR (3)**

Prerequisite: OMR 200.

A course designed to develop student proficiency in basic microcomputer repair. The student will learn to diagnose system defects using logical sequence of operation charts, and how to replace defective system components by the safe use of maintenance tools, materials and supplies, with emphasis on special computer test programs and equipment, and how to schedule maintenance and allot maintenance task hours to effect microcomputer system repairs.

3 hours lecture plus individualized laboratory instruction.

## **OMR 206 ADVANCED MICROCOMPUTER REPAIR (4)**

Prerequisite: OMR 205.

A course designed to make the student proficient in advanced microcomputer repair. The student will learn the electronic theory of operation of each circuit board, and how to use specialized test equipment, diagnostic programs, and repair procedures to facilitate board level repairs, and how to safely use maintenance tools, gauges, materials, parts and supplies, with emphasis on how to schedule maintenance and allot maintenance hours in performing repairs of the microcomputer.

4 hours lecture plus individualized laboratory instruction.

## **OMR 207 MICROCOMPUTER PERIPHERAL EQUIPMENT REPAIR (4)**

Prerequisite: OMR 206.

A course designed to make the student proficient in microcomputer peripheral equipment repair. The student will learn the mechanical, electronic and logical theory of operation for each type of peripheral equipment, and the troubleshooting and repair techniques used to perform board level repairs, with emphasis on special diagnostic programs and test equipment, and how to schedule maintenance and allot maintenance task hours to facilitate board level repairs.

4 hours lecture plus individualized laboratory instruction.

## **OMR 208 ADVANCED TROUBLESHOOTING AND SHOP OPERATIONS (4)**

Prerequisite: OMR 204, OMR 207.

A course designed to place the student in a functioning shop operation to concentrate on repair and servicing of electromechanical business machines or microcomputers. Students will be responsible for receiving defective machines, scheduling repairs, ordering spare parts, servicing or repairing defective equipment, recording service or repair on his-

tory record, completing repair order forms, and scheduling return of the business machine, microcomputer, or microcomputer peripheral to their original location, simulating real world operations.

1 hour lecture plus 3 hours of individualized laboratory instruction.

### **OMR 224 FIELD EXPERIENCE IN BUSINESS MACHINE REPAIR (1-6)**

Prerequisite: Sophomore standing in a declared major or prior approval of Cooperative Education Program Coordinator.

A supervised Cooperative Education work experience involving the combined effort of educators and employer to accomplish career objectives in Business Machine Repair. Variable credit (1-6) is available by special arrangement. May be taken four times for a maximum of 16 credit hours, no more than 6 units in a given semester.

NOTE: Lower- and upper-division Cooperative Education courses may be combined but cannot exceed 16 units.

## **PHILOSOPHY**

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

### **PHI 111 INTRODUCTION TO PHILOSOPHY (3)**

Prerequisite: ENG 101 and sophomore standing.

A study of man's interpretation of the nature and meaning of reality, conduct, and of his own being.

3 hours lecture.

### **PHI 113 INTRODUCTION TO LOGIC AND LANGUAGE (3)**

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

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

3 hours lecture.

### **PHI 130 ETHICS (3)**

Prerequisite: ENG 101 or permission of instructor.

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

3 hours lecture.

### **PHI 140 DEATH, DYING, LOSS AND SURVIVAL (3)**

Prerequisite: None.

This class introduces students to the experience of others on the topics of death, loss, and survival. It will offer new ways to think about death, in general, as well as one's own death, and those of loved ones. It will also include a metaphysical approach to the question of life after death.

3 hours lecture.

### **PHI 201 PHILOSOPHIES OF THE EAST (3)**

Prerequisite: ENG 101 and sophomore standing.

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

3 hours lecture.

### **PHI 202 PHILOSOPHY OF RELIGION (3)**

Prerequisite: ENG 101 and sophomore standing.

Introduction to the nature of religion, nature and existence of God and major religious tenets of western thought.

3 hours lecture.

### **PHI 299 INDIVIDUAL STUDIES (1-4)**

Prerequisite: Approval of the division chair or associate dean and instructor.

Completion of a research problem or an outlined course of study under the direction of a faculty member with contract for the individual study agreed upon by the student, the instructor and the division chair or associate dean prior to initiation of the study.

May be repeated for credit.

## **PHYSICS**

### **PHY 111 GENERAL PHYSICS I (4)**

Prerequisite: MAT 122 or equivalent.

Introduction to the general principles of physics in the areas of mechanics and thermodynamics. Special emphasis is placed on algebra to solve word problems.

1 hours lecture; 3 hours laboratory.

### **PHY 112 GENERAL PHYSICS II (4)**

Prerequisite: PHY 111.

Introduction to the general principles of physics in the areas of waves, sound, light, electricity, magnetism, atomic structure, and radioactivity.

1 hours lecture; 3 hours laboratory.

### **PHY 230-231\* PHYSICS WITH CALCULUS (4-4)**

Prerequisite: MAT 220. PHY 230 is a prerequisite for PHY 231.

Coverage of the same areas as PHY 111-112 but in greater depth by the use of calculus, for engineering students and others who require physics with calculus.

1 hours lecture; 3 hours laboratory.

### **PHY 299 INDIVIDUAL STUDIES (1-4)**

Prerequisite: Approval of the division chair or associate dean and instructor.

Completion of a research problem or an outlined course of study under the direction of a faculty member with contract for the individual study agreed upon by the student, the instructor and the division chair or associate dean prior to initiation of the study.

May be repeated for credit.

## **POLITICAL SCIENCE**

### **POS 100 INTRODUCTION TO POLITICAL SCIENCE (3)**

Prerequisite: None.

A comprehensive introductory study of the nature and practice of politics, focusing mainly on significant political principles and institutions as they relate to American and foreign governments.

3 hours lecture.

### **POS 110 AMERICAN NATIONAL GOVERNMENT (3)**

Prerequisite: None.

A study of the political system of the United States. Emphasis on constitutional development, the political culture, voting, political parties, campaigns and elections, interest groups, public opinion, and the three branches of the national government. Designed to increase the student's awareness and understanding of the political arena. This course fulfills the Federal Constitution requirement for the Arizona Teaching Certificate.

3 hours lecture.

### **POS 220 NATIONAL AND ARIZONA CONSTITUTION (3)**

Prerequisite: Sophomore standing.

A study of the governments of the United States and Arizona through the interpretation of the Constitution of each political entity. Approved for teacher certification. Teachers needing only Arizona Constitution should enroll in POS 221.

3 hours lecture.

### **POS 221 ARIZONA CONSTITUTION (1)**

Prerequisite: Sophomore standing.

A study of the government of Arizona through the interpretation of its Constitution. Approved for teacher certification. Taught concurrently with POS 220.

1 hour lecture.

**POS 230 WORLD POLITICS (3)**

Prerequisite: POS 110 or permission of instructor.

A study of the international political system and nation-state relations, including the development of the international system, the Cold War, state power, the pursuit of national objectives, and the analysis of current international problems.

3 hours lecture.

**POS 240 COMPARATIVE POLITICS (3)**

Prerequisite: POS 100 or 110 or permission of instructor.

Introduction to the study of comparative politics with emphasis on the comparison of political systems, movements, ideologies and economic development.

3 hours lecture.

**POS 299 INDIVIDUAL STUDIES (1-4)**

Prerequisite: Approval of the division chair or associate dean and instructor.

Completion of a research problem or an outlined course of study under the direction of a faculty member with contract for the individual study agreed upon by the student, the instructor and the division chair or associate dean prior to initiation of the study. May be repeated for credit.

**POWER PLANT OPERATIONS****PPO 101 POWER PLANT OPERATION I (5)**

Prerequisite: Current employment by an electrical power generating plant or permission of instructor. MAT 082 or concurrent enrollment.

A practical introduction to major systems and components of modern electrical power plants, the general responsibilities of a plant operator and plant safety. Additional topics include basic charts and graphs, mathematical calculations and formulas associated with plant operation.

4 hours lecture; 3 hours laboratory.

**PPO 111 MAINTENANCE & MECHANICAL I (5)**

Prerequisite: PPO 101 or permission of instructor.

A practical introduction to maintenance practices employing hand, cutting, power and measurement tools. Also includes the study of forklift operating principles and basic rigging practices.

4 hours lecture; 3 hours laboratory.

**PPO 112 MAINTENANCE & MECHANICAL II (5)**

Prerequisite: PPO 111 or permission of instructor.

A practical introduction to major power plant equipment including valves, steam traps, thermal insulation and heat exchangers. The student will learn how to perform maintenance procedures and demonstrate an understanding of their operation.

4 hours lecture; 3 hours laboratory.

**PPO 113 MAINTENANCE & MECHANICAL III (5)**

Prerequisite: PPO 112 or permission of instructor.

Further study of the maintenance and mechanical functions of electrical-power generating plant equipment with emphasis on bearings, pumps and alignment.

4 hours lecture; 3 hours laboratory.

**PPO 114 BASIC ELECTRICITY (2)**

Prerequisite: PPO 101 or permission of instructor.

An introduction to basic electrical theory, the main components of a power plant's electrical systems, and various control and protective devices. Specific attention is directed to how voltage is produced and the relationship between voltage and current.

2 hours lecture.

## **PPO 121 INSTRUMENTATION & CONTROL I (5)**

Prerequisite: PPO 101 or permission of instructor.

A study of power plant operations with emphasis on basic process control systems, pressure gauges, calibration, liquid level and fluid flow measurement and plant safety. Also includes applied mathematics and graph preparation.

4 hours lecture; 3 hours laboratory.

## **PPO 122 INSTRUMENTATION & CONTROL II (5)**

Prerequisite: PPO 121 or permission of instructor.

A practical introduction to the operation and functions of major systems and components of pneumatic controller systems and associated equipment. Additional topics include general responsibilities of the plant operator and technician for troubleshooting, testing, calibration and recordkeeping.

4 hours lecture; 3 hours laboratory.

## **PPO 123 INSTRUMENTATION & CONTROL III (5)**

Prerequisite: PPO 122 or permission of instructor.

A practical introduction to the operation and function of pneumatic control equipment with emphasis on calibration, tuning methods and troubleshooting. Includes a review of hazardous substances and general safety procedures.

4 hours lecture; 3 hours laboratory.

## **PPO 131 ELECTRICAL MAINTENANCE I (6)**

Prerequisite: PPO 101 or permission of instructor.

A practical introduction to fundamental electrical concepts, including alternating current, circuits and electromagnetic induction. The uses of electrical test equipment, diagram interpretation and safety procedures are also covered.

4 hours lecture; 3 hours laboratory.

## **PPO 132 ELECTRICAL MAINTENANCE II (5)**

Prerequisite: PPO 131 or permission of instructor.

A further study of electrical concepts with emphasis on transformer theory, AC motor maintenance, conduit installation, troubleshooting AC systems, switches and fuses, and the care and upkeep of batteries.

4 hours lecture; 3 hours laboratory.

## **PPO 133 ELECTRICAL MAINTENANCE III (5)**

Prerequisite: PPO 132 or permission of instructor.

A study of the basic principles of DC motors, troubleshooting techniques, synchronous motor and controller maintenance, maintenance of circuit breakers and switchgears, and principles of high voltage operation.

4 hours lecture; 3 hours laboratory.

## **PPO 141 PRINCIPLES OF POWER GENERATION I (5)**

Prerequisite: PPO 101 or permission of instructor.

A practical introduction to electrical power generation with emphasis upon energy conservation, pressure, heat, steam and fluid flow as well as piping, pumps, compressors and heat exchangers. Also includes an introduction to power generating efficiency.

4 hours lecture; 3 hours laboratory.

## **PPO 142 PRINCIPLES OF POWER GENERATION II (5)**

Prerequisite: PPO 141 or permission of instructor.

An introduction to the major operating systems of an electrical-power generating plant, including electrical, instrumentation, steam and feedwater systems. Also includes a review of basic electrical theory and principles of instrumentation.

4 hours lecture; 3 hours laboratory.

## **PPO 143 PRINCIPLES OF POWER GENERATION III (5)**

Prerequisite: PPO 142 or permission of instructor.

An introduction to the basic principles of water chemistry, fossil fuels and boiler operations as well as the related systems and equipment most commonly used in an electrical-power generating facility.

4 hours lecture; 3 hours laboratory.

## **PPO 211 MAINTENANCE & MECHANICAL IV (5)**

Prerequisite: PPO 113 or permission of instructor.

Advanced study of the maintenance, mechanical functions and repair of electrical-power-plant generating equipment with emphasis on compressors, boilers, advanced rigging, refractors and sootblowers.

4 hours lecture; 3 hours laboratory.

## **PPO 212 MAINTENANCE & MECHANICAL V (5)**

Prerequisite: PPO 211 or permission of instructor.

Advanced study of electrical-power generating plant maintenance procedures with emphasis on safety valves, resurfacing techniques, arc welding, basic metallurgy and gears.

4 hours lecture; 3 hours laboratory.

## **PPO 221 ELECTRONICS I (5)**

Prerequisite: PPO 123 or permission of instructor.

A practical introduction to basic electronic principles and their application to power plant operations. Includes DC and AC circuits, Ohm's Law, series and parallel circuits, transformers, as well as passive and active circuits and their applications.

4 hours lecture; 3 hours laboratory.

## **PPO 222 ELECTRONICS II (5)**

Prerequisite: PPO 221 or permission of instructor.

A study of semiconductors and vacuum tube devices with emphasis on the use of electronic test equipment for analyzing circuit performance.

4 hours lecture; 3 hours laboratory.

## **PPO 223 ELECTRONICS III (5)**

Prerequisite: PPO 222 or permission of instructor.

Advanced study of powerplant electronics with emphasis on transistor oscillators, operational amplifiers, electronic control equipment; power supplies and circuit board repair.

4 hours lecture; 3 hours laboratory.

## **PPO 224 FIELD EXPERIENCE IN POWER PLANT OPERATIONS (1-6)**

Prerequisite: Sophomore standing in a declared major and prior approval of Cooperative Education Program Coordinator.

A supervised Cooperative Education work experience involving the combined efforts of educators and employers to accomplish career objectives in Power Plant Operations. Variable credit (1-6) is available by special arrangement. May be taken four times for a maximum of 16 credit hours, no more than 6 units in a given semester.

NOTE: Lower- and upper- division Cooperative Education courses may be combined but cannot exceed 16 units.

## **PPO 231 ELECTRICAL MAINTENANCE IV (5)**

Prerequisite: PPO 133 or permission of instructor.

An advanced study of electrical equipment maintenance with emphasis on motor operators; design, construction, and operation of high-voltage cables and conductors; and operating principles of AC and DC generators. Includes a review of basic electrical theory, circuits and transformers.

4 hours lecture; 3 hours laboratory.

## **PPO 232 ELECTRICAL MAINTENANCE V (5)**

Prerequisite: PPO 231 or permission of instructor.

A study of semiconductors and vacuum tube devices with emphasis on transistor circuits, circuit board repair and the use of electronic test equipment to test circuit performance.

4 hours lecture; 3 hours laboratory.

**PPO 233 ELECTRICAL MAINTENANCE VI (5)**

Prerequisite: PPO 232 or permission of instructor.

Advanced study of applied electronics with emphasis on operational amplifiers, electronic control systems, specialized electronic devices and plant safety.

4 hours lecture; 3 hours laboratory.

**PPO 241 PRINCIPLES OF POWER GENERATION IV (5)**

Prerequisite: PPO 143 or permission of instructor.

The study of water treatment systems, water and air pollution control, and steam turbines in the power plant setting. Emphasis on theory, underlying scientific principles and operational processes.

4 hours lecture; 3 hours laboratory.

**PPO 242 PRINCIPLES OF POWER GENERATION V (5)**

Prerequisite: PPO 241 or permission of instructor.

Advanced study of electrical power generation to include process control systems, principles and operation of generators, three-phase power, transformers and station service systems. Includes a review of electrical system functions, components and diagrams.

4 hours lecture; 3 hours laboratory.

**PPO 243 PRINCIPLES OF POWER GENERATION VI (5)**

Prerequisite: PPO 242 or permission of instructor.

A practical analysis of equipment, systems and processes that prevent equipment damage and minimize equipment failure. Includes advanced study of gas turbines, diesel engines and plant safety.

4 hours lecture; 3 hours laboratory.

**PPO 290 SAFETY (2)**

Prerequisite: PPO 101 or permission of instructor.

Advanced study of safety procedures in modern electrical-power generating plants with emphasis upon hazardous substances, fire and personal safety.

1 hour lecture; 3 hours laboratory.

**PROFESSIONAL FLIGHT TECHNOLOGY****PFT 100 INTRODUCTION TO AVIATION (3)**

Prerequisite: None.

This course will serve as an overview of aviation careers, including the training process, qualification requirements, job duties, Federal Aviation Regulations, aerodynamics and navigation.

3 hours lecture.

**PFT 101 STAGE ONE GROUND SCHOOL (5)**

Prerequisite: None.

A comprehensive course leading to completion of the FAA Private Pilot Certificate knowledge requirements and preparation for introduction to Commercial Pilot certification requirements.

5 hours lecture.

**PFT 102 PRIVATE PILOT PRACTICUM (1)**

Prerequisite: PFT 101 or equivalent.

This course serves as a review of the knowledge areas required in the Private Pilot Practical Test Standards.

1 hour lecture.

**PFT 103 PRIVATE PILOT REVIEW (1)**

Prerequisite: FAA written exam passed, and FAA Private Pilot Airplane experience requirements met by the FAA.

Review all items listed in the Private Pilot Airplane Single Engine Land Test Standards to prepare for Private Pilot Certification.

1 hour individualized instruction.

**PFT 111 SOLO FLIGHT PREPARATION (3.5)**

Prerequisite: PFT 101.

A course designed to prepare the student to complete the FAA pre-solo flight and knowledge requirements.

3.5 hours lecture and individualized instruction.

**PFT 112 CROSS-COUNTRY NAVIGATION (1.5)**

Prerequisite: PFT 120.

A course designed to prepare the student to complete the FAA pre-solo cross-country flight and knowledge requirements.

1.5 hours lecture and individualized instruction.

**PFT 113 PRIVATE PILOT CERTIFICATION COMPLETION (1)**

Prerequisite: PFT 111, 112 or equivalent.

A course designed to provide students who meet FAA solo, and solo cross-country requirements, with a means to complete the flight skill and knowledge requirements for FAA Private Pilot Certification.

1 hour lecture and individualized instruction.

**PFT 120 AVIATION METEOROLOGY (5)**

Prerequisite: None.

A comprehensive study of Aviation Meteorology.

5 hours lecture.

**PFT 121 STAGE TWO COMMERCIAL PILOT FLIGHT COURSE (3)**

Prerequisite: Completion of PFT 111, 112, 113 with a grade of C or better or possession of a Private Pilot Certificate.

An introduction to commercial pilot flight maneuvers, and completion of one-half of the solo cross-country requirements for Commercial Pilot Certification.

1.5 hours lecture; 4.5 hours laboratory.

**PFT 122 METEOROLOGY II (1)**

Prerequisite: PFT 101 or permission of instructor.

A continuation of the study of aviation weather theory introduced in PFT 101 includes an in-depth study of weather elements, weather hazards, and aviation weather reports and forecasts.

1 hour lecture.

**PFT 130 STAGE THREE GROUND SCHOOL (5)**

Prerequisite: Completion of PFT 120 with a grade of C or better or possession of a Private Pilot Certificate.

A comprehensive course leading to completion of the FAA requirements for a Commercial Pilot Certification.

5 hours lecture.

**PFT 131 STAGE THREE COMMERCIAL PILOT FLIGHT COURSE (3)**

Prerequisite: Completion of PFT 111, 112, 113, with a grade of C or better or possession of a Private Pilot Certificate.

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

1.5 hours lecture; 4.5 hours laboratory.

**PFT 170 UNMANNED AERIAL VEHICLE (UAV) BASIC COURSE (4)**

Prerequisite: None.

PFT 170 Unmanned Aerial Vehicle (UAV) Basic Course provides an overview and introduction to unmanned aerial vehicle operations and maintenance. A practical study of UAV maintenance with emphasis upon system components, performance criteria, diagnosis and inspection techniques, communications equipment, and operational safety. Enrollment is limited to TRW employees and the Department of Defense.

4 hours lecture.

**PFT 171 UNMANNED AERIAL VEHICLE (UAV) OPERATOR COMMON (18)**

Prerequisite: PFT 170.

This course provides the knowledge and skills necessary to safely operate the UAV system. A practical study of unmanned aerial vehicle maintenance with emphasis upon system components, performance criteria, diagnosis and inspection techniques, communications equipment, and operational safety. Enrollment is limited to TRW employees and the Department of Defense.

8 hours lecture; 31 hours laboratory.

**PFT 172 UNMANNED AERIAL VEHICLE (UAV) EXTERNAL PILOT (4)**

Prerequisite: PFT 170

This course provides the knowledge and skills needed to safely operate the UAV aircraft. A practical study of unmanned aerial vehicle maintenance with emphasis upon system components, performance criteria, diagnosis and inspection techniques, communications equipment, and operational safety. Enrollment is limited to TRW employees and the Department of Defense.

1 hour lecture; 38 hours laboratory.

**PFT 200 INTRODUCTION TO AVIATION OPERATIONS MANAGEMENT (3)**

Prerequisite: None.

An introduction to basic management principles as they apply to aviation-oriented businesses.

3 hours lecture.

**PFT 204 STAGE IV COMMERCIAL PILOT GROUND SCHOOL (5)**

Prerequisite: Completion of PFT 101, 102, 103 Ground Schools.

Completion of the knowledge requirements to obtain certification as an Instrument Pilot.

5 hours lecture.

**PFT 206 AIRCRAFT SYSTEMS (4)**

Prerequisite: PFT 101 or equivalent or permission of instructor.

An in-depth study of aircraft systems, to include components, functions, construction, operating theory and practice; applied physics and electrical principles; and systems problem-solving techniques for pilots.

4 hours lecture.

**PFT 210 MULTI-ENGINE CLASS RATING GROUND SCHOOL (1)**

Prerequisite: Five hours solo in a "complex" airplane.

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

1 hour lecture.

**PFT 211 MULTI-ENGINE CLASS RATING FLIGHT COURSE (1)**

Prerequisite: Five hours solo in a "complex" airplane. Concurrent enrollment or prior completion of PFT 210.

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

1 hour lecture and individualized instruction.

**PFT 214 INSTRUMENT FLIGHT NAVIGATION AND AIR TRAFFIC CONTROL PROCEDURES (3.5)**

Prerequisite: PFT 204.

A course designed to prepare the student to meet the FAA instrument flight navigation and air traffic control procedures requirements.

3.5 hours lecture and individualized instruction.

**PFT 215 INSTRUMENT FLIGHT CROSS-COUNTRY PROCEDURES AND PRACTICAL TEST PREPARATION (1.5)**

Prerequisite: PFT 214.

A course designed to prepare the student with instrument flight navigation skills to complete the FAA practical test certification requirements.

1.5 hours lecture and individualized instruction.

**PFT 216 INSTRUMENT PILOT PRACTICUM (1)**

Prerequisite: PFT 204 or equivalent.

A review of all required areas enumerated in the Instrument Rating Practical Test Standards issued by the FAA.

1 hour lecture

**PFT 217 INSTRUMENT PILOT REVIEW (1)**

Prerequisite: FAA written exam passed and FAA Instrument Pilot Airplane experience requirement met.

Review of all items listed in the Instrument Pilot Airplane Single Engine Land Test Standards to prepare for Instrument Pilot Certification.

1 hour lecture and individualized instruction.

**PFT 218 STAGE V COMMERCIAL PILOT COMPLETION COURSE (1)**

Prerequisite: Completion of PFT 215.

This course will enable the student to complete the flight skill level requirements for the flight portion of the FAA Commercial Pilot Practical Test.

1 hour lecture and individualized instruction.

**PFT 219 COMMERCIAL PILOT PRACTICUM (1)**

Prerequisite: PFT 121, 130 or equivalent.

A review of the material enumerated in the Commercial Pilot Single Engine Land Practical Test Standards.

1 hour lecture.

**PFT 220 COMMERCIAL PILOT REVIEW (1)**

Prerequisite: FAA written exam passed, and FAA Commercial Pilot Airplane experience requirements met.

Review of all items listed in the appropriate Commercial Pilot Airplane Land Test Standards to prepare for Commercial Pilot Certification.

1 hour lecture and individualized instruction.

**PFT 230 FLIGHT INSTRUCTOR FUNDAMENTALS OF INSTRUCTION (3)**

Prerequisite: PFT 130 and PFT 204 or permission from the instructor.

A study of the basic principles and processes of learning and teaching as it relates to the task of conveying aeronautical knowledge and skills to students.

3 hours lecture.

**PFT 231 FLIGHT INSTRUCTOR AIRPLANE GROUND SCHOOL (5)**

Prerequisite: Completion of PFT 130, PFT 204.

A comprehensive course leading to completion of the ground school requirements for an FAA Flight Instructor Airplane Certification.

5 hours lecture.

**PFT 232 FLIGHT INSTRUCTOR AIRPLANE FLIGHT COURSE (3)**

Prerequisite: Possession of a Commercial Pilot airplane certificate with an Instrument Rating. Concurrent enrollment or prior completion of PFT 231.

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

3 hours lecture and individualized instruction.

**PFT 233 FLIGHT INSTRUCTOR AIRPLANE REVIEW (1)**

Prerequisite: FAA written exam passed and FAA Flight Instructor Airplane experience requirements met by the student.

Review of all test items for the Flight Instructor Airplane Certification test as outlined in the Practical Test Standards published by the FAA.

1 hour lecture and individualized instruction.

**PFT 234 FLIGHT INSTRUCTOR PRACTICUM (2.5)**

Prerequisite: PFT 230 and 231 or equivalent.

A review of the knowledge areas enumerated in the Flight Instructor Airplane Single Engine Land Practical Test Standards.

2.5 hours lecture.

## **PFT 237 INTRODUCTION TO AVIATION RISK MANAGEMENT & INSURANCE (3)**

Prerequisite: None.

An introductory analysis of aviation risk management and insurance functions; concept and analysis of risk; insurability and risk retention; and analysis and use of insurance contracts as they apply to aviation property, liability, and employee exposure. This course is designed for prospective employees and supervisors in aviation-related business.

3 hours lecture.

## **PFT 240 MULTI-ENGINE AIRPLANE INSTRUCTOR GROUND SCHOOL COURSE (2)**

Prerequisite: Possession of a Flight Instructor Airplane Certificate and Multi-engine Land Airplane Rating.

A comprehensive course leading to completion of the FAA requirements for a Multi-engine Flight Instructor Certificate.

2 hours lecture.

## **PFT 241 MULTI-ENGINE AIRPLANE INSTRUCTOR FLIGHT COURSE (2)**

Prerequisite: Flight Instructor Certification and a Multi-engine Airplane Rating. Completion of PFT 240.

A comprehensive course designed to complete the requirements for an FAA Multi-engine Instructor Certificate.

1 hour lecture; 3 hours laboratory.

## **PFT 243 PILOT-IN-COMMAND, TAILWHEEL AIRPLANE (.5)**

Prerequisite: Private Pilot Certificate.

Provide individualized instruction to the holder of a pilot certificate in the procedures and operations required by Federal Aviation Regulation 61.31(d)(2) to be pilot-in-command of a tailwheel airplane.

.5 hours individualized instruction and laboratory.

## **PFT 245 AIR TRANSPORTATION (3)**

Prerequisite: None.

A survey of the development and operation of the air transportation system, including air carrier regulation, deregulation, economics, and organization.

3 hours lecture.

## **PFT 247 AVIATION LAW (3)**

Prerequisite: Sophomore standing or permission of instructor.

An introduction to the legal environment of aviation, including operation of the United States Constitution relating to aviation matters, the Warsaw Convention, legal definitions, worker's compensation, liability to others, and crimes as they relate to aviation and aircraft.

3 hours lecture.

## **PFT 250 FLIGHT INSTRUCTOR INSTRUMENT AIRPLANE GROUND SCHOOL (3)**

Prerequisite: Possession of an Airplane Flight Instructor Certificate and Instrument Rating.

A comprehensive course leading to completion of the requirements for FAA certification as a Flight Instructor Instrument Airplane.

3 hours lecture.

## **PFT 251 FLIGHT INSTRUCTOR INSTRUMENT AIRPLANE FLIGHT COURSE (3)**

Prerequisite: Possession of an Airplane Flight Instructor Certificate and Instrument Rating. Concurrent enrollment or prior completion of PFT 250.

A comprehensive course leading to completion of the FAA requirements for an Instrument Flight Instructor Airplane Rating.

3 hours lecture and individualized instruction.

## **PFT 260 AIRLINE TRANSPORT PILOT GROUND SCHOOL (3)**

Prerequisite: Possession of a Commercial Pilot Airplane Certificate with an Instrument Rating.

A comprehensive course leading to completion of the FAA requirements for an Airline Transport Pilot Certification.

3 hours lecture.

## **PFT 261 AIRLINE TRANSPORT PILOT FLIGHT (1)**

Prerequisite: Possession of a Commercial Pilot Airplane Certificate with an Instrument Rating.

A comprehensive course leading to completion of the FAA requirements for an Airline Transport Pilot Certification.

1 hour lecture and individualized instruction.

## **PFT 294 FIELD EXPERIENCE IN PROFESSIONAL FLIGHT TECHNOLOGY (1-6)**

Prerequisite: Sophomore standing in a declared major and prior approval of Cooperative Education Program Coordinator.

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

NOTE: Lower and upper division cooperative education courses may be combined but cannot exceed 16 units.

## **PSYCHOLOGY**

### **PSY 010\* PROBLEM-SOLVING SKILLS DEVELOPMENT (3)**

Prerequisite: Referral by Developmental Studies Department.

A self-paced individualized course designed to develop independent problem-solving skills. Students are exposed to information needed for problem conceptualization and are required to understand

rules and their applications in problem solution. Students also develop attitudes needed for problem mastery such as perseverance and acceptance of negative feedback.

In completing this course students are interviewed and pre-tested to determine their special educational needs and provided with individualized study plans. Because it is self-paced, this course may be repeated and a grade of I will be assigned until course objectives are met with a grade of C or better.

3 hours lecture.

### **PSY 100 UNDERSTANDING HUMAN BEHAVIOR (3)**

Prerequisite: None.

A survey of the major areas in psychology to include behavior, perception, sensation, motivation, learning and memory, maturity and development, personality, and social psychology. Cochise College elective credit unless otherwise designated in degree programs.

3 hours lecture.

### **PSY 101 INTRODUCTION TO PSYCHOLOGY (3)**

Prerequisite: None.

A survey of major topics in psychology to include personality, cognition, motivation and emotion, conditioning and learning, mental abilities, human development, sensation and perception, social interaction. Theories, research findings and their applications are considered. Fields within psychology, research methods, and assessment procedures are also introduced.

3 hours lecture.

### **PSY 210 SOCIAL PSYCHOLOGY (3)**

Prerequisite: PSY 101.

A study of basic concepts, theories and research pertaining to human interaction. Topics include attribution; attitude formation and change; interpersonal interaction; altruism and aggression; environmental psychology; and group structure and processes

3 hours lecture.

## **PSY 230 PERSONALITY THEORIES AND RESEARCH (3)**

Prerequisite: PSY 101; offered spring semester.

Description and appraisal of personality based upon theory and research findings. Topics include personality and life-span development, motivation and emotion, interests and abilities, human performance, social and verbal behavior, physiological responding, personality assessment, normal and abnormal personality, and special applications.

3 hours lecture.

## **PSY 240 DEVELOPMENTAL PSYCHOLOGY (3)**

Prerequisite: PSY 101.

Topical study of human life-span development emphasizing theories and research in the following areas: biological maturation, perceptual and motor skills development, language development, cognitive development, emotional development, moral development, personality and social development.

3 hours lecture.

## **PSY 250 INTRODUCTION TO PSYCHOLOGICAL RESEARCH, MEASUREMENTS AND STATISTICS (3)**

Prerequisite: MAT 122, PSY 101 or equivalent.

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

3 hours lecture.

## **PSY 290 EXPERIMENTAL PSYCHOLOGY (4)**

Prerequisite: PSY 101 and PSY 250.

Student involvement in the review and analysis of scientific literature, designing and implementing experiments, collecting and analyzing data, interpreting results and reporting experimental findings using A.P.A. format.

3 hours lecture; 3 hours laboratory.

## **PUBLIC ADMINISTRATION**

### **PAD 101 MANAGEMENT SKILLS (2)**

Prerequisite: Sponsorship by a governmental agency.

A practical study of public-sector management for the first-line supervisor. Topics include communication techniques, delegation of authority, management by objectives, performance evaluation, discipline, and employee orientation. Student grade assigned on a pass/fail basis.

2 hours lecture.

### **PAD 102 THE MANAGER AND SYSTEM RELATIONSHIPS (2)**

Prerequisite: PAD 101 and sponsorship by a governmental agency.

A practical study of the public manager as a member of an organization with emphasis upon the processes and procedures necessary for managerial competence. Topics include management practices, employee motivation, organizational communications, budgetary systems and management, equal employment opportunity, and employee-management relations. Student may elect to take course on a pass/fail basis. A P is assigned for a grade of C or better.

2 hours lecture.

### **PAD 103 THE MANAGER AND THE WORK GROUP (2)**

Prerequisite: PAD 102 and sponsorship by a governmental agency.

A practical analysis of the manager as a group/team leader. Topics include group dynamics, behavioral analysis, group problem-solving and decision making, change management, conflict management, and meeting skills. A student may elect to take the course on a pass/fail basis. A P is assigned for a grade of C or better.

2 hours lecture.

## **PAD 192 APPLICATIONS IN PUBLIC ADMINISTRATION (.5)**

Prerequisite: None.

A study of a variety of topics, such as the strategic planning process, leadership practices, policy analysis, program evaluation and budgeting including financial management, information management, organizational design, culture and productivity. May be repeated for credit.

.5 hour lecture.

## **PAD 201 LEADERSHIP AND MANAGEMENT OF ORGANIZATIONS IN THE PUBLIC SECTOR (4)**

Prerequisite: Completion of the Arizona Department of Administration Certified Supervisory Management Program; or two years of post-secondary education including nine credit hours of management or related coursework and two years of supervisory experience which includes training in performance evaluation, affirmative action, and related topics.

A practical analysis of the public manager's role. Emphasis upon leadership influence, productivity, evaluation, strategic planning, organizational design and analysis, risk management, administrative liability, public sector budgeting, and quality circles. Includes an introduction to computer use and application. Initial course in the Management Development Program.

4 hours lecture.

## **PAD 202 SYSTEMS APPROACH TO PUBLIC MANAGEMENT (3)**

Prerequisite: PAD 201, two years in a supervisory position, and sponsorship by a governmental agency.

A practice analysis of the methodologies, techniques and applications of the systems approach to management. Additional topics include management by objectives as a systems approach and the use of microcomputers for systems analysis. Students may elect to take the course on a pass/fail basis. A P is assigned for a grade of C or better.

3 hours lecture.

## **PAD 203 THE DECISION-MAKING PROCESS AND CASE METHOD ANALYSIS (2)**

Prerequisite: PAD 202, two years in a supervisory position and sponsorship by a governmental agency.

A practical analysis of the managerial decision-making process including situational analysis, problem analysis, and decision analysis. Corresponds to level VI-A in the ASU CPM program. Students may elect to take the course on a pass/fail basis. A P is assigned for a grade of C or better.

2 hours lecture.

## **READING**

### **RDG 009A ADULT BASIC READING I (3)**

Prerequisite: Recommendation from placement testing.

An introduction to reading and writing English for native and non-native speakers of English who need an Adult Basic Education approach to the alphabet, English phonetics, and how to read print as well as how to form words into basic English sentences.

3 hours lecture.

Students failing to progress beyond the 4.0 reading level and with the recommendation of the instructor will be allowed to enroll in RDG 009B. This class may not be used for graduation credit.

### **RDG 009B ADULT BASIC READING II (3)**

Prerequisite: Recommendation from placement testing.

An introduction to reading and writing English for native and non-native speakers of English who need an Adult Basic Education approach to the alphabet, English phonetics, and how to read print as well as how to form words into basic English sentences.

3 hours lecture.

Students failing to progress beyond the 4.0 reading level and with the recommendation of the instructor will be allowed to enroll in RDG 009C. This class may not be used for graduation credit.

## **RDG 009C ADULT BASIC READING III (3)**

Prerequisite: Recommendation from placement testing.

An introduction to reading and writing English for native and non-native speakers of English who need an Adult Basic Education approach to the alphabet, English phonetics, and how to read print as well as how to form words into basic English sentences.

3 hours lecture.

This class may not be used for graduation credit.

## **RDG 019 TRANSITIONAL READING (3-4)**

Prerequisite: ESL 034 or placement test score.

A course designed for ESL students beginning regular college classes and for lower level readers of English. Emphasis on basic, literal comprehension, vocabulary building and reading rate improvement. Upon completion, the student will read at the 6.0 reading level or equivalent as measured by a standardized reading test. (Identical with ENG 019.)

3 hours lecture; 1-2 hours laboratory.

## **RDG 020A READING FUNDAMENTALS I (5)**

Prerequisite: None.

A review of basic reading, spelling and study skills for college students placing below the 9.5 reading level on the standardized reading placement test. This class emphasizes literal comprehension, rate improvement, vocabulary development, review of phonetics and spelling rules applied to English, dictionary skills, basic study skills and library use. Students failing to progress beyond the 9.5 reading level and with the recommendation of the instructor will be allowed to enroll in RDG 020B.

5 hours lecture.

## **RDG 020B READING FUNDAMENTALS II (5)**

Prerequisite: RDG 020A or permission of instructor.

A review of basic reading, spelling and study skills for college students placing below the 9.5 reading level on the standardized reading placement test. This class emphasizes literal comprehension, rate

improvement, vocabulary development, review of phonetics and spelling rules applied to English, dictionary skills, basic study skills and library use. Students failing to progress beyond the 9.5 reading level and with the recommendation of the instructor will be allowed to enroll in RDG 020C.

5 hours lecture.

## **RDG 020C READING FUNDAMENTALS III (5)**

Prerequisite: RDG 020B or permission of instructor.

A review of basic reading, spelling and study skills for college students placing below the 9.5 reading level on the standardized reading placement test. This class emphasizes literal comprehension, rate improvement, vocabulary development, review of phonetics and spelling rules applied to English, dictionary skills, basic study skills and library use.

5 hours lecture.

## **RDG 021 POWER READING (3)**

Prerequisite: Placement test score or permission of instructor.

A continuation of RDG 020. Emphasis on literal and inferential comprehension, rate building, vocabulary development and textbook strategies.

3 hours lecture.

## **RDG 110 COLLEGE STUDY SKILLS (3)**

Prerequisite: None.

Analysis of motivation and goals. Emphasis on reading and listening skills, study skills and review strategies. Use of the library. Orientation to College resources.

3 hours lecture.

## **RUSSIAN**

### **RUS 101 ELEMENTARY RUSSIAN (4)**

Prerequisite: None.

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

4 hours lecture; 1 hour laboratory.

**RUS 102 ELEMENTARY RUSSIAN (4)**

Prerequisite: RUS 101.

Continuation of RUS 101. Comprehension of the spoken and written language, proper pronunciation, usage of proper grammar, oral reading skills, composition, and conversation.

4 hours lecture; 1 hour laboratory.

**RUS 115 CONVERSATIONAL RUSSIAN I (3)**

Prerequisite: None.

Essentials of Russian for conversational situations. Designed for students who wish to use Russian for business, pleasure, or travel. May be used for elective credit toward the AA degree, but is transferable to a four-year institution only upon satisfactory performance in a proficiency examination.

3 hours lecture.

**RUS 116 CONVERSATIONAL RUSSIAN II (3)**

Prerequisite: RUS 115.

Continuation of RUS 115 with emphasis on role playing and use of everyday vocabulary and conversational phrases. Additional practice in reading, writing, speaking and understanding the language with short stories to enrich the student's vocabulary. May be used for elective credit toward the AA degree, but is transferable to a four-year institution only upon satisfactory performance in a proficiency examination.

3 hours lecture.

**SOCIAL SERVICES****SSV 103 MANUAL COMMUNICATIONS I  
(SIGN LANGUAGE) (3)**

Prerequisite: None.

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

3 hours lecture.

**SSV 104 MANUAL COMMUNICATIONS II  
(SIGN LANGUAGE) (3)**

Prerequisite: SSV 103 or permission of instructor.

Intermediate level principles and techniques of communicating manually with the deaf and other persons with communication disabilities, emphasizing development of speed, accuracy and conversational skills.

3 hours lecture.

**SSV 193 SUBSTANCE ABUSE: CAUSES  
AND TREATMENT (3)**

Prerequisite: None.

A practical and theoretical introduction to psychological and sociocultural aspects of substance abuse.

3 hours lecture

**SSV 194 EARLY CHILDHOOD  
DEVELOPMENT: CONCEPTION TO SIX  
YEARS (3)**

Prerequisite: PSY 101.

This course is designed to address issues, questions and problems germane to professional human service practice. Specifically, study will include consideration of materials and information across the multiple axes of early childhood development. Practical implications for child care will also be addressed.

3 hours lecture

**SSV 210 LOSS, GRIEF AND DYING (3)**

Prerequisite: None

An exploration of grief, dying and the loss of loved persons as universal human experiences, with focus upon coping skills of affected persons and helping skills of others and study of values, behaviors and intervention strategies in cultural, medical, social and legal contexts

3 hours lecture

**SSV 224 FIELD EXPERIENCE IN SOCIAL SERVICES (1-6)**

Prerequisite: Sophomore standing in a declared major and prior approval of Cooperative Education Program Coordinator.

A supervised Cooperative Education work experience involving the combined efforts of educators and employers to accomplish career objectives in social services. Variable credit (1-6) is available by special arrangement. May be taken four times for a maximum of 16 credit hours, no more than 6 units in a given semester.

**SSV 270 INTERPERSONAL COMMUNICATIONS (3)**

Prerequisite: Second year standing in AAS Program or COM 102 and permission of instructor.

A course to develop self-awareness and insight into interpersonal relationships with emphasis upon the development of communication skills and techniques for one-on-one professional communication. (Identical with COM 220.)

3 hours lecture.

**SSV 271 COMMUNICATIONS IN SMALL GROUPS (3)**

Prerequisite: SSV 270 or COM 270 or permission of instructor.

A continuation of SSV 270 refining skills and techniques learned first semester and adding analysis and presentation with emphasis on small-group communication processes. (Identical to COM 271.)

3 hours lecture.

**SSV 272 SOCIAL SERVICES SEMINAR (3)**

Prerequisite: PSY 101 or SOC 101.

A survey course covering the processes of group work and community organization. Designed for the student enrolled in the AAS Social Services Program.

3 hours lecture.

**SSV 273 DETERMINANTS OF HUMAN BEHAVIOR (3)**

Prerequisite: Sophomore Standing Social Work AAS Program.

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

3 hours lecture.

**SOCIOLOGY****SOC 100 A FAMILY PORTRAIT (3)**

Prerequisite: None.

A telecourse consisting of thirty one-half hour lessons that introduces students to objective, sociological and psychological views of marriage, families, and alternate life styles in contemporary America. Emphasis upon personal awareness, growth, and interpersonal relationships.

Cochise College elective credit only unless otherwise designated in degree programs.

Limited to students having access to Desert Cable.

3 hours lecture.

**SOC 101 INTRODUCTION TO SOCIOLOGY (3)**

Prerequisite: None.

A course presenting sociology as a science that explores its methods and studies various aspects of group behavior, social change, basic institutions and the existing social system and that develops a perspective on the individual's role in the formation of society.

3 hours lecture

## **SOC 160 ETHNIC GROUPS AND MINORITIES (3)**

Prerequisite: SOC 101 or permission of instructor.

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

3 hours lecture.

## **SOC 202 SOCIAL PROBLEMS (3)**

Prerequisite: SOC 101 and ENG 101 recommended.

Topics covered include social inequalities affecting women, racial and ethnic minorities, and the aged. In addition, inequalities dealing with social, educational and financial institutions will be covered. Also considered are problems of drug and alcohol use, physical and mental health care, crime and sexual deviance. The course is designed to provide students with the ability to assess social problems and propose resolutions in a logical and scientific manner.

3 hours lecture.

## **SOC 207 INTRODUCTION TO SOCIAL WELFARE (3)**

Prerequisite: None.

An introduction to social welfare and social insurance systems. Designed to acquaint the student with the various programs available to the general public through legislation and/or private means.

3 hours lecture.

## **SOC 210 MARRIAGE AND THE FAMILY (3)**

Prerequisite: None.

Courtship, mate selection, marital adjustment, parenthood and family living from sociological and psychological points of view.

3 hours lecture.

## **SOC 299 INDIVIDUAL STUDIES (1-4)**

Prerequisite: Approval of the division chair or associate dean and instructor.

Completion of a research problem or an outlined

course of study under the direction of a faculty member with contract for the individual study agreed upon by the student, the instructor and the division chair or associate dean prior to initiation of the study. May be repeated for credit.

## **SPANISH**

### **SPA 011 SPANISH ORTHOGRAPHY (1)**

Prerequisite: None.

A concentrated study of Spanish spelling with emphasis on a step-by-step procedure from the simplest to the most complex words in Spanish. Special attention given to the accent mark, colloquial and common errors and to areas of special spelling problems.

1 hour lecture.

### **SPA 025 SPANISH FOR TEACHERS (3)**

Prerequisite: None.

A course especially designed for the classroom teacher who needs a basic familiarity with Spanish in order to effectively communicate with his/her Spanish-speaking pupils and their parents.

3 hours lecture

### **SPA 026 SPANISH FOR MEDICAL PERSONNEL (3)**

Prerequisite: None.

A course especially designed for doctors, nurses, and all other medical personnel who wish to effectively communicate with their Spanish speaking patients and their families.

3 hours lecture.

### **SPA 092 SPANISH FOR OCCUPATIONS (1)**

Prerequisite: Concurrent enrollment in SPA 102 or permission of instructor.

Intensive practice with Spanish vocabulary and specialized terminology useful in the workplace.

2 hours laboratory

**SPA 094 INTRODUCTION TO TRANSLATION AND INTERPRETATION (1)**

Prerequisite: Concurrent enrollment in SPA 216 or 202 or permission of instructor.

An introduction to basic concepts and procedures useful in translation and interpretation between Spanish and English. Experience working with both general language and materials in the student's occupational specialty.

2 hours laboratory.

**SPA 101 ELEMENTARY SPANISH (4)**

Prerequisites: None.

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

4 hours lecture; 1 hour laboratory.

**SPA 102 ELEMENTARY SPANISH (4)**

Prerequisite: SPA 101.

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

4 hours lecture; 1 hour laboratory.

**SPA 115 CONVERSATIONAL SPANISH (3)**

Prerequisite: None.

Essentials of Spanish for conversational situations, designed for students who wish to use Spanish for business, pleasure or travel. SPA 115, 116, 215, may be transferable to a four-year institution only upon satisfactory performance on a proficiency examination.

3 hours lecture.

**SPA 116 CONVERSATIONAL SPANISH (3)**

Prerequisite: SPA 115 or permission of instructor.

Continuation of SPA 115 with emphasis on role playing and use of everyday vocabulary and conversational phrases. For credit and transfer requirements see course description for SPA 115.

3 hours lecture.

**SPA 189 UNDERSTANDING SPANISH (1)**

Prerequisite: Concurrent enrollment in or prior completion of SPA 101.

Beginning-level practice listening to Spanish with emphasis on those elements of language most useful in the workplace. Intended for concurrent enrollment with SPA 101.

2 hours laboratory.

**SPA 190 PRONOUNCING SPANISH (1)**

Prerequisite: Concurrent enrollment in SPA 101 or prior completion of SPA 101.

Introduction to the sounds, rhythm, and intonation of Spanish, with emphasis on those aspects of the oral language which make it easier to understand and to be understood in Spanish.

2 hours laboratory.

**SPA 191 SPANISH FOR OCCUPATIONS (1)**

Prerequisite: Concurrent enrollment in or prior completion of SPA 102 or permission of instructor

Intensive practice with Spanish vocabulary and specialized terminology useful in the workplace.

2 hours laboratory.

**SPA 192 SPECIAL TOPICS IN LANGUAGE, LITERATURE & CULTURE (.5-1)**

Prerequisite: None.

A rotating forum/seminar emphasizing linguistic development and change, regional literature, literary styles, folklore and related topics. Topics will vary in accordance with changes in student need and interest. Cochise College elective credit only unless otherwise designated in degree programs.

1/2-1 hour credit depending upon the length of the seminar.

**SPA 201 INTERMEDIATE SPANISH (4)**

Prerequisite: SPA 102 or two years of high school Spanish with a grade of C or better or competency based on travel and experience demonstrated to the satisfaction of the instructor.

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

4 hours lecture.

**SPA 202 INTERMEDIATE SPANISH (4)**

Prerequisite: SPA 201 or three years of high school Spanish with a grade of C or competency based on travel and experience demonstrated to the satisfaction of the instructor.

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

4 hours lecture.

**SPA 203 SPANISH FOR NATIVE SPEAKERS I (4)**

Prerequisite: Placement by interview and/or writing sample.

Intensive work in speaking, reading and writing standard Latin American Spanish for native and bilingual speakers of Spanish; special attention will be given to regional and stylistic variations.

4 hours lecture.

**SPA 215 CONVERSATIONAL SPANISH (3)**

Prerequisite: SPA 116 or permission of instructor.

Continuation of SPA 116 with drill patterns to reinforce vocabulary and use of verb tenses, with a minimum of formal grammar study, with emphasis on practice in the spoken language. For credit and transfer requirements see course description for SPA 116.

3 hours lecture.

**SPA 216 CONVERSATIONAL SPANISH (3)**

Prerequisite: SPA 215 or permission of instructor.

A continuation of SPA 115, 116, and 215. Essentials of Spanish for conversational situations, designed for students who wish to use Spanish for business, pleasure, or travel. SPA 115, 116, 215 and 216 may be transferable to a four-year institution only upon satisfactory performance on a proficiency examination.

3 hours lecture.

**SPA 220 INTRODUCTION TO SPANISH LITERATURE (3)**

Prerequisite: SPA 202 or completion of equivalent course with permission of instructor.

A survey of the development of Spanish literature emphasizing the development of the literary genres with relation to the historical and social backgrounds of Spain. The beginnings of Spanish literature to 1700.

3 hours lecture.

**SPA 221 INTRODUCTION TO SPANISH LITERATURE (3)**

Prerequisite: SPA 202 or completion of equivalent course with permission of instructor.

A survey of the development of Spanish literature emphasizing the development of the literary genres with relation to the historical and social backgrounds of Spain after the 18th century with emphasis on the generation of 1898 and after.

3 hours lecture

**SPA 224 INTRODUCTION TO MEXICAN LITERATURE (3)**

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

An introduction to the works of representative Mexican authors and a historical look at the literature of Mexico during the Colonial period and the period of Independence. Conducted in Spanish.

3 hours lecture.

### **SPA 225 INTRODUCTION TO MEXICAN LITERATURE (3)**

Prerequisite: SPA 202 or completion of equivalent course with permission of instructor.

An introduction to the works of representative Mexican authors whose genius reflects a historical and literary perspective during times of national stress after Mexico's independence from Spain and its revolution of 1910.

3 hours lecture.

### **SPA 267 SPANISH BUSINESS COMMUNICATIONS (3)**

Prerequisite: SPA 202 or equivalent placement

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

3 hours lecture.

### **SPA 275 INTERMEDIATE SPANISH CONVERSATION AND COMPOSITION (3)**

Prerequisite: SPA 202 or completion of equivalent course with permission of instructor.

A study of short excerpts from Hispanic literature to promote topic-centered discussions and compositions in Spanish, conducted principally in Spanish. Review and application of Spanish grammar rules and building of Spanish vocabulary.

3 hours lecture.

### **SPA 276 INTERMEDIATE COMPOSITION AND CONVERSATION (3)**

Prerequisite: SPA 275 or equivalent proficiency as assessed by the instructor

Continuation of SPA 275, conducted in Spanish. Further readings and discussions of short stories, articles and other pertinent materials to provide continued exposure to new vocabulary and enhance usage of the Spanish language

3 hours lecture.

### **SPA 283 CULTURAL CONTEXT: CASE STUDIES (1)**

Prerequisite: Concurrent enrollment in or prior completion of SPA 101 or 202 or permission of instructor.

Introduction to the social norms, cultural values and assumptions underlying workplace behavior with emphasis on comparative case studies and practical application to interaction between U.S. and Latin American cultures.

2 hours laboratory.

### **SPA 284 INTRODUCTION TO TRANSLATION AND INTERPRETATION (1)**

Prerequisite: Concurrent enrollment in or prior completion of SPA 202 or permission of instructor.

An introduction to basic concepts and procedures useful in translation and interpretation between Spanish and English. Experience working with both general language and materials in the student's occupational specialty.

2 hours laboratory.

### **SPA 290 FUNDAMENTALS OF TRANSLATION AND INTERPRETATION (3)**

Prerequisite: ENG 167 and SPA 267 or permission of instructor based on prescribed proficiency tests; concurrent enrollment in LIN 180 preferred.

An introduction to translation and interpretation theory and practice. Emphasis on application; translation of representative texts chosen from general and commercial contexts; interpretation of representative discourse chosen from a variety of social and interpretation practices, ethics and technology. Identical with LIN 290.

3 hours lecture.

## **SPA 294 FIELD EXPERIENCE IN SPANISH (1-6)**

Prerequisite: Sophomore standing in a declared major and prior approval of Cooperative Education Program Coordinator.

A supervised Cooperative Education work experience involving the combined efforts of educators and employers to accomplish career objectives in Spanish. Variable credit (1-6) is available by special arrangement. May be taken four times for a maximum of 16 credit hours, no more than 6 units in a given semester. NOTE: Lower- and upper-division Cooperative Education courses may be combined but cannot exceed 16 units.

## **SPA 299 INDIVIDUAL STUDIES (1-4)**

Prerequisite: Approval of the division chair or associate dean and instructor.

Completion of a research problem or an outlined course of study under the direction of a faculty member, with contract for the individual study agreed upon by the student, the instructor and the division chair or associate dean prior to initiation of the study. May be repeated for credit.

## **SPANISH IMMERSION PROGRAM**

Intensive day-long instruction in Spanish for seven weeks for non-native speakers, designed to provide a basic speaking-understanding facility in Spanish language. Eight units of college credit are available in this summer program which is equivalent to Spanish 101 and 102.

## **THEATRE ARTS (DRAMA)**

### **THE 101 ACTING (3)**

Prerequisite: None.

Introduction to theories of dramatic art and practice in acting situations. This is an intensive course in learning about deportment, how to deal with the demands of the theater, how to comport oneself on the stage, how to enter, exit, or steal attention. The method is the use of basic acting techniques.

3 hours lecture plus performance.

### **THE 102 ACTING (3)**

Prerequisite: None.

Through class discussion, directed reading, pantomime, improvisation, and performance of play cuttings, the student will gain understanding and skill in the creative process of acting.

3 hours lecture.

### **THE 103 INTRODUCTION TO THEATRE (3)**

Prerequisite: None.

History and tradition of western theatre with analysis and discussion of representative drama, classical to contemporary.

3 hours lecture.

### **THE 104 PRINCIPLES AND TECHNIQUES OF PLAY PRODUCTION (3)**

Prerequisite: None.

Introduction to the theory and practice of directing, set design, costuming, stage lighting, make-up and production organization

3 hours lecture

### **THE 105\* THEATRE DANCE (1)**

Prerequisite: None.

The study, comprehension and execution of basic dance styles often used in musical theater (ballet, modern, tap, improvisation); introduction of basic steps, skills, combinations and short routines.

3 hours lecture, demonstrations and lab.

### **THE 110 THEATRE WORKSHOP (1-3)**

Prerequisite: permission of instructor/audition.

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

## **THE 299 INDIVIDUAL STUDIES (1-4)**

Prerequisite: Approval of the division chair or associate dean and instructor.

Completion of a research problem or an outlined course of study under the direction of a faculty member with contract for the individual study agreed upon by the student, the instructor and the division chair or associate dean prior to initiation of the study. May be repeated for credit.

## **WELDING TECHNOLOGY**

### **WLD 105\* OXYACETYLENE WELDING (3)**

Prerequisite: None.

Safety practices, setup 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.

### **WLD 106\* ARC WELDING (3)**

Prerequisite: WLD 105 or permission of instructor.

Safety practices, setup and operation of arc welding equipment. Techniques of joining metals in all positions by electric arcs with the use of the electrode.

1 hour lecture; 4 hours laboratory.

### **WLD 202\* WELDING SURVEY (4)**

Prerequisite: None.

Theory and application of all major welding processes, including parameters, advantages and limitations, applications, equipment, health and safety; introductory welding metallurgy, weldment design and inspection, and practical application of SMAW, Oxyacetylene, brazing, GTAW and GMAW.

4 hours lecture; 1 hour laboratory.

### **WLD 207\* MIG AND TIG WELDING (3)**

Prerequisite: WLD 105 and 106.

Safety practices, setup and operation of metal inert gas (MIG) and tungsten inert gas (TIG) welding equipment, using both consumable and non-consumable electrodes.

2 hours lecture; 3 hours laboratory.

### **WLD 208\* GAS METAL ARC WELDING (GMAW) (3)**

Prerequisite: WLD 105 and 106.

Safety practices, setup and operation of Gas Metal Arc Welding (GMAW) equipment, using solid and core wire on ferrous and nonferrous metals.

2 hours lecture; 3 hour laboratory.

### **WLD 209\* GAS TUNGSTEN ARC WELDING (GTAW) (3)**

Prerequisite: WLD 105 and 106.

Safety practices, set up and operation of gas tungsten arc welding (GTAW) equipment, using ferrous and nonferrous metals.

2 hours lecture; 3 hours laboratory.

### **WLD 210\* PIPE AND PLATE WELDING (3)**

Prerequisite: WLD 105 and 106.

Continuation of WLD 106 Arc Welding to include out of position welding, pipe and plate welding and welding of medium carbon and high sulfur steels.

2 hours lecture; 3 hours laboratory.

### **WLD 211\* PIPE FITTING AND WELDING (3)**

Prerequisite: WLD 105, 106, 210.

Continuation of WLD 210 Pipe and Plate Welding to include methods of layout and fit-up of pipe of various sizes and types, also welding of pipe by use of electric arc and oxyacetylene.

2 hours lecture; 3 hours laboratory.

**WLD 215\* WELDING DESIGN AND FABRICATION (3)**

Prerequisite: WLD 105, 106, 210.

Designed for students with demonstrated welding skills, to learn proper methods of design, layout and fabrication for welding. A specific project will be selected by the student or assigned by the instructor. The project will be constructed by use of electric arc, oxyacetylene, TIG or MIG welding.

2 hours lecture; 3 hours laboratory.

**WLD 217\* PIPE LAYOUT AND FITTING (3)**

Prerequisite: WLD 211.

Continuation of WLD 211 Pipe Welding, to include methods of layout fittings and welding of pipe of various sizes and types.

2 hours lecture; 3 hours laboratory.

**WLD 224 FIELD EXPERIENCE IN WELDING TECHNOLOGY (1-6)**

Prerequisite: Sophomore standing in a declared major and prior approval of Cooperative Education Program Coordinator.

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

**ZOOLOGY**

Please see Biological Sciences.

# **ADMINISTRATION**

## **ADMINISTRATION**

Dr. Walter S. Patton;  
President  
New Mexico State University, B.S., M.A.T., Ed.D.

Dr. Karen Nicodemus;  
Chief of Staff to the President,  
Director, Planning and Assessment  
John F. Kennedy College, B.A.  
University of Nebraska, M.P.E., Ph.D.

## **DISTRICT ADMINISTRATORS**

Dr. Joe Gilliland;  
Vice President for Instruction  
University of Texas, B.A., M.A.  
Arizona State University, Ph.D.

Dr. Robert J. Mena;  
Vice President for Student Services  
Northern Arizona University, B.S., M.A., Ed.D.

Dr. David A. Montgomery;  
Vice President for Administration  
University of Kansas, B.S.  
University of Kansas School of Law, J.D.

# **FACULTY AND PROFESSIONAL STAFF**

## **FACULTY EMERITI**

Dr. Joe Gilliland;  
University of Texas, B.A., M.A.  
Arizona State University, Ph.D.

Mr. George Huncovsky;  
University of North Dakota, B.S., M.S.

Dr. Donald R. Johnson;  
San Francisco State College B.A.  
Los Angeles State College, M.A.  
Arizona State University, Ph.D.

Dr. Dan W. Rehurek;  
University of South Dakota, B.S.  
University of Northern Colorado, M.A.  
Nova University, Ed.D.

Mr. Thomas Waddoups;  
University of Idaho, B.S.  
Arizona State University, M.S.

Dr. John Doty;  
University of Southern California, A.B., M.S.  
California State University at L.A., M.A.  
University of Michigan, D.A.

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

William I. Akins; Instructor,  
Computer Information Management (1986)  
San Francisco State University, B.A.  
Kansas State University, M.S.

Dartle Atherton; Assistant Director,  
Financial Aid/Veteran's Affairs Coordinator (1990)  
Grand View College, B.A.  
University of Arizona, M.A.

Robert Atkinson; Instructor,  
Political Science, History (1990)  
Adelphi University, B.A.  
University of Notre Dame, M.A.

Philip Atlas; Instructor, Airframe & Powerplant (1987)  
Chicago State Teacher's College, B.A.  
Northern Illinois University, M.S.

Tanya Backinger; Instructor, English (1994)  
Michigan State University, B.A., M.A.

Norman Bates; Instructor, English (1994)  
United States Military Academy, B.S.  
University of Massachusetts, M.A.

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

Lois Bennett; Assistant Math Instructor/  
Tutor (1989)  
Cornell University, B.S.

Nell Bennett; Director, Personnel Services (1987)  
University of New Mexico, B.A.

Elizabeth R. Bernheim; Coordinator,  
Tutoring (1993)

Trudy J. Berry; Coordinator, ABE/ESL/GED (1994)  
University of Northern Iowa, B.A.  
University of Arizona, M.A.

Ruel T. Blagg; Coordinator,  
Instructional Computer Lab (1993)

Martha Bordelois; Instructor, Spanish (1993)  
Maximo Gorki Foreign Language Institute, B.A.  
University of Havana, M.S.

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

Ruth Ann Britton; Instructor, Reading (1994)  
Concordia Teachers College, B.A.  
Kansas State University, M.S.

Lesandra R. Bryan; Interim Coordinator,  
Institutional Research (1993)  
University of Arizona, B.S., B.A.

Andrew John Burch; Manager,  
Instructional Microcomputers (1995)  
Cochise College, A.G.S.

Belinda Burnett; Flight Instructor (1988)  
Cochise College, Pro-Pilot

Randy Burns; Instructor,  
Business Administration (1988)  
Central Michigan University, B.A.  
Golden Gate University, M.B.A.

Craig Carlson; Counselor, Student Services (1992)  
Arizona State University, B.S.  
University of Arizona, M.S.

Jerry Carrillo; HPE Instructor (1995)  
Head Coach, Men's Basketball  
University of Arizona, B.S.  
University of Northridge, M.A.

Carlos A. Cartagena; Instructor,  
Computer Science (1994)  
University of Puerto Rico, B.A.  
University of Southern California, M.S.

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

Debbie D. Chavez; Systems Analyst (1994)  
Cochise College, A.A.

Callie Conrad; Instructor, English & Reading (1987)  
University of Arizona, B.A., M.A., M.Ed., Bachelor of  
Architecture

Loren Cooper; Instructor,  
Motor Transport (1987)

Erik A. Copes; Instructor, Avionics (1993)  
Lewis University, B.S.

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

Mary L. Criswell; Instructor, Nursing (1993)  
Montana State University, B.S.N.  
Western Kentucky University, M.P.A., M.P.S.

Alfonza Cunningham; Division Chair,  
Prison Education Program (1990)  
St. Leo College, B.A.  
Golden Gate University, M.B.A.

Joanne R. Darbee; Single Parent Coordinator (1996)  
State University of New York, B.A.

Randall Dorman; Instructor, Mathematics (1987)  
Northern Arizona University, B.S., M.S.

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

Sharon Douglas; Instructor, Mathematics (1986)  
Eastern Illinois University, B.S., M.A.

Lynn F. Dragoo; Adult Education Teacher (1996)  
English as a Second Language/GED  
University of Arizona, B.A.  
Chapman University, M.A.

Jesus Duarte; Head Resident,  
Huachuca Hall (1993)  
University of Arizona, B.A.

Frank Dykstra; Director of Facilities (1989)  
West Texas State University, B.S.

Debra Ellis; Program Coordinator,  
Willcox Center (1986)  
Northern Arizona University, B.S., M.Ed.

Deborah Elver; Business Counselor/Instructor,  
Small Business Development (1992)  
Brown University, B.A.  
American Graduate School of International Management/Thunderbird, M.I.M.

Emily Fairbank; Program Coordinator,  
Center for Professional Development (1987)  
Cochise College, A.A.S.

John Fortune; Instructor,  
Building Maintenance (1988)

Sandra Fotinos-Riggs; Instructor, ESL (1991)  
Wellesley College, A.B.  
Johns Hopkins University, M.A.T.

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.

David L. Gage; Accounting Supervisor (1995)  
Taft College, A.A.  
University of Arizona, B.S.

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

Rafael A. Gonzales; Recruiter/Coordinator/Instructor,  
Latin American Aviation Programs (1995)  
Aeronautica Panamericana, Private Pilot Course  
Cochise College, Airframe Certificate, Powerplant  
Certificate

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

Raymond Green; Instructor, AMT (1992)  
Cochise College, A.A.S.

Nancy Hagen; Coordinator,  
Science Laboratory (1983)  
The Ohio State University, B.S.

Katherine Hagstrum; Instructor, English (1990)  
Carlton College, B.A.  
Empire State College, B.S.  
Northwestern University, M.A.T.

Russell Haigh; Instructor, History  
Assistant Baseball Coach (1994)  
University of Wyoming, B.S.

Dr. James A. Hall; Dean of Student Services,  
Douglas Campus  
Grand Canyon College, B.A.  
University of Arizona, M.Ed., Ed.D.

Richard A. Hall; Instructor, Mathematics (1993)  
Head Baseball Coach,  
Cochise College, A.A.  
Oklahoma City University, B.S.  
Northern Arizona University, M.Ed.

Jill M. Hamilton; Instructor, Nursing (1993)  
University of Texas, B.S.N.  
Arizona State University, M.S.

Samuel Hargadine; Instructor,  
Computer Information Systems (1990)  
University of Missouri, B.A.

Randy Harwood; Instructor,  
Computer Information Systems (1987)  
California State University, B.A.  
University of Texas, M.S.

Guy Hollis; Instructor, Mathematics (1986)  
Morehouse College, B.A.  
American Technical University, M.S.  
Golden Gate University, M.B.A.  
Columbia Pacific University, Ph.D.

Patricia Hotchkiss; Librarian (1978)  
Lake Erie College, B.A.  
University of Texas, M.L.S.

Eileen Howell; Director,  
Student Information Systems (1992)  
Oberlin College, B.A.  
University of Colorado, M.A., Ph.D.

Charles Hoyack, Instructor, History  
University of Arizona, B.A.  
Northern Arizona University, M.Ed.

Roberta Ibarra, Librarian (1982)  
Western Washington University, B.A.  
University of Washington, M.L.S.

Kenley Jones; Instructor, Business (1992)  
Mount St. Clare College, B.A.  
University of Arizona, M.B.A.

Ralph H. Italia; Coordinator,  
Fort Huachuca Program (1995)  
University of Nebraska, Omaha, B.S.  
Central Michigan University, M.A.

Paula Jones; Instructor, Secretarial Studies (1983)  
J.C.L.A. Los Angeles, A.B.  
Boston University, M.Ed.

Gregory L. Kernick; Instructor, Agriculture (1994)  
Head Rodeo Coach  
Pratt Community College, A.A.  
Panhandle State University, B.A.

Ann E. Kimsey, Instructor,  
Sociology/Social Work (1993)  
Arizona State University, B.S., M.S.

Catherine Knapp; Director,  
Admissions and Records (1993)  
Delaware County Community College, A.A.  
Temple University, B.S.W.  
Northern Arizona University, M.A.

Joseph Klimes, Instructor, Consumer Repair,  
Prison Education Program (1990)  
City College of Chicago, A.A.

Albert Kogel; Instructor,  
Humanities & Fine Arts (1977)  
University of Arizona, B.F.A., M.F.A.

Barbara Krueger; Instructor, Mathematics (1989)  
New Mexico Institution of Mining and  
Technology, B.S., M.S.

Charles H. LaClair; Instructor, Business/CIS (1977)  
University of Florida, B.S., B.A.  
University of South Florida, M.B.A.  
University of Arizona, Ph.D.

Claudia Dee LaClair; Division Chair,  
Information Management (1978)  
University of Arizona, B.S., M.Ed., Ph.D.

Steve Lane, Admissions Counselor,  
Student Services (1992)  
Texas Wesleyan College, B.A.  
Pepperdine University, M.A.E.

Harvey Lee; Coordinator, Public Information (1991)  
Northern State University, B.A.  
University of South Dakota, M.A.

William Lent; Instructor,  
Career Action Center (1972)  
Delta College, A.A.  
Arizona State University, B.A.

Catherin Lincer; Director,  
Cochise College Libraries (1974)  
Colorado State University, B.S.  
University of Denver, M.A.

Mark Litwicki; Instructor, Languages (1988)  
Northern Arizona University, B.S., M.A.

Susan Macdonald; Instructor, Nursing (1992)  
University of Phoenix, B.H.S.A., B.S.N., M.B.A.  
Triton College, ADN

Jim Madril; Instructor, Behavioral Science (1984)  
University of Arizona, B.A., Ed.D.  
California State University, M.S.W.

Jim Martin; Instructor, Mathematics (1990)  
Lenoir Rhyne College, B.A.  
Appalachian State University, M.A.

Manuel Martinez; Instructor,  
Humanities and Fine Arts (1974)  
University of New Mexico, B.F.A.  
Texas Christian University, M.F.A.

Janet Martinez-Bernal; Instructor,  
English and Spanish (1979)  
University of Arizona, B.A.  
University of Michigan, M.A.  
Georgetown University, Ph.D.

Larry McAlister; Media Specialist (1978)  
University of Arizona, B.A., M.Ed.

Ian McCloskey; Instructor, Flight (1985)  
Cochise College, A.A.S.

Barbara A. McInerney; Coordinator,  
Testing and Tutoring (1995)  
Suffolk Community College, A.A.  
New York Institute of Technology, B.A.  
Northern Arizona University, M.A.

Rebecca McKivigan; Instructor,  
Biology (1991)  
University of Pittsburgh, B.S.  
Slippery Rock University, M.S.

Christine McVean; Instructor,  
Office Education (1987)  
University of Arizona, B.S.

M. David Meeker; Instructor,  
Humanities and Fine Arts (1975)  
University of Arizona, B.A., M.A.

Charles Meyer, Systems Analyst (1984)

William Michalek; Instructor, Psychology (1986)  
Valparaiso University, B.A.  
Arizona State University, M.S.  
Cornell University, Ph.D.

William C. Monday, Jr.; Instructor (1996)  
English Composition  
University of California, Los Angeles, A.B., M.A.

Sharlyn Joanie Morris; Director,  
Student Development Center (1991)  
Northern Arizona University, B.S.  
Arizona State University, M.C.

Carolyn J. Murphy-Reipe; Director, Housing,  
Student Union & Activities (1993)  
Bridgewater State College, B.S.  
University of Arizona, M.A.

Alan Murray; Counselor,  
Student Development Center (1992)  
University of Prince Edward Island, B.A.  
Francis Xavier University, B.Ed.  
Columbia University, M.Ed., M.A.  
University of Arizona, Ph.D.

Ray Nadolny; Interim Director (1995)  
Occupational Education  
Illinois Benedictine College, B.A.  
Mount Angel Seminary, M.T.S.

Merilyn Nance; Instructor, Behavioral Science (1988)  
California State University, B.A., M.A.  
United States International University, Ph.D.

Darrell Noble; Instructor, AMT (1992)  
Cochise College, A.A.S.

Linda O'Connor; Controller (1991)  
Utah State University, B.S.

Sandra Oglesby; Instructor, Nursing (1991)  
American University, B.A.  
Mary H. Baylor, B.S.N.  
University of Arizona, M.S.

Ronald Olson; Coordinator,  
Cooperative Education (1972)  
University of Northern Colorado, B.A.  
Colorado State University, M.A.

Vincent L. Pachulio; Director,  
Administrative Services (1994)  
University of Arizona, B.S.  
Western International University, M.B.A.

Lance Pape; Instructor, Geology (1991)  
Oregon State University, B.S.  
Brigham Young University, M.S.

Larry A. Park; Instructor, Horticulture (1994)

David L. Parry; Athletic Trainer,  
Division SMASS/HPE /Student Services (1993)  
New Mexico State University, B.S.  
Ohio University, M.S.

Sammie Paschal; Director, Conferences (1971)  
Cochise College, A.A.

Jay Pence; Admissions Counselor (1996)  
University of Arizona, B.A.  
Harvard University, M.T.S.

Charles Perry; Flight Instructor (1984)  
University of Denver, B.S.  
The American College, M.A.

Patricia Perry; Instructor, Business Ed. (1973)  
University of New Mexico, B.S.  
University of Arizona, M.Ed.

Mr. David M. Pettes; Dean of Instruction,  
Douglas Campus  
Duke University, B.A.  
Emory University, M.A.T.

Elizabeth Poe; Instructor,  
English as a Second Language (1988)  
University of Arizona, B.A., M.A.

George C. Praggastis; Systems Analyst (1994)  
Roosevelt University, B.S.

Ann Prenger; Ass't Director, Conferences (1993)  
Oakland University, B.A.  
Golden Gate University, M.P.A.

Douglas Pressel; Instructor,  
Business Administration (1986)  
DePauw University, B.A.  
University of California, M.B.A.

Elizabeth Ann Quill; Instructor, Nursing (1978)  
Good Samaritan Hospital, R.N.  
University of Arizona, B.S.N., M.S., F.N.P.  
Northern Arizona University, Ed.D.

**Guillermo Retana; Instructor, Spanish (1994)**  
University of California, Riverside, B.A., A.A.

**Dr. Helen (Beth) Roberts; Instructor, Math (1984)**  
University of Minnesota, B.S.  
Arizona State University, M.A.  
Northern Arizona University, Ed.D.

**Harold Robison; Counselor,  
Student Services (1973)**  
Troy State University, B.S.  
University of Arizona, M.Ed.

**Kim Rogalski; Instructor, Mathematics (1988)**  
Northern Arizona University, B.S., M.S.

**Dawn Rowden; Instructor,  
Chemistry/Physics (1993)**  
Bethel College, B.A.  
Notre Dame University, M.S.

**Sylvia Ruiz; Conference Serv. Specialist (1992)**  
Cochise College, A.A.

**Bill Saathoff; Instructor, Welding (1980)**  
Moorhead Technical Institute  
Cochise College, A.A.S., A.A.

**Kristi Saathoff; Coordinator,  
Print Media Center (1983)**  
Moorhead Technical Institute

**Dona Schell; Personnel Analyst (1992)**  
Sacramento State College, B.A.

**Max Schoenhals; Instructor, Drafting (1984)**  
University of Arizona, B.Arch.  
Arizona State University, M.S.D.

**Philip Schroeder; Director, Financial Aid,  
Student Services (1989)**  
Southeast Missouri State, B.S.  
University of Phoenix, M.A.

**Enid Schwartz; Instructor, Nursing (1983)**  
University of Arizona, B.S., M.S.  
University of Phoenix, M.C.

**Cheryl L. Seliagini; Assistant Instructor,  
Flight (1995)**

**Lucy Shaver; Instructor, English (1990)**  
Auburn University, B.S., M.A.

**Mary Lee Shelden; Instructor, English (1967)**  
Phoenix College, A.A.  
Arizona State University, B.S.  
Northern Arizona University, M.A.  
University of Arizona, Ed.D.

**Russell Shoemaker; Instructor, Biology (1992)**  
Western Illinois University, B.S.  
University of Arizona, M.S., Ph.D.

**Deanna Sims; Instructor, English (1987)**  
University of Arizona, B.B.A., M.A.

**Charles Skripkar, Instructor,  
Building Maintenance (1994)**

**Ronald M. Slominski;  
Chief Information Officer (1993)**  
Canisius College, B.S., M.B.A.

**Barbara Smith; Instructor,  
CIS/Computer Science (1989)**  
Purdue University, B.S., M.S.

**Curtis Smith; Division Chair, CHUFAL (1978)**  
Kansas State University, B.A.  
University of Arizona, M.A., M.Ed.

**Bernard Stanke; Systems Analyst (1990)**

**Philip Stickney; Director,  
Community Campus (1989)**  
Michigan State University, B.S.  
The Ohio State University, M.A.,  
State of Arizona, C.P.A.

Monte Surratt; Instructor, Art (1989)  
University of Arizona, B.F.A., M.F.A.

Mary Beth Sutor; Counselor (1996)  
University of Illinois, B.A.  
De Paul University, M.A.

Catherine E. Thompson; Graphic Designer (1993)  
University of Missouri Columbia, B.F.A.

Margaret M. Torres; Instructor, HPE  
Assistant Women's Basketball Coach, (1994)  
Sterling College, B.S.

Ellis Troutman; Instructor, Aviation (1979)  
Cochise College, A.A.

Emilie G. Vardaman; Lead Paraprofessional (1994)  
Illinois State University, B.S.  
University of Missouri, Kansas City, M.A.

Robert Vasquez; Director of Maintenance (1977)

Dr. Mark von Destinon; Dean of Student Services,  
Sierra Vista Campus  
University of Arizona, B.A., M.Ed., Ph.D.

Allen Walker; Division Chair,  
Business Administration/Technology;  
Director, Career Action Center (1975)  
University of Arizona, B.S., M.Ed.

James Ward; Instructor,  
Business and Computers (1986)  
The Colorado College, B.A.  
University of Northern Colorado, M.S.

Roger Weller; Division Chair, SMASS (1974)  
Wayne State University, B.S.  
University of Arizona, M.S.

Richard Wilkinson; Instructor,  
Health & Physical Education (1979)  
Casper College, A.A.  
University of Wyoming, B.S.  
Indiana University, M.S.

Debra Wright; Science Lab Coordinator (1989)  
Northern Arizona University, B.S.

James L. Young; Instructor, Business Ed. (1973)  
Pueblo Junior College, A.A.  
Western State College, B.A., M.A.  
New Mexico State University, Ed.D.

John Ziegler; Instructor,  
English & Humanities (1973)  
Seton Hall University, B.A., M.A.  
University of Connecticut, Ph.D.

## **ASSOCIATE FACULTY**

Abraham, Fred L. (B.B.A., M.F.A.)  
Acedo, Bernardo (B.A.)  
Ainsworth, Jack (A.A., B.S., M.S.)  
Anderson, Anders (B.S., M.S.)  
Appelin, Charles  
Arthur, David (B.A., M.A.)  
Ashraf, Tasneem (B.S., M.S.)  
Atkinson, Richard (B.S., M.S.)  
Austin, Charles (A.A.)  
Bahls, William (B.S., M.S.)  
Baker, Joanne (B.A., M.A.)  
Bakken, Richard (B.A., M.A.)  
Balzarini, Charles (B.S.)  
Bangs, Dawn (B.A., M.A.)  
Barnes, Margaret (B.A., M.A.)  
Barnes, Michael (B.A., M.A.)  
Barnes, Susan (B.S.N., M.S.N.)  
Barrett, Debra (A.A.S., A.G.S., B.S.)  
Basinger, Tyler  
Beech, William (B.S.)  
Bennett, Lois M. (B.S.)  
Berry, Ben (B.S.)  
Beyer, Ernest  
Blagg, Ruel T.

Blomquist, William (B.F.A., M.F.A.)  
Bowen, Michael  
Brewer, Jong (B.A.)  
Brower, Rockey (A.S.)  
Brown, Spencer (B.S., M.S.)  
Browning, Mark (A.A., B.S.)  
Buchanan, Carolyn (B.A., B.S., M.A.)  
Buono, Jayne (M.A.)  
Burgess, Leslie  
Byrnes, Eleanor (B.S., M.A.)  
Campbell, Amy L. (Ph.D.)  
Campbell, Reginald (A.S., B.A., M.S.)  
Canez, Hector (A.S., B.S.)  
Capas, Frank (A.A.)  
Capas, Waldemar  
Cazares, Myrna (B.P.S.)  
Chacon, Arturo  
Childers, Judy (A.A.S., B.S./B.A.)  
Close, Fred (B.B.A., M.A.)  
Close, Irene  
    (B.S., M.S., M.L.S., M.A.T.E.S.L.)  
Corke, Peter (M.S.)  
Daley, Christine (A.A., B.S.N., M.N.A.)  
Dennison, Michael R. (A.S., A.A.)  
DeSpain, Leslie  
Devoe Heldman, Shelia (B.B.A., M.B.A.)  
Dickenson, David (A.A.)  
Dietz, Chris (B.S., M.A.)  
Doppler, Charles E.  
Doughty, Shirley A. (A.A.S.)  
Drake, John (Ph.D.)  
Dreyer, Robert T. (A.A., B.S.)  
Durham, James (B.S.E.E., M.S.E.E.)  
Duthie, Eric  
Elmquist, William (B.S.)  
Esch, Douglas (B.A.)  
Felici, Susan (B.A.)  
Flannigan, Ana Maria  
Fogelman, Mary (B.S.)  
Foss, Stephen  
Freauff, James (M.A.)  
Frey, Daniel C. (M.A.)  
Galloni, Ronald (M.S.)  
Ganey, Loyd R. (B.A., M.S.)  
Garcia, Judith D. (B.A.)  
Garcia, Ruben (A.A.)  
Germain, Pamela (B.F.A.)  
Gill, Richard (M.S.)  
Goettl, Shelly A. (B.S., M.A.)  
Gonzalez, Rene (A.A., B.A.)  
Green, Tara D. (B.S.)  
Gueritzler-Collins, Judy (B.A.)  
Guido, Carlos  
Guilmette, Daniel (A.S., B.S., M.S.)  
Hagen, Antone (M.S.)  
Hagen, Nancy (B.S.)  
Halfmann, Michael  
Hanne, William (Ph.D.)  
Hansen, Karla (B.A.)  
Hardin, Marianne (B.A.)  
Harding, Michael (B.F.A.)  
Hartzell, Tom (B.S.)  
Havens, Mildred (B.S., M.Ed.)  
Hawkins, Debra (A.G.S.)  
Hays, Barbara (M.A.)  
Hays, Grant L. (M.A.)  
Heaney, Kathleen D. (M.F.S.)  
Hegeman, George W. (A.A.S.)  
Heiday, Gabriel  
Henderson, Jim (A.A.)  
Hicks, William (A.A., B.S., M.Ed.)  
Hodge, Jacqueline (B.S.)  
Hodgson, Jean A. (M.A.)  
Hoese, Faye C  
Hollister, Robert L. (M.S.)  
Holloway, William (B.A., M.A.)  
Hook, Dana (M.B.A.)  
Hoopes, Lance (M.Ed.)  
Hopper, Richard (B.S.)  
Houser, Ed (B.S., M.Ed.)  
Houser, Mary (B.A., M.A.)  
Houston, Bruce (B.S., J.D.)  
Jackson, Charles  
Jacobson-Penick, Cynthia (M.A., M.S.)  
James, J. F. (B.A., M.A., M.S.)  
Janssen, Arlo (M.A.)  
Jenia, Frank (Ph.D.)  
Jenkins, Veda G (A.A., B.S., M.A.)  
Jensen, Patsy (A.A., B.S., M.Ed.)  
Johnson, Linda (B.A.)

Jolly-Hartman, Arlene  
Jones, Cheryl (B.S., M.B.A.)  
Jones, Grace Meredith (B.S., M.M.)  
Jones, Julia R. (B.A.)  
Kamin, Alvin W.  
Keenan, Michelle C. (B.MUS.Ed., M.M., D.M.A.)  
Klever, David W. (M.B.A.)  
Knust, Michael (A.A., B.A., M.A.)  
Kong, Minerva (B.A.)  
Kruger, Kathleen (M.S.)  
Labadie, Patricia (A.G.S., A.A.S.)  
Lambert, Delle C. (M.A.)  
Larsen, Barbara S. (A.A.S.)  
Lawrence, Katharine (B.S.)  
Lee, Anne (T.H.D.)  
Lee, Judianne (B.A., M.A.)  
Lehr, Thornas (B.S., M.A.)  
Leigh, Joan (B.A.)  
Lockhart, S. Bates  
Love, Lyn  
MacDonald, Peter (M.S.)  
MacGregor, Keith (B.A.)  
Mack, Oliver (B.S., M.A.)  
MacNab, K. Dean  
Manahan, Gail (B.A.)  
Mancini, John (B.A., M.S.W.)  
Mansour, Hakim (B.A.)  
Marchand, Margaret (M.A.T.)  
Marlowe, Charles (B.A.)  
Marshak, John (B.A., Ed.M., Ph.D.)  
Martin, Ruth P. (B.A.)  
Mason, Verlyn (B.A., M.T.)  
Matthews, Carol (B.A.)  
Matthews, James W. (A.A.S.)  
McGrail, Maggie (B.S., M.P.A.)  
McInerney, Nadine (B.A., M.C.)  
McIntyre, Ted (B.A.)  
McIntyre, Vicki (A.S.)  
McLain, Carolyn (M.S., M.A.)  
Meeker, Hannah (A.G.S., B.F.A.)  
Michael, Dona M.  
Miller, Karen A. (B.S.)  
Miller, William T. (M.A.)  
Montano, George (M.A.)  
Moody, Lawrence (M.A.)  
Mudder, Gary (B.S.E., M.S.)  
Mueller, Richard L. (B.S.)  
Myers, Norma  
Nadolny, Ray (B.A., M.T.S.)  
Nebeker, David  
Neese, Shirley (A.D.N.)  
Neese, Tracey L. (A.G.S., A.A.S.)  
Newkirk, Kathleen M. (B.S.)  
Nichol, Glenn (A.A.S.)  
Nickasch Esther  
Nicodemus, George (M.S.)  
Nolan, Sara (A.D.N.)  
Nolan, William  
Nordin, John E. (M.B.A.)  
Norum, Toddi J. (B.A.)  
O'Connell, Edward (M.A.)  
Oglesby, Richard S.  
Olson, Paul (B.A.)  
Ortega, Madeline (A.A.S.)  
Ortega, Shirley D. (B.S., B.A.)  
Parent, Carol M. (B.S., M.Ed.)  
Parnell, Samuel (A.B.)  
Parr, Elizabeth  
Pereza, Felix (B.A.)  
Perine, Kebie G. (B.F.A.)  
Phibbs, Ray G. (Ph.D.)  
Pineda, Gerard (B.A.)  
Potenza, Nancy (B.A.)  
Powell, Elizabeth A. (B.S.N., F.N.P.)  
Pressler, Janet L. (B.A.)  
Prevett, Lawrence  
Pyeatt, Marie (B.S.)  
Querino, Anita (A.G.S.)  
Rae, Michelle (B.F.A., M.A.)  
Raffety, Michael (A.A.)  
Ramos, Lilia (A.G.S.)  
Reed, Michael (B.A., M.S.)  
Reynolds, Sandi J.  
Richards, Robert C. (B.S., M.Ed.)  
Riley, Charles A. (B.S., M.S.)  
Rivas, Estela  
Rochford, David (B.S.)  
Rothery, Donald (M.A.)  
Rudell, Wayne (A.A.)  
Rutter Barrett, Alison (B.A.)

Sanborn, Jeff (A.A.S., B.S.)  
Sandy, Isaura B. (B.A.)  
Sandy, Robin G. (B.S.)  
Santor, David (A.A.)  
Savage, Marylin (B.A.)  
Schaefer, Catherine M. (B.A.)  
Schirmer, John G. (B.A., M.A.)  
Schupp, Leslie G. (B.A., M.A.)  
Schweighart, Bonita (M.Ed.)  
Sette, Dominic R. (M.A.)  
Shaughnessey, Gail (B.S.)  
Shiew, Linda  
Silver, Heidi V. (B.A.)  
Smith Douglas (B.A., M.B.A.)  
Smith Gary L. (B.A.)  
Smith, Mary J. (B.S., M.Ed.)  
Smith, Pinnie (B.S., M.A.)  
Snellgrove, William (B.A., M.S.W.)  
Snyder, Frank J. (B.S.)  
Spiers, Brigitte (B.A., M.A.)  
Stansbury, Andrea L. (B.A.)  
Strain, Robert (M.S.)  
Strebe, David C. (B.S.)  
Sullivan, Pamela (B.A.)  
Taylor, Lila (M.S.)  
Thompson, Roger (B.A.)  
Tokzko, Leslie (B.Ed., M.Ed., Ph.D.)  
Torres, Raul (B.A., M.A.)  
Trieber, Jay (M.F.A.)  
Trocki, Star (L.P.N., R.N.)  
Valdez, Edurdo (A.A.)  
Vardaman, Emille (B.S.Ed., M.A.)  
Vaughn, Jay (B.S., M.B.A.)  
Watson, Robert T. (A.A., B.A., M.A.)  
Weller, Amanda (A.G.S.)  
Wenzel, Gregory J. (A.A., A.S., B.S., M.S.)  
Whalon, Glenda (B.A.)  
Whitman, Craig (B.A., M.S.W., Ph.D.)  
Wiley, James (B.S.Ed.)  
Wilkins, Judy (M.M.)  
Wright, Debra (B.S.)  
Wright, Kathleen (B.A.)

# INDEX

Academic Calendar, 2  
Academic Probation, 35  
Academic Skills, 44  
Academic Suspension/Dismissal, 35  
Accreditation/Affiliation, 6  
Administration of Justice, 52, 91-94  
Administration, 212  
Admission, 15  
Admission, Policies/Procedures, 15  
Admission, Regular Students, 15  
Admission, Students under 18 yrs., 1  
Adult Education, 11  
Advising Program, 29  
Agriculture, 53, 94-97  
Anthropology, 54, 98-99  
Apartment & Room Deposits, 25  
Apartments, 31  
Art, 54, 99-102  
Associate Faculty, 220-223  
Associate of General Studies Degree (AGS), 48  
Associates of Applied Science Degree (AAS), 49  
Associates of Arts Degree (AA), 47  
Associates of Science Degree (AS), 49  
Astronomy, 102  
Athletics, Douglas Campus, 30  
Attendance Policy, 40  
Aviation Maintenance Technology, 55, 103-104  
Aviation Program, 16  
Avionics Technology, 55, 78, 104-106  
AZ Department Of Corrections, 88-90  
AZ DOC - Building Maintenance, 88  
AZ DOC - Business, 89  
AZ DOC - Consumer Electronics Technician, 89, 123-124  
AZ DOC - General Electronics Technician, 90, 148  
AZ DOC - Horticulture, 90, 168-169  
AZ DOC - Masonry, 90  
AZ DOC - Principles of Technology, 90  
AZ DOC- Business Machines Repair, 89, 188-189  
Biological Sciences, 106-108  
Botany, 108  
Business Administration, 57, 108-114  
Campus Maps, 13  
Career Action Center, 45  
Catalog Requirements, 41  
Center Professional Development, 10  
Certificate of Completion, 49  
Certificate Programs, 78-94  
Certified Public Manager, 79  
Change of Classes, 36  
Change of Grade, 35  
Chemistry, 58, 114-115  
Civil Engineering Technology, 115  
Classification, Students, 33  
College Level Examination Program (CLEP), 37  
College Work-study, 27  
Communications, 115-116  
Community Campus Credit Classes, 10  
Community Campus Non-Credit Classes, 10  
Community Campus, 9  
Community Services, 7  
Computer Information Systems, 58-59, 116-123  
Computer Programmer, 79  
Computer Science, 59  
Computerized Office Applications, 84  
Concurrent Enrollment, Nonresident Tuition, 18  
Conference Center, 11  
Contents, 3  
Cooperative Education, 45, 124-125  
Correctional Officer Training Academy, 81  
Correctional Program Officer, 81  
Corrections Management, 81  
Corrections Training Academy, 125-128  
Counseling & Personal Development, 128-129  
Counseling, 29  
Course Descriptions, 91-211  
Courses Numbered Below 100, 44  
Credit by Examination, 36  
Degree Programs, 52  
Degrees & Programs, 43-50  
Degrees, 47  
Deposits, Housing, Aviation, 21  
Developmental Education, 44  
Disclosure of Education Records, 19  
Douglas Campus, 9  
Drafting & Design, 60, 82, 129-130  
Drop/Add, 36  
Economics, 130-131  
Education, 131-132  
Electronics Technology, 61, 132-133  
Emergency Medical Technology, 134-135  
English as a Second Language, 140-144  
English Immersion Program (Douglas Campus), 45  
English, 62, 135-140  
Environmental Studies, 144-145  
Equal Educational Opportunity Policy, 226  
Equine Science & Management, 82  
Faculty & Professional Staff, 213-220  
Final Examinations, 38  
Financial Aid, Scholarships & Grants, 27  
Fire Science Technology, 62, 82, 145-147  
Flight Training Fees, 24  
Food & Nutrition, 147  
Foundation, 7  
French, 147  
General Admission, 15  
General Ed Transfer Requirements, AZ University, 46  
General Education Core Curriculum, 46  
General Education Mission Statement, 6  
General Information, 5  
General Technology, 148-154  
Geography, 154-156  
Geology, 156  
German, 157  
Golden Apache Tuition Waiver, 23  
Governance, 6  
GPA Requirements, 41  
Grade Point Average, 34  
Grade Report, 35  
Grading System, 33  
Graduation Application, 41  
Graduation Fees, 24  
Graduation Requirements, 41  
Guaranteed Student Loans, 27  
Guidelines, 6  
Health Insurance, 29  
Health Physical Education, 157-164  
Health Services, 29  
Health Technology, 164

Hebrew, 164  
History of the College, 5  
History, 63, 165-167  
Hospitality Administration, 63, 83, 167-168  
Housing Applications, 31  
Housing/Dining, 31  
Humanities, 169-171  
  
In-state Student Status, 18  
Independent Study, 38  
Index, 224-225  
Individual Vocational Education Program, 29  
Intercultural Studies, 171  
International Communications, 83  
International Students, 16  
International Studies, 64  
  
Journalism, 64, 171-172  
  
Laboratory fees, 24  
Latin, 172  
Liberal Arts, 65  
Libraries, 12  
Life Sciences, 65 66  
Linguistics, 172  
  
Manufacturing Engineering, 66  
Mathematics, 173-175  
Media Arts, 66  
Media Communications, 67  
Media, 175-177  
Medical Transcriptionist, 84  
Microcomputer Practitioner, 80  
Middle Management, 57, 82  
Middle Management, 79  
Minimum Reading Competencies, 41  
Mission, 5  
Motor Transport Technology, 83, 177-178  
Music, 178-180  
  
Network Administrator, 80  
Network Management, 60  
Network Support, 80  
New Mexico Tuition Waiver, 22  
Nursing Program, 16, 68-69, 83, 180-181  
  
Occupational Vocational Programs, 43  
Office Administration, 181-186  
Office Assistant, 85  
Organizations, 30  
  
Parole Officer, 81  
Payment of Fees & Miscellaneous Fees, 21  
Pell Grants, 27  
Philosophy, 189  
Philosophy, 5  
Physical Education, 69  
Physics, 190  
Placement Assessment, 19  
Political Science, 70, 190-191  
Power Plant Operations, 70-71, 191-194  
Pre-dentistry & pre medicine, 51  
Pre-Education, 71  
Pre-law, 51  
Pre-Professional Programs of Study, 51  
Prison Education, 11  
Professional Administrative Assistant, 72-73  
Professional Flight Technology, 194-199  
Professional Pilot Technology, 55-57  
Programs of Study, 51-90  
Proof of Residency, In-state, 19  
Psychology, 74, 199-200  
Public Administration, 200-201  
  
Re-admission, 15  
Reading, 201-202  
Receptionist, 86  
Refunds, 24  
Registration for Physical Education, 41  
Registration Information, 19  
Regulations, 31  
Repeating Courses, 35  
Requirements & Qualifying Course, 51  
Residency Requirements/ Regulations, 17  
Residency, Definitions, 17  
Room/Board, 24  
Russian, 202-203  
  
Scholarships, 27  
Scholastic Honors, 34  
Second Associate Degree, 41  
Serviceman's Opportunity College, Active Duty (SOCAD), 46  
Sierra Vista Campus, 9  
  
Single Parent Program, 29  
Small Business Development, 10  
Social Security, Disclosure, 16  
Social Services, 75-77, 87, 203-204  
Sociology, 204-205  
Spanish Immersion, 209  
Spanish, 77, 205-209  
Student Activities, 30  
Student Costs, 21  
Student Development Center, 29  
Student Fees Information, 22  
Student Job Placement/Career Placement, 45  
Student Publications, 30  
Student Responsibilities/Code of Conduct, 31  
Student Services, 29  
Student Status Regulations, 18  
Student Union, Douglas Campus, 30  
Student w/Special Needs, 17  
Summer Spanish Immersion (Douglas Campus), 45  
Supervisory Management, 87  
Supplemental Education Opportunity Grants, 27  
  
Teacher Aide, 87  
Tech Prep, 44  
Theatre Arts (Drama), 209  
Transcripts, 39  
Transfer from Cochise College, 40  
Transfer to Cochise College, 39  
Tuition and Fees, 21  
  
Unit Load Limitations, 34  
University Parallel Programs, 43  
Unix System Administrator, 80  
USAFL/Dantes & Military Service Schools, 37  
  
Veterans Policies, 40  
  
Welding Technology, 78, 88, 210-211  
Willcox Center, 9  
Withdrawal from College, 36  
Women in Management, 79  
Workplace English & Spanish, 88  
  
Zoology, 211

## **EQUAL EDUCATIONAL OPPORTUNITY POLICY**

Cochise College reserves the right to make changes without notice in fees, faculty assignments, time schedules, courses, curricula, and 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 is not responsible for the loss, theft or damage to individuals' personal property.

Cochise College is in full compliance with the Family Education Rights and Privacy Act (FERPA) of 1974.

Cochise College, in compliance with the Civil Rights Act of 1964, Title IX of the Education amendments of 1972, Section 504 of the Rehabilitation Act of 1972, and the Americans with Disabilities Act of 1990 (PL 101-336) does not discriminate on the basis of race, color, national origin, sex, age or disability in any of its programs or activities.

In accordance with Section 504 of the Rehabilitation Act of 1972, and the Americans with Disabilities Act of 1990, Cochise College seeks to provide support services to those students whose disabilities require special assistance. The College makes reasonable accommodations to allow students with disabilities to participate in the educational process.

This nondiscrimination policy covers admissions, accessibility, and employment in the College's programs and activities, including vocational or other educational programs. Inquiries regarding the equal opportunity policies may be directed to: Title IX - Vice President for Student Services Office; Civil Rights - Personnel Services Office; Section 504 or the Americans with Disabilities Act - Office of Risk Management. Cochise College, 4190 W. Highway 80, Douglas, Arizona 85607-9724.

Personnel Services      Office of Risk Management  
Douglas Campus      Douglas Campus  
(520) 364-0583      (520) 364-0329

or 1-800-966-7943 ext. 329

## **CONTRIBUTORS**

### **Editorial Direction**

Charles Hoyack, Kristi R. Saathoff, Curtis Smith

### **Publication Direction**

Kristi R. Saathoff

### **Publication Design/Typography**

Catherine Thompson, Cindy Loreto

### **Printing**

Custom Printing