

COCHISE COLLEGE CATALOG 94-95



Contents

General Information, 5
Admissions, 16
Financial Aid, Scholarships and Grants, 27
Student Services, 29
Academic Regulations, 31
Degrees and Programs, 40
Program Guides, 53
Course Descriptions, 99
Index, 223

Governing Board

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Mrs. Frances Miller, Secretary
Mr. Bob Nelson, Member
Mrs. Jeanne Aughenbaugh, Member
Dr. Janus Poppe, Member

Arizona State Community

College Board

Fred Dunsmore, Cochise County Representative

President of the College

Dr. Walter S. Patton

Cochise College

4190 West Highway 80 Douglas, Arizona 85607-9724 (602) 364-7943

Sierra Vista Campus

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

Willcox Center

1110 W. Fremont Willcox, Arizona 85643 (602) 384-4502

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

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

Cochise College 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. Inquiries regarding this policy may be directed to: the Personnel Services Office or the Office of Risk Management, Cochise College, 4190 West Highway 80, Douglas, Arizona 85607-9724; (602) 364-7943.

In the spirit of compliance with Section 504 of the Vocational Rehabilitation Act of 1973, 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 uses a reasonable accommodation process to determine a meaningful adjustment for students with disabilities to participate in the educational process.

This nondiscrimination policy covers admission and access to, the treatment and employment in, the College's programs and activities, including vocational or other educational programs. The lack of English language skills will not be a barrier to admission and participation in the College's vocational education programs. Inquiries regarding the equal opportunity policies, the filing of grievances, or to request a copy of the grievance procedures covering discrimination complaints may be directed to:

Personnel Services

4190 W. Hwy 80 Douglas, Arizona 85607-9724 (602) 364-0583

Office of Risk Management

4190 W. Hwy 80 Douglas, Arizona 85607-9724 (602) 364-0329

General Information

Mission

Cochise College, a comprehensive community college, is dedicated to the educational service of all people of Cochise County, citizens of the State, and specific populations in the southwestern United States. The college makes education beyond the secondary level available to students interested in, and capable of benefiting from programs of higher education so that they may become more productive citizens. Cochise College promotes the highest standards in curriculum design, teaching excellence and student support services.

The quality and effectiveness of instruction offered by the College is important to those interested in higher education: students, teachers, staff, administrators, alumni and the general public. The College administration facilitates instruction and leads the staff toward the College's primary goal of providing effective learning experiences which help students achieve their educational goals. Free communication, an association of ideas and feelings among the administration, faculty, staff, students, governing board and community, is essential for the realization of personal and institutional goals.

Goals

To offer a course of study that will enable students pursuing a baccalaureate degree to transfer to the institution of his or her choice with upper division standing after having successfully completed appropriate lower division studies.

To provide educational opportunities for students wishing to prepare for employment or to enhance existing job skills by completion of specific courses or programs.

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

To develop competency in oral and written communication, computation, reading, critical thinking, information processing, interpersonal relationships, personal development and other skills and knowledge necessary for success in contemporary society.

To provide academic courses and programs for students with superior academic capabilities.

To provide a program of guided study that will enable under prepared students to enter college-level courses and programs.

To assist students in preparing for college life and future endeavors by providing student support services to include counseling, academic and career advising, placement, and other related services. These services enable students to discover aptitudes and interests and assist in their choices of a vocation or further education.

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

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

Outcomes

Cochise College faculty and staff will:

- Provide quality instruction and student support services.

Cochise College students will:

- Make progress towards their stated educational goals.
- Gain and/or enhance their academic knowledge.
- Acquire and/or enhance their skills.

Accreditation and Affiliation

Cochise College is accredited by the Arizona State Board of Directors for Community Colleges and the North Central

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

Governance

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

Community Services

Cochise College extends its educational services to meet the needs of the entire County. Community Services is that phase of the educational program which provides educational, cultural and recreational services beyond formalized classroom instruction. Among these services are a Speakers' Bureau, offering faculty lectures without charge; a program of

public events and cultural activities including lectures and forums, art exhibits, film series, non credit courses and community use of the College libraries and off-campus facilities.

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

The Cochise College Foundation

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

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

The Douglas Campus

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

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

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

Administration of Justice
Administrative Assistant
Agriculture
Aviation Maintenance Technology
Avionics Technology
Business
Clerical Assistant
Computer Information Systems
Correctional Practices
Electronics Technology
Executive Secretary
Media Communications
Middle Management
Motor Transport Technology
Nursing
Public Administration
Professional Pilot Program
Social Services
Teacher Aide

Student Services

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

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

Further information on housing, athletics and other student services is found on page 29.

Charles DiPeso Library

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

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

Women's Re-Entry Program

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

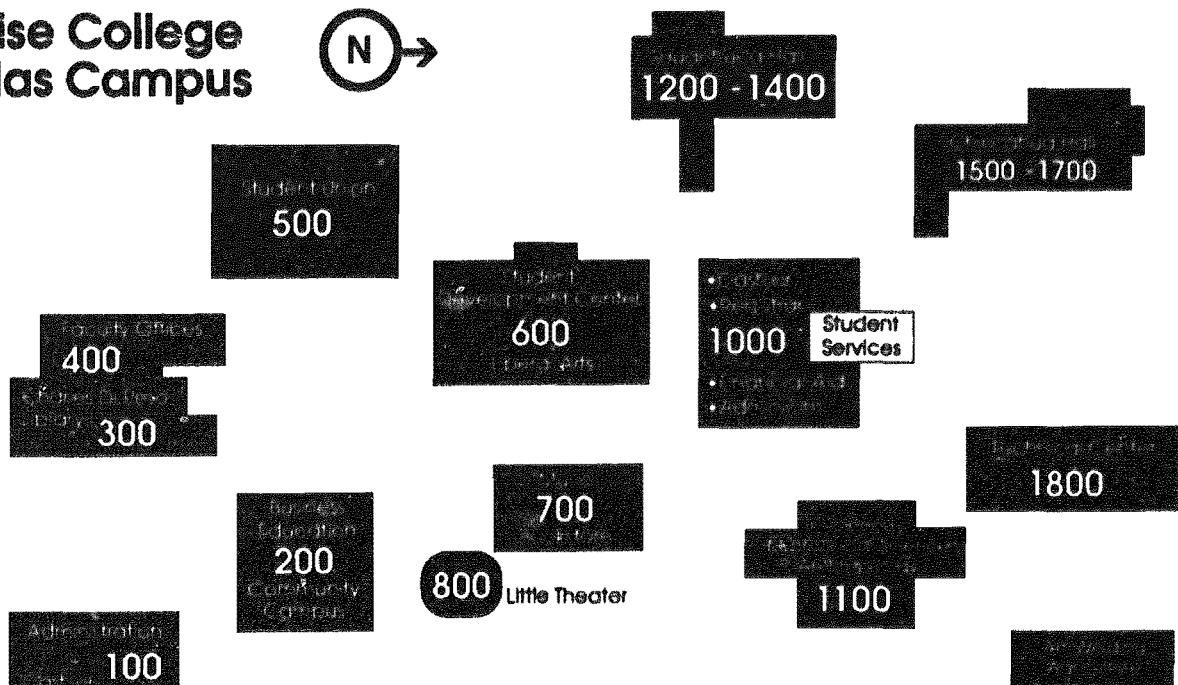
Career Action Center

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

Job Placement

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

Cochise College Douglas Campus



LEGEND

100 Administration	900 Apache Stronghold (Gym) Public Info. Publications/Print Shop
200 Business Education & Community Campus	1000 Student Services
300 Charles DiPesa Library	1100 Science/Math/Social Science Anthropological Resource Center
400 Faculty Offices	1200, 1300, 1400 Huachuca Hall
500 Student Union	1500, 1600, 1700 Chiricahua Hall
600 Liberal Arts & Student Development Center	1800 Technical Center
700 Fine Arts/Bookstore/Post Office	'M' Maintenance
800 Little Theater	1900 Art, Welding & Agriculture

Maintenance

M

The Sierra Vista Campus

The Sierra Vista Campus was founded in 1977 to meet the community needs of the greater Sierra Vista/Fort Huachuca area. It is located just off Charleston Road at the eastern edge of Sierra Vista, approximately one mile northeast of the junction of State Highways 90 and 92.

Approximately 3,200 students participate in a full schedule of day and night classes conducted at the campus and other locations in the greater Sierra Vista-Fort Huachuca area. Students may enroll on a full or part-time basis and complete all requirements for the Associate Degree, in the following programs:

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

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

Friday and Saturday College

Cochise College has pioneered a schedule designed to help students who, because of unique work schedules or other reasons, cannot be full-time Monday through Friday students.

It is possible to take one to four classes and come to campus only on Friday or Saturday. Careful planning with a counselor is advised.

Student Services

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

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

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

Serviceman's Opportunity College (SOC)

As a Serviceman's Opportunity College, Cochise offers the following kinds of special assistance to members of the military service:

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

Women's Re-entry Program

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

Career Action Center

A campus Career Action Center is available to all students. A student may receive special career guidance from trained counselors and personally work with a sophisticated computer to research the many aspects of over 1,000 careers. Using this service, a student can better examine the potential careers of the future and make better educational and career choices.

Job Placement

Job Placement service is also available to assist students who wish to prepare to enter the world of work. Assistance in developing resumes, job contacts and interviewing skills is available to the student.

Cochise College Sierra Vista Campus



Classrooms
700

Student Services
600

Classrooms
800

Library
500

Classrooms
400
Student Development Center
P-5

Classrooms
300

Technology Building
100

P-3
P-4

P-1
P-2

S-1

LEGEND

P-1	Classrooms	300	Classrooms
P-2	Classrooms	400	Classrooms
P-3	Faculty	500	Library
P-4	Administration	600	Student Services
P-5	Student Development Center	Business Office	
S-1	Security	700	Classrooms
100	Technology Building & Classrooms	800	Classrooms

The Community Campus

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

Credit Courses

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

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

Non-Credit Classes

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

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

Center for Professional Development Program

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

The Prison Education Program

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

Small Business Development Center (SBDC)

The Small Business Development Center (SBDC) is a jointly sponsored program of Cochise College and the U.S. Small Business Administration. The SBDC assists small businesses throughout Cochise County in developing the skills and procedures to help them succeed. The SBDC works with owners to learn methods and tools to meet the challenges of operating their business. The SBDC offers low cost, practical training sessions in a variety of topics related to starting and running a business. The SBDC also offers free individual consultation in areas of concern to the business owner. Training and consultation are offered throughout the county. The SBDC has a resource center with books, periodicals, videos and other materials to aid in starting and running a successful small business.

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

Cochise College Calendar 1994 - 1995

Second Summer Semester

Independence Day Holiday	July 4	(Spring Semester 1995 continued) Graduation filing deadline for diplomas & certificates (May graduates)	February 17
		President's Day Holiday	February 20
		UA/ASU priority financial aid application deadline	February 28
		Mid-semester exams	March 13-18
		Last day to drop classes without academic penalty	March 17
		Last day to change audit status	March 17
		Spring recess	March 20-25
		Summer Innovative Fellowship deadline	March 31
		NAU priority financial aid application deadline	March 31
		Cochise College priority financial aid application deadline	April 14
		Annual Awards Ceremony — Sierra Vista campus	May 9
		Douglas campus	May 10
		Final exams (once a week only classes)	May 9-15
		(all other classes)	May 11-15
		Classes end	May 12
		Commencement (Friday)	May 19
		Memorial Day Holiday	May 29
		Summer-Sessions	
		1995 — 1st session June 5 - July 6	
		2nd session July 10 - August 10	
		8-week Session — June 5 - July 27	
		English and Spanish Immersion Programs	
		1995 — June 26 - August 11	
		Professional Pilot	
		1994 — July 25 - December 16	
		1995 — January 9 - June 9	
		Aviation Maintenance Technology	
		1994 — July 5 - September 22: Phase I, III, V	
		September 26 - December 15: Phase II, IV	
		1995 — January 3 - March 23: Phase I, III, V	
		March 27 - June 15: Phase II, IV	

Spring Semester 1995

Staff return	January 3
Faculty return	January 9
Spring convocation	January 9
Spring registration	January 10-13
Residence Halls Open	January 15, 1:00 p.m.
Martin Luther King Holiday	January 16
Classes begin	January 17
Friday/Saturday classes will meet	January 20 & 21
Last day for adding classes	January 24
Last day to change subject level	February 10

1994

July							August							September						
S	M	T	W	T	F	S	S	M	T	W	T	F	S	S	M	T	W	T	F	S
3	4	5	6	7	8	9	7	8	9	10	11	12	13	4	5	6	7	8	9	10
10	11	12	13	14	15	16	14	15	16	17	18	19	20	11	12	13	14	15	16	17
17	18	19	20	21	22	23	21	22	23	24	25	26	27	18	19	20	21	22	23	24
24	25	26	27	28	29	30	28	29	30	31				25	26	27	28	29	30	
31																				

October							November							December						
S	M	T	W	T	F	S	S	M	T	W	T	F	S	S	M	T	W	T	F	S
2	3	4	5	6	7	8	6	7	8	9	10	11	12	4	5	6	7	8	9	10
9	10	11	12	13	14	15	13	14	15	16	17	18	19	11	12	13	14	15	16	17
16	17	18	19	20	21	22	20	21	22	23	24	25	26	18	19	20	21	22	23	24
23	24	25	26	27	28	29	27	28	29	30				25	26	27	28	29	30	
30	31																			

1995

January							February							March						
S	M	T	W	T	F	S	S	M	T	W	T	F	S	S	M	T	W	T	F	S
1	2	3	4	5	6	7	5	6	7	8	9	10	11	1	2	3	4	5	6	7
8	9	10	11	12	13	14	12	13	14	15	16	17	18	5	6	7	8	9	10	11
15	16	17	18	19	20	21	19	20	21	22	23	24	25	12	13	14	15	16	17	18
22	23	24	25	26	27	28	26	27	28					19	20	21	22	23	24	25
29	30	31												26	27	28	29	30	31	

April							May							June						
S	M	T	W	T	F	S	S	M	T	W	T	F	S	S	M	T	W	T	F	S
2	3	4	5	6	7	8	7	8	9	10	11	12	13	1	2	3	4	5	6	7
9	10	11	12	13	14	15	14	15	16	17	18	19	20	4	5	6	7	8	9	10
16	17	18	19	20	21	22	21	22	23	24	25	26	27	11	12	13	14	15	16	17
23	24	25	26	27	28	29	28	29	30	31				18	19	20	21	22	23	24
30														25	26	27	28	29	30	

Admissions

Policy

Admission as a regular student 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.
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.

Current high school students or others under age 18 may be admitted through a special policy. Contact the Admissions Office for further information.

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

Procedure

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

- **Application for Admission.**
- **\$5 application fee for out-of-state students.**
- **Student Medical Record; Part I.** — This self-appraisal form is to be completed by all applicants who are applying for 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 when deemed necessary by the College Nurse or by a particular college instructional program.

- **High School Transcripts** — All applicants under the age of 18, who are not concurrently enrolled in an accredited high school, must supply either an official high school transcript or GED certification with test scores before registration will be permitted. Final high school transcripts or GED certificate may be 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 Admissions Office. Transcripts carried by the applicant will not be accepted.

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

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

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

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

Students with Special Needs

If you are a person with a disability and require any auxiliary aids, services or other accommodations as a student of Cochise College, please indicate same on your admissions application and a representative of the college will contact you to discuss your accommodation needs.

Disclosure of Social Security Account Number

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

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

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

Admission to the Nursing Program

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

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

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

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

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

Admission to the Aviation Programs

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

Aviation Program Deposits

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

Professional Pilot	\$90
Aviation Maintenance Technology	\$90

Admission for Veterans

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

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

Admission for International Students

All international students, including students from Mexico, must be at least 18 years of age at the time of registration for classes (at least 16 years of age for summer 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.

A letter of admission and an Immigration Form I-20 will be issued by the Admissions Office only after the following documents are received and approved:

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

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

International Students

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

Each student must maintain full-time student status for both the fall and spring semesters. This requires completion of a minimum of 12 credits for each semester.

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

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

Re-Admission

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

Placement Testing

Success in college depends upon placement in courses best suited to one's educational experiences; free placement information is useful in planning your academic program. Placement testing must be completed before registering for any mathematics, reading or composition courses. Students reading below grade level 12.0 must register for a reading course before completion of 15 credit hours. A student may retest to demonstrate grade level 12.0 on a standard test. The Student Development Center has testing information.

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

International Student Language Requirements

All international students and students whose first language is not English are tested by the English Immersion Program prior to registration. Students whose test results show insufficient English proficiency to succeed in regular college courses are required to take courses in the English Immersion Program. Those students who place in an Advanced level are allowed to take some classes outside of the English Immersion Program in addition to their English classes. International students are expected to obtain an 12.0 reading grade level score or demonstrate an equivalent proficiency prior to application for graduation.

Registration Information

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

Advisement Program

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

Counseling

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

IVEP

IVEP is a federally funded grant program which provides special services to qualified vocational students. Special services include tutoring, special equipment, and workshops. Students with questions concerning eligibility for IVEP services should stop by the IVEP office in the Student Development Center.

Career Action Center

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

Cooperative Education

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

The student's work is coordinated by college staff and the student will receive college credit for this job experience. This program is also adaptable for employed adults who are interested in gaining additional job skills for future advancement. Cooperative Education is not a course of study, but is the laboratory component for various programs offered at Cochise College.

Student Job Placement

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

Classification of Students

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

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

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

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

Residency Requirements

Residence in Local High School District:

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

Residence of Counties Not Maintaining a Community College:

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

Residence in Counties Maintaining a Community College

Students who are residents of counties maintaining a community college are not charged out-of-county tuition. The in-state tuition is the responsibility of the student. No affidavit is required.

Students from Out of State:

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

New Mexico Tuition Waiver Program

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

Golden Apache Tuition Waiver Program

Students who are 60 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.

The requirements are:

- 60 years or older.
- Reside in Cochise County.
- Acceptance to Cochise College.
- Half-time student status at Cochise College (enrollment of 6 units or less).
- Maintenance of a 2.0 GPA or above.
- All requests must be received prior to registration. No waivers will be accepted retroactively.
- Tuition charges will be 50 percent of the regular in-state tuition cost. Registration fees, lab fees, bookstore charges, AMT tuition, flight tuition and fees and non-credit courses are not included in this discount.

For more information contact the Admission Office.

Residency Regulations

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

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

Appeal of interpretation or 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 determines classification for tuition purposes.

Published below are the Arizona Revised Statutes. (A.R.S. & 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 intercession beyond the normal academic year in order to maintain continuous attendance. (ARS 15-1801)

State resident means an individual who is domiciled in the State of Arizona for not less than one year (365 days).

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

Dependent is any minor (son, daughter, or legal guardian) who receives over half of their 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 intends to remain and to which he expects to return when he 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 parent nor entitled to the support of such parent under the laws of this state. (ARS-15-1801)

Guardian means a legal guardian appointed by a court order.

Parent means a person's father or mother, or if one parent has custody, that parent, or if there is no surviving parent or the whereabouts of the parents are unknown, then a guardian of an unemancipated person if there are not circumstances indicating that such guardianship was created primarily for

the purpose of conferring the status of an in-state student on such unemancipated person. (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, and his/her parent is entitled to claim the student as an exemption for state and federal tax purposes.
2. He/she is an employee of an employer which transferred him to this state for employment purposes or he is the spouse/dependent of such employee.
3. 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

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

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

Proof of Residency: In-state

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

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

1. Filing of state income tax report for the previous year.
2. Current registration of motor vehicle in Arizona.
3. Current registration as a voter in the state.
4. Arizona driver's license issuance date.
5. Graduation from Arizona high school.
6. Bank Statement (checking or savings) from an Arizona Banking institution.

7. Source of support. (Employer)
8. Dependency as indicated on federal income tax declaration (for dependents).
9. Notarized statements of landlord and/or employer.

Special Admission of Students Under Age Eighteen

As provided in Arizona State Board of Directors for Community Colleges Student Admissions Rule (R7-1-20) Cochise College will admit special students between the ages of 16 and 17 under certain conditions. The student, to benefit from the opportunity, must submit supporting documentation as required by the College. As a part of this documentation, the student must:

- a. Official score reports from either the American College Test (ACT) or the Scholastic Aptitude Test (SAT) must be sent to the Admissions Office. The composite score (verbal and math) on the ACT must be at least 22 and the SAT minimum score that will be considered is 930.
- b. A letter of application by the student, to include an outline of classes in which the student intends to seek enrollment and must be co-signed by the parent(s) and/or legal guardian must be submitted to the Admissions Office.
- c. Application for Admission co-signed by the parent(s) and/or legal guardian must be submitted to the Admissions Office.

The Student must submit all requested documentation to the Douglas Campus Admission's Office six (6) weeks prior to the starting date for the semester the student intends to matriculate. When all requested documentation is complete, an appointed Admissions Committee will meet and review all materials and make a recommendation to the Director of Admissions and Records. After the Committee's recommendation, the Director of Admissions and Records will make a ruling and notify the student of the decision.

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

Tuition and Fees

Payment of Fee Schedule

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

Students with past due balances may be turned over to a collection agency and will be liable for collection/attorney fees incurred.

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

Miscellaneous Fees

Credit by Examination (non-refundable) (may require additional special lab fee)	\$8 per unit
Senior "Golden Apache" Tuition Fee (60 years or older)	
Regular, credit courses only	\$12.50 per unit
CLEP General and Subject Examination per test	\$38
Transcript fee - Official	\$2.50
Unofficial	\$1
Returned Check fee (for each returned)	\$15
Nursing Insurance (subject to change)	\$12
ID cards	\$3
Replacement of ID card or meal card	\$5
Drop-Add Courses	\$7.50
Graduation Fee	\$12

Deposits

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 1994/95 Fiscal Year

I. Tuition - Regular/Summer and Professional Pilot

Registration Fee (Non-refundable)	\$ 10 per student
Regular/Summer	
In-State	\$ 25 per unit
Out-of-State	1-6 unit \$ 38 per unit
	7 or more unit \$152 per unit (retroactive to 1 unit)

Pro-pilot

In-State Flight Courses	\$126 per unit
Out-of-State Flight Courses	\$152 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	\$523 (\$27 per unit + \$10 regis. fee)
Phase II, III, IV, V = 17 units (per phase)	\$469 (\$27 per unit + \$10 regis. fee)

In-State Lab Fee

Phase I, II, III, IV, V	\$210
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Out-of-State

(includes room/board/tuition & fees)

Phase I = 19 units	\$3,419
Phase II, III, IV, V = 17 units (per phase)	\$3,091 (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 \$285 per month payable monthly in advance.

B. Professional Pilot - 21 weeks

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

Apartments \$285 per month payable monthly in advance.

C. Aviation Maintenance Technology -12 weeks

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

Apartments \$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.

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

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

In the event a check is returned unpaid by the bank, a \$20 service fee will be assessed, and the student will be dropped from all classes.

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

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

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

Graduation Fees

Every candidate for an Associate Degree is required to pay a graduation fee of \$12. Those completing certificate programs are not required to pay the fee. The graduation fee is to be paid when the student returns the graduation application to the Student Development Center.

Flight Training Fees

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

Laboratory Fees

Lab fees are charged for those classes requiring special equipment, facilities, etc. Lab fees range from \$5 to \$210 per course. Please consult a class schedule or a current Lab Fee Schedule for courses charging lab fees and the amount.

All student lab fees are due at registration.

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

Refunds

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

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

The refund schedule begins with the first day of 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 shall be charged for meals through Saturday of the week in which formal withdrawal occurs. Students departing during the last two weeks of the semester will be charged the full semester rate for meals.

Room

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

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

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

Students withdrawing from college or residence halls after having officially registered into a hall are not entitled to a refund of room rent. Should a student withdraw due to a legitimate medical emergency or other unusual circumstance, the unused portion of room rent through the end of the applicable semester may be refunded with the approval of the Vice President for Student Services 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 and deposits due students for any reason will be forfeited unless written application is submitted on or before June 15th of the academic year in which they are due.

Financial Aid, Scholarships and Grants

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

Students should apply as soon as possible after January 1 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 OFA. Students must file a separate application for the Guaranteed Student Loan Program, as described below. Applications received by the Financial Aid Office on or before April 15th will be funded first. To receive Financial Aid a student must be admitted into a program leading to a degree or certificate.

Federal Aid Programs

Supplemental Education Opportunity Grants*

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

Pell Grants*

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

Single Parent Program

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

Guaranteed Student Loans*

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

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

College Work Study*

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

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

*Must be enrolled in a minimum of 6 units

Scholarships

Academic scholarships are offered on the basis of financial need, grade point average, leadership qualities, and community services. Funds are provided by private donors to Cochise College. Scholarships are intended for students who are residents of the State of Arizona. Scholarship selection is dependent on the student's overall achievement and may be

limited to specific fields of study. Through submission of a single application, the student application will be considered for all of the scholarships available. Students also should contact their individual departments regarding funds which may be available through those sources.

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

Student Services

Student Life Committee

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

Student Development Center

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

Health Services

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

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

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

Student Activities

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

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

Organizations

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

Athletics

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

Rodeo Team

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

Student Publications

The "Mirage," a student literary magazine, is published once during the spring semester. The student newspaper, published periodically throughout each semester is called "The Argus."

Food Service Committee

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

Housing and Dining, Douglas Campus

The on-campus living program is designed to encourage personal growth and development. The standards of behavior established by the Department of Housing are intended to comply with and help maintain the academic environment of the College. All full-time, unmarried students not residing with parents or other relatives, guardians or friends are encouraged to reside on campus and participate in the dining program. Housing and dining services are combined; therefore, all residential students are automatically on the meal plan. Unmarried students reside in Chiricahua Hall (for women) and Huachuca Hall (for men).

College and Housing Regulations, Douglas Campus

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

Dining Program, Douglas Campus

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

Apartment Housing, Douglas Campus

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

Applications, Douglas Campus

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

Student Responsibilities/Code of Conduct

Cochise College assumes that men and women of college age are able and willing to maintain standards of self-discipline appropriate to membership in a college community. Students are expected to consider the rights of others and use mature and reasonable 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 "Apache Guide" at the beginning of each academic year.

Academic Regulations

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

Classification of Students

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

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

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

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

Grading System

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

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

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

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

Incomplete (I) — Indicates that for a justifiable reason, such as a serious illness, the student failed to complete a 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.

Grading System

Semester grades are assigned grade points as follows:

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

Thus, a three-unit course with a grade of 'A' would earn (3×4) 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, or "GPA".

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

Scholastic Honors

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

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

Unit Load Limitations

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

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

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

Academic Probation

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

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

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

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

Academic Suspension or Dismissal

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

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

Credit for Transfer Students

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

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

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

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

1. Courses for which the student has earned a grade of 'D' or 'F' will not be accepted for credit.
2. Students with an earned "GPA" below 2.00 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.

Credit by Examination

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

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

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

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

College Level Examination Program (CLEP)

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

Students must complete at least one Cochise course before credit may be granted for "CLEP". Credit earned under "CLEP" may not be used toward the ~~15~~ ¹⁶ resident hours required for a degree. Three to 16 units of credit, depending upon the examination, may be earned by scores of 50 or better on the Subject examinations. The number of units of credit earned is listed in parentheses following the corresponding test indicated below:

- Afro-American History (3)
- American Government (3)
- American History I (Early Colonization to 1877) (3)
- American History II (1865 to Present) (3)
- American Literature (3)
- Analysis and Interpretation of Literature (6)
- General Biology (8)
- Calculus w/Elementary Functions (10)
- College Algebra - Trigonometry (5)
- Computers and Data Processing (3)
- Educational Psychology (3)
- College Composition (3)
- Foreign Language:
 - College French I, II (8) or (16)
 - College German I, II (8) or (16)
 - College Spanish I, II (8) or (16)
- English Literature (6)
- Freshman English (7)

General Chemistry (7)
Human Growth & Development (3)
General Psychology (3)
Introduction to Management (3)
Introductory Accounting (6)
Introduction to Business Law (3)
Introductory Macroeconomics (3)
Introductory Microeconomics (3)
Introductory Marketing (3)
Introductory Sociology (3)
Trigonometry (3)
Western Civilization I (Ancient Near East to 1648) (3)
Western Civilization II (1648 to Present) (3)

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

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

USAF/DANTES and Military Schools

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

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

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

Independent Study

Cochise College recognized that outstanding scholarship is attained when the student attains scholastic maturity and possesses the motivation to pursue knowledge independently. Although this stage of academic achievement is normally expected at upper division and graduate levels, the College further recognizes that many undergraduate students are prepared and have sufficient motivation to earn credit for self-directed study.

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

The college provides independent study opportunities for students who:

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

The student and instructor will meet to discuss the nature of the study. All requirements for successful completion of the study, including periodic meeting times, will be clearly established on an Independent Study Contract (Form VPI-7). Course credit is determined by the instructor and appropriate division chairman, and will be compatible with published academic standards and procedures. Units assigned to an independent study contract may not be increased or reduced after commencement of the study. Contracts must be completed 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 an Add Slip and submit both documents to the Office of the Director

of Admissions and Records. Independent studies are subject to the Drop-fees. Contracts are subject to the same grading stipulations and other procedures as set forth by the Office of the Director of Admissions and Records.

Grade Report

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

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

Final Examinations

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

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

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

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

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

Change of Grade

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

Repeating Courses

A course may be repeated according to the following guideline:

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

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

* Excepting Emergency Medical Training

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

Change of 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, providing an official withdrawal is made.

Students dropping classes after Friday of the ninth week will be assigned a 'W' if the grade being earned up to withdrawal was a 'C' or better. A 'W' is not computed in the student's "GPA". Should the student withdraw from a class in which he is earning below a 'C', a grade of 'WF' is computed in the student's "GPA".

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

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

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

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

Drop

1. Instructors may drop those students who have not been attending class by marking through the student's name on the "FTSE" roster and recording a drop date. There will be no refunds to students for a drop made by the instructor. The student must turn in a drop slip to the cashier in order to receive a refund.
2. No drop slip will be accepted after the last day to drop a class without academic penalty. Students who wish to drop after that date must make arrangements with the instructor to receive a grade of 'W' or 'WF' on the final grade roster.

Withdrawal from College

A student who wishes to withdraw from the College must obtain a College withdrawal form from the Admissions and

Records Office. Upon obtaining the appropriate signatures, the form is returned to the Admissions and Records Office.

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

Transcripts

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

Transcripts are forwarded by the Director of Admissions and Records Office at the written request of the student. Transcripts to educational institutions will be sent directly by mail. Transcripts given directly to the students are marked "issued to student." The first transcript is issued without charge. Charges for additional transcripts are as follows: unofficial transcripts to student - \$1 each; all official transcripts - \$2.50 each.

Transfer of Credit

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

1. Consult the Transfer Curriculum Guide. This document has been developed by Cochise College in cooperation with the universities and colleges and provides minimum course information for most major areas of study.
2. Universities may accept up to 72 units of community college coursework.
3. Courses carrying a numerical designation of 0 through 99 are not designed to transfer.
4. Courses in which a student earns less than a 'C' rarely are accepted for transfer at the receiving institution.
5. Students intending to transfer to a four-year institution are advised to discuss transfer with a College instructor, advisor, and/or counselor.
6. The grade point average earned at Cochise College generally will not be calculated with the "GPA" earned at the receiving institution.

Attendance Policy

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

Veteran's Satisfactory Progress

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

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

Registration for Physical Education

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

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

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

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

Catalog Requirements

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

Second Associate Degree

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

Graduation Requirements

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

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

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

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

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

English - completion of ENG 101 with a 'C' or better
Math - 6 units at any level or 3 units MAT 120 and above;
all with a 'C' or better.

Minimum Reading Competencies for all associate degrees:
'AA', 'AS', 'AGS', and 'AAS' Graduates must meet one of the following criteria:

I. For Native Speakers of English

- 12.0 grade level or equivalent on a College approved test.
- 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.
- 3.0 cumulative GPA for courses at the 100 level or above at time of grad check.

II. For Non-native Speakers of English

- any of the above.
- a TOEFL score of 500 or above. including at least a 50 on Section 3 reading.

Graduation Application

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

Applications must be filed by October 21, 1994 for fall graduation and by February 17, 1995 for spring graduation. Dates also apply to certificate applications. If an application is late, a diploma will not be ordered until the following order date. Diplomas will be mailed after final grades are received and records evaluated. See your counselor as to what degree you qualify for.

Degrees and Programs

Academic Standards

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

University Parallel Programs

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

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

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

1. Clear up any entrance deficiencies in grades or subject matter if the senior college to which he or she expects to transfer so requires.
2. Fulfill the general requirements of Cochise College and the senior college which are prescribed for all students.
3. Fulfill his or her own pre-major requirements, i.e. the lower division requirements for his upper division major.
4. Earn a cumulative grade point average of 2.0 or better.

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

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

Occupational-Vocational Programs

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

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

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

Tech Prep

Tech Prep is a new 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 high school, (Benson, Bisbee, Buena, Douglas, St. David, Valley Union, Willcox) and is completed when the student receives an Associate Degree. At this time Tech Prep has concentrations in Avionics, Hospitality and Media Communications (please refer to the course descriptions for more information regarding these programs). For more information on this new and evolving program, please contact the Tech Prep Office at 458-7880, ext. 110.

Academic Skills

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

Courses Numbered Below 100

Coursework numbered below 100 is not transferable and will not fulfill associate degree requirements.

Computer Literacy

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

Cooperative Education

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

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

Summer Spanish Immersion Program

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 8 units of transferable credit upon successful completion of the program, equivalent to the first year of college Spanish.

English Immersion Program

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

Degrees and Certificates

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

General Education Transfer Requirements for the Student Who Plans to Transfer to an Arizona University

Cochise College is dedicated to a holistic general education learning experience that encompasses the knowledge, skills, and attitudes an individual needs to function effectively as a person, a family member, a worker, and a responsible citizen in contemporary society. This core of 41 semester hours of lower division general education coursework 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 block, however, may not satisfy individual

college, department, or major general education requirements and is intended for students who have not identified the university they plan to attend and/or a major area of study. Students must complete the entire 41 units to have an Arizona university accept the GECC block of 41 units. For a list of university approved courses, students must see a counselor.

General Education Core Curriculum

Minimum Requirements	Credit Hours
English 101, 102	6
Mathematics (MAT 117/120 and above)	3
Intensive Writing/Critical Inquiry**	3
Arts & Humanities**	9
Social & Behavioral Sciences**	9
Physical & Biological Sciences**	8
Options**	3
TOTAL	41

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

Associate of Arts Degree

Minimum Requirements	Credit Hours
English 101, 102*	6
Arts & Humanities**	9
Intensive Writing/Critical Inquiry	3
Mathematics (MAT 117/120 and above)	3
Laboratory Science**	8
Social & Behavioral Science**	9
Physical Education	2
Major Emphasis or Electives	16
Foreign Language** (Second semester proficiency)	8
TOTAL	64

* 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.

Demonstrated ability at 12.0 reading grade level required for graduation.

Associate of Science Degree

Minimum Requirements

	Credit Hours
English 101, 102*	6
Humanities/Social Science**	12
Laboratory Science**	8
Mathematics (MAT 117/120 and above)	9-11
Physical Education	2
Major Area of Emphasis or Electives	25-27
TOTAL	64

* 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.

Demonstrated ability at 12.0 reading grade level required for graduation.

Associate of General Studies Degree

The Associate of General Studies (AGS) degree meets the need 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 completer 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 for the 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 and reading competency at the college level.

Associate of General Studies Degree

Minimum Requirements	Credit Hours
Composition (ENG 101 plus ENG 102, 109 or 167)*	6
Mathematics (MAT 100 or above or equivalent)**	3
Critical Inquiry/Intensive Writing or Critical Thinking**	3
Physical and Biological Sciences**	4-8
Foreign Languages or Communications**	3-4
Arts and Humanities**	6-9
Social/Behavioral Sciences**	6-9
Computer Literacy**	3
Physical Education	2
TOTAL	36-47

Major Emphasis or Electives
100 level courses or above

TOTAL **64**

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

**See matrix for acceptable courses.

Demonstrated ability at 12.0 reading grade level required for graduation.

Associate of Applied Science Degree

This degree is intended to prepare graduates for employment in a specific career while providing the general education necessary to develop the knowledge, skills and attitudes essential to lifelong learning and personal growth.

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

Minimum Requirements	Credit Hours
English (100 level or above)*	3 or 6
Social Science/Humanities (100 level or above)**	3
Mathematics (110 level or above)*	3 or 6
General Education Electives**	6
TOTAL GENERAL DEGREE EDUCATION COURSES	18
Career Courses (see program guides)	26-43
Electives	3-20
Total Degree Units	64

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

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

Demonstrated ability at 12.0 reading grade level as required for graduation.

Certificate of Completion

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

Matrix of Degree

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 matrix. Using the Transfer Curriculum Guide, advisors will determine acceptable courses for each university. Courses which meet an university general educational requirement will meet the same requirement at Cochise College.

Mathematics Requirement	Degree	AA	AS	AGS	AAS
MAT110 Intermediate Algebra					X
MAT117 College Algebra	X	X	X	X	X
MAT120 College Algebra	X	X	X	X	X
MAT124 Plane Trigonometry	X	X	X	X	X
MAT155 Finite Mathematics	X	X	X	X	X
MAT256 Calculus for Business		X	X	X	X
MAT261 Calculus I	X	X	X	X	X
MAT262 Calculus II	X	X	X	X	X
MAT263 Calculus III	X	X	X	X	X
BUS104 Business Mathematics					X
BUS219 Business Statistics				X	X
BUS220 Business Statistics				X	X
CHM130 Fundamental Chemistry					X
CIS110 Computer Math				X	X
ELT110 Mathematics for Electronics				X	X
ELT120 Advanced Mathematics for Electronics				X	X
GTC100 Technical Mathematics I				X	X
GTC101 Technical Mathematics II				X	X
PHY111 General Physics				X	X
PHY112 General Physics				X	X
PHY230 Physics with Calculus				X	X
PHY231 Physics with Calculus				X	X

Physical & Biological Sciences Requirement	Degree	AA	AS	AGS	AAS
AST180 Astronomy	X	X	X	X	X
BIO101 General Biology	X	X	X	X	X
BIO102 General Biology	X	X	X	X	X
BIO160 Intro to Human Anatomy & Physiology				X	X
BIO183 Marine Biology				X	X
BIO184 Plant Biology	X	X	X	X	X
BIO190 Animal Biology	X	X	X	X	X
BIO191 General Zoology	X	X	X	X	X
BIO192 General Zoology	X	X	X	X	X
BIO201 Human Anatomy & Physiology I	X	X	X	X	X

Physical & Biological Sciences Requirement	Degree				Social & Behavioral Sciences Requirement	Degree			
	AA	AS	AGS	AAS		AA	AS	AGS	AAS
BIO202 Human Anatomy & Physiology II	X	X	X	X	ANT286 Historic Indian Tribes of North America	X	X	X	X
BIO205 Microbiology	X	X	X	X	ANT287 Archaeology of the Southwest	X	X	X	X
BIO226 Ecology	X	X	X	X	BUS109 Survey of American Business			X	X
CHM100 Preparation for Chemistry			X	X	BUS123 Human Resources Management			X	X
CHM130 Fundamental Chemistry	X		X	X	BUS124 Military Organizations & Staff Functions			X	X
CHM140 Fundamental Organic & Biochemistry	X	X	X	X	BUS125 Management & Organizational Behavior			X	X
CHM151 General Chemistry I	X	X	X	X	BUS126 Exploring Your Potential as a Manager			X	X
CHM152 General Chemistry II	X	X	X	X	BUS127 Leadership & Supervision			X	X
CHM235 Organic Chemistry I	X	X	X	X	BUS128 Special Problems in Management			X	X
CHM236 Organic Chemistry II	X	X	X	X	BUS147 Labor Relations			X	X
GEO101 Physical Geography	X	X	X	X	BUS160 Job & Family Success Skills			X	X
GLG101 Intro to Geology I	X	X	X	X	CPD103 Personality and Adjustment			X	X
GLG102 Intro to Geology II	X	X	X	X	CPD105 The Challenge of Parenting			X	X
PHY101 Intro to Physics	X	X	X	X	CPD107 Stress Management			X	X
PHY111 General Physics	X	X	X	X	CPD121 Career and Life Planning			X	X
PHY112 General Physics	X	X	X	X	ECN201 Principles of Economics	X	X	X	X
PHY230 General Physics With Calculus I	X	X	X	X	ECN202 Principles of Economics	X	X	X	X
PHY231 General Physics With Calculus II	X	X	X	X	GEO102 Cultural Geography	X	X	X	X
Social & Behavioral Sciences Requirement	AA	AS	AGS	AAS	GEO104 Political Geography	X	X	X	X
AJS156 Criminology			X	X	GEO105 Economic Geography			X	X
AJS254 Psychology in Law Enforcement			X	X	HIS110 History of the United States	X	X	X	X
ANT101 The Origin and Antiquity of Man	X	X	X	X	HIS111 History of the United States	X	X	X	X
ANT102 Development of Culture	X	X	X	X	HIS115 Survey of the American West	X	X	X	X
ANT125 Society and Culture	X	X	X	X					
ANT235 Introduction to Archaeology	X	X	X	X					
ANT138 Archaeology Site Survey			X	X					
ANT140 Rock Art of American Indian			X	X					
ANT285 Prehistoric Cultures of North America	X	X	X	X					

Social & Behavioral Sciences Requirement	Degree				Social & Behavioral Requirement	Degree			
	AA	AS	AGS	AAS		AA	AS	AGS	AAS
HIS130 Arizona History	X	X	X	X	SOC207 Introduction to Social Welfare			X	X
HIS140 Survey of Western Civilization I	X	X	X	X	SOC210 Marriage and the Family			X	X
HIS141 Survey of Western Civilization II	X	X	X	X	SSV273 Determinants of Human Behavior			X	X
HIS142 Survey of Western Civilization III	X	X	X	X				X	X
HIS160 Introduction to the History of the Soviet Union	X	X	X	X				AA	AS
HIS229 History of Mexico I	X	X	X	X	ANT140 Rock Art of the American Indian			X	X
HIS230 History of Mexico II	X	X	X	X	ART101 Introduction to Art			X	X
JRN101 Intro to Mass Comm	X	X	X	X	ART103 Basic Design	X	X	X	X
LIN101 Introduction to Linguistics	X	X	X	X	ART105 Art in Elementary School			X	X
MED101 Intro to Mass Comm	X	X	X	X	ART106 Basic Drawing	X	X	X	X
OAD 207 Principles of Office Administration				X	ART107 Survey of World Art I	X	X	X	X
POS100 Introduction to Political Science	X	X	X	X	ART108 Survey of World Art II	X	X	X	X
POS110 American National Government	X	X	X	X	ART130 Fundamentals of Painting I			X	X
POS220 National and Arizona Constitution	X	X	X	X	ART131 Fundamentals of Painting II			X	X
POS221 Arizona Constitution	X	X	X	X	ART230 Two Dimensional Design			X	X
POS230 Introduction to International Relations	X	X	X	X	ART231 Three-Dimensional Design			X	X
POS240 Comparative Politics	X	X	X	X	ART245 Beginning Figure Drawing			X	X
PSY101 Introduction to Psychology	X	X	X	X	ART265 Beginning Commercial Design			X	X
PSY210 Social Psychology	X	X	X	X	ART270 Ceramics			X	X
PSY230 Personality Theories & Research	X	X	X	X	ART280 Beginning Painting			X	X
PSY240 Developmental Psychology	X	X	X	X	ART285 Beginning Photography			X	X
PSY250 Introduction to Psychological Research	X	X	X	X	ART286 Intermediate Photography			X	X
PSY290 Experimental Psychology	X	X	X	X	ART290 Sculpture			X	X
SOC101 Introduction to Sociology	X	X	X	X	BUS150 Introduction to Business Ethics			X	X
SOC160 Ethnic Group & Minorities	X	X	X	X	ENG104 Introduction to Literature	X	X	X	X
SOC202 Social Problems	X	X	X	X	ENG112 Children's Literature			X	X
					ENG115 Genealogy of English Words			X	X
					ENG116 Genealogy of English Words			X	X

Arts & Humanities	Degree				Arts & Humanities	Degree			
	AA	AS	AGS	AAS		AA	AS	AGS	AAS
ENG119 Creative Writing			X	X	HUM206 Humanities	X	X	X	X
ENG209 Introduction to Poetry			X	X	HUM207 The Modern World	X	X	X	X
ENG210 The Bible as Literature			X	X	LAT101 Elementary Latin			X	X
ENG219 Advanced Creative Writing			X	X	LAT102 Elementary Latin			X	X
ENG220 British Literature I	X	X	X	X	LIN101 Introduction Linguistics	X	X	X	X
ENG221 British Literature II	X	X	X	X	MUS101 Introduction to Music	X	X	X	X
ENG222 Introduction to Shakespeare	X	X	X	X	MUS102 Introduction to Music	X	X	X	X
ENG224 American Literature I	X	X	X	X	PHI111 Introduction to Philosophy	X	X	X	X
ENG225 American Literature II	X	X	X	X	PHI130 Ethics	X	X	X	X
ENG226 World Literature I	X	X	X	X	PHI140 Death, Dying, Loss and Survival			X	X
ENG227 World Literature II	X	X	X	X	PHI201 Philosophies of the East	X	X	X	X
ENG228 Mythology & Folklore			X	X	PHI202 Philosophy of Religion	X	X	X	X
ENG265 Major Amer. Writers	X	X	X	X	SPA101 Elementary Spanish			X	X
ENG299 Individual Studies *	X	X	X	X	SPA102 Elementary Spanish			X	X
FRE101 Elementary French			X	X	SPA201 Intermediate Spanish			X	X
FRE102 Elementary French			X	X	SPA202 Intermediate Spanish			X	X
FRE201 Intermediate French			X	X	SPA220 Introduction to Spanish Literature	X	X	X	X
FRE202 Intermediate French			X	X	SPA221 Introduction to Spanish Literature	X	X	X	X
GER101 Elementary German			X	X	SPA224 Introduction to Mexican Literature	X	X	X	X
GER102 Elementary German			X	X	THE101 Acting			X	X
GER201 Intermediate German			X	X	THE103 Introduction to Theater	X	X	X	X
GER202 Intermediate German			X	X	THE104 Principles and Techniques of Play Production			X	X
HIS140 Survey of Western Civilization I	X	X	X	X	THE105 Theater Dance			X	X
HIS141 Survey of Western Civilization II	X	X	X	X	THE110 Theater Workshop			X	X
HIS142 Survey of Western Civilization III	X	X	X	X	Composition Requirement	AA	AS	AGS	AAS
HUM100 American Culture			X	X	CIS 179 Applied Tech Writing	X	X		
HUM101 Humanities in Contemporary Life			X	X	CIS 279 Adv App Tech Writing	X	X		
HUM104 Heritage from Mexico			X	X	ENG100 Inter. Writing				X
HUM110 Introduction to Film			X	X	ENG101 Composition	X	X	X	X
HUM115 Cultural Heritage of the Southwest	X	X	X	X	ENG102 Composition	X	X	X	X
HUM167 Cultural Values in the Borderlands Workplace			X	X	ENG103 Advanced Composition	X	X	X	X
HUM205 Humanities	X	X	X	X	ENG106 Intermediate Writing for Foreign Students				X
					ENG107 English Composition for Foreign Students I	X	X	X	X

Composition Requirement	Degree				Physical Education Requirement	Degree			
	AA	AS	AGS	AAS		AA	AS	AGS	AAS
ENG108 English Composition for Foreign Students II	X	X	X	X	All Physical Education Activity Courses	X	X	X	X
ENG109 Written Communications and Reports			X	X					
ENG167 Business English Communications			X	X	*Computer Literacy				X
ENG219 Advanced Creative Writing				X	CIS 116 Learn Microcomputers				X
BUS167 Business Communications			X	X	CIS120 Introduction to Data Processing	X	X	X	X
OAD167 Business Communications			X	X	CIS181 Computer Applications	X	X	X	X
Foreign Language Requirement	Degree				CIS201 PASCAL Programming	X	X	X	X
	AA	AS	AGS	AAS	CIS202 COBOL Programming				X
FRE101 Elementary French	X	X	X		CIS203 FORTRAN Programming				X
FRE102 Elementary French	X	X	X		CIS204 C Programming				X
FRE201 Intermediate French	X	X	X		CIS281 Advanced Computer Applications				X
FRE202 Intermediate French	X	X	X						X
GER101 Elementary German	X	X	X		*Critical Inquiry/Intensive Writing				X
GER102 Elementary German	X	X	X		ENG203 Advanced Composition				X
GER201 Intermediate German	X	X	X		ENG206 Critical Reading & Writing				X
GER202 Intermediate German	X	X	X		ENG220 English Literature I				X
LAT100 Elementary Latin	X	X	X		ENG221 English Literature II				X
LAT102 Elementary Latin	X	X	X		ENG222 Intro To Shakespeare				X
RUS101 Russian	X	X	X		ENG224 American Literature I				X
RUS102 Russian	X	X	X		ENG225 American Literature II				X
SPA101 Elementary Spanish	X	X	X		ENG226 World Literature I				X
SPA102 Elementary Spanish	X	X	X		ENG227 World Literature II				X
SPA201 Intermediate Spanish	X	X	X		ENG265 Major American Writers				X
SPA202 Intermediate Spanish	X	X	X		HUM101 Humanities in Contemporary Life				X
SPA115 Conversational Spanish				X					
SPA116 Conversational Spanish				X	*Critical Thinking				
SPA267 Spanish Business Communications				X	CIS130 Algorithms			X	X
SPA275 Intermediate Spanish Conversation & Composition	X	X	X		PHI113 Intro to Logic & Language			X	X
SPA276 Intermediate Composition & Conversation	X	X	X		PHI130 Ethics				X
SPA290 Fundamentals of Translation & Interpretation	X	X	X		*Communications				
					COM102 Fundamentals of Speech	X			
					OAD209 Business Speech Communications				X

* See your advisor for other possible courses.

Transfer Students — University Bachelor Degree Programs

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

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

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

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

Major	ERAU	NAU	ASU	WNMU	U of A	Major	ERAU	NAU	ASU	WNMU	U of A
Engineering Mathematics				X		Human Services Administration				X	
Engineering Physics				X		Humanities		X	X	X	
Engineering Science		X				Hydrology					X
Engineering, Special Programs	X					Industrial Arts Education		X			
Engineering Technology		X				Industrial Design			X		
English	X	X	X	X		Industrial Engineering			X		X
Entomology					X	Industrial Supervision		X			
Environmental Chemistry	X					Industrial Technology			X		
Environmental Resource in Agriculture			X			Industrial Vocational Education		X			
Environmental Science	X					Instrumental Music		X	X		
Extended English					X	Interdisciplinary Programs (Eng)			X		
Family Resource & Human Development			X			Interdisciplinary Studies	X				X
Finance	X	X			X	Interior Design		X	X		
Food Science					X	International Affairs		X			
Food Service					X	International Business				X	
Forestry	X					Irrigation					X
French	X	X			X	Italian			X		X
General Agriculture					X	Jazz & Studio Performance		X			
General Business			X			Jazz Studies					X
General Business Administration					X	Journalism		X	X		X
General Fine Arts Studies					X	Justice Studies					X
General Home Economics					X	Landscape Architecture					X
General Science		X	X			Language Arts-Social Studies					X
General Studies	X				X	Latin					X
Geochemistry	X					Linguistics					X
Geography	X	X			X	Management		X	X		
Geological Engineering					X	Management Information Systems			X		
Geology (Geosciences)		X	X		X	Marketing		X	X	X	X
German		X			X	Materials Science			X		
Greek					X	Materials Science & Engineering					X
Health Education	X				X	Math Science: Applied Mathematics			X	X	X
Health Services Administration			X			Mathematics		X	X		X
Hispanic			X			Mathematics & Statistics			X		
History	X	X	X		X	Mechanical Engineering		X	X		X
Home Economics			X			Mechanical Engineering Technology			X		
Home Economics & Journalism					X	Media Arts					X
Home Economics Education					X	Medical Technology		X	X	X	X
Home Economics Extension Education			X			Merchandising/Fashion Promotion				X	
Honors	X				X	Mexican American Studies					X
Horticulture					X	Microbiology		X	X		X
Hotel & Restaurant Management		X				Microelectronics Engineering				X	
Housing & Urban Development	X					Technology					X
Human Services			X			Mining Engineering				X	
						Molecular & Cellular Biology					X
						Music			X		X
						Music Education			X		X

Major	ERAU	NAU	ASU	WNMU	U of A	Major	ERAU	NAU	ASU	WNMU	U of A
Music Therapy		X				Theatre		X	X		X
Natural Resource Interpretation	X					Theory & Composition (Music)		X		X	
Natural Resource Recreation		X				Transportation				X	
Nuclear Engineering			X			Urban Planning				X	
Nutritional Sciences			X			Vocational Industrial Education		X			
Occupational Safety & Health		X		X		Voice			X		
Operations Management				X		Watershed Management					X
Operations/Production	X					Wildfire & Fisheries Sciences					X
Oriental Studies				X		Wildlife Biology		X			
Performances (Music)			X			Women's Studies			X		X
Personnel Management			X			Zoology	X	X	X		
Philosophy	X	X		X							
Physical Education	X	X	X	X							
Physical Science	X										
Physical Therapy					X						
Physics	X	X									
Plant Pathology					X						
Political Science	X	X									
Portuguese					X						
Psychology	X	X	X		X						
Public Administration	X	X									
Public Management					X						
Public Planning											
Public Recreation Administration					X						
Public Relations	X										
Purchasing/Materials Management				X							
Quantitative Business Analysis		X									
Radiology		X									
Range Management					X						
Real Estate		X			X						
Recreation		X									
Recreational Leadership	X										
Regional Development					X						
Rehabilitation						X					
Religious Studies	X	X			X						
Russian		X			X						
Russian & Soviet Studies					X						
Social Science (Studies)	X	X									
Sociology	X	X	X		X						
Soil & Water Science					X						
Spanish	X	X				X					
Speech & Hearing		X			X						
Speech Communication											
Speech Pathology & Audiology	X										
Studio Art					X						
Telecommunication	X										

Program Guides

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

Administration of Justice Associate of Applied Science

General Education Requirements

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

Core Curriculum

		Units
The Criminal Justice System	AJS 101	3
Police Science	AJS 105	3
Corrections as a System	AJS 112	3
Juvenile Procedures	AJS 130	3
Criminal Law I	AJS 200	3
Criminal Law II	AJS 201	3
Fundamentals of Speech	COM 102	3

Major Emphasis: Law Enforcement

		Units
Police Patrol Functions	AJS 122	3
Criminal Investigation	AJS 235	3
Forensic Science	AJS 236	3
Police Community Relations	AJS 240	3
Psychology in Law Enforcement	AJS 254	3
Free Elective*		4-6

19-21

or

Major Emphasis: Corrections

		Units
Criminology	AJS 156	3
Community Corrections	AJS 205	3
Penology	AJS 215	3
Social Psychology	PSY 210	3
Free Elective*		7-9

19-21

*Recommended that students take some of these free elective credit as AJS 224 Field Experience in Administration of Justice.

Administration of Justice Associate of General Studies-Transfer

General Education Requirements

		Units
Composition	ENG 101	3
Composition	ENG 102	3
College Algebra	MAT 120/117	3
Laboratory Sciences	(BIO,CHM, GLG,PHY)	8

9-12

Humanities*	9-12
Social Science (must include POS 110, PSY 101, SOC 101)	12
Physical Education	1
Computer Literacy Proficiency and Reading Level Proficiency	

40-43

*See specific university requirements for applicable courses.

Major Emphasis: Northern Arizona University-Criminal Justice/Corrections	Units	Corrections Emphasis	Units		
The Criminal Justice System	AJS 101	3	Juvenile Procedures	AJS 130	3
Juvenile Procedures	AJS 130	3	Corrections as a System	AJS 112	3
Criminology	AJS 156	3	Penology	AJS 215	3
Criminal Law I	AJS 200	3			9
Criminal Law II	AJS 201	3			
Forensic Science	AJS 236	3			
Intro to Data Processing	CIS 120	3			
Business Statistics	BUS 219	3			
		24			

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

Major Emphasis: Arizona State University-Justice Studies Core Curriculum	Units	
The Criminal Justice System	AJS 101	3
Criminology	AJS 156	3
Forensic Science	AJS 236	3
Social Science		3
AJS Elective*		3
	15	

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

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

	Units	
Finite Mathematics	MAT 155	3
Calculus for Business	MAT 256	3
Financial Accounting	BUS 201	3
Managerial Accounting	BUS 202	3
Business Statistics	BUS 219	3
Intro to Data Processing	CIS 120	3
Principles of Macroeconomics	ECN 201	3
Principles of Microeconomics	ECN 202	3
Public Speaking	COM 110	3
	27	

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

Correctional Practices Certificate

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.

Law Enforcement Emphasis	Units	
Police-Community Relations	AJS 240	3
Criminal Law I	AJS 200	3
Criminal Law II	AJS 201	3
AJS Elective*		3
	12	

*See specific university requirements for applicable courses.

Correctional Officer Training Academy Certificate*

		Units
Prisoner's Rights	AJS 109	1
Correctional Institutions	AJS 111	3
Corrections as a System	AJS 112	3
Crisis Intervention	AJS 113	1
Communications in Criminal Justice	AJS 118	1
Firearms	AJS 119	1
Firearms Certification	AJS 120	1
First Aid & CPR	HPE 188	1
		12

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

Parole Officer Certificate**

		Units
Correctional Casework Techniques	AJS 159	3
Identification of Gangs	AJS 161	1
Organization and Impact of Gangs	AJS 162	1
Special Populations I	AJS 163	1
Special Populations II	AJS 164	1
Basic Management Skills	AJS 165	1
Management by Objectives	AJS 167	1
Parole Supervision	AJS 170	3
Correctional Supervision I	AJS 184	3
		17

**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.

Correctional Program Officer Certificate**

	Units
Correctional Casework Techniques	3
Identification of Gangs	1
Organization and Impact of Gangs	1
Special Populations I	1
Special Populations II	1
Basic Management Skills	1
Management by Objectives	1
Correctional Supervision I	3
	12

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

Corrections Management Certificate**

	Units
Basic Management Skills	1
Management by Objectives	1
Correctional Supervision I	3
Correctional Supervision II	3
Correctional Administration	3
Criminal Justice Management Problems	1
	12

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

Agriculture Associate of General Studies

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.

General Education Requirements:

Composition	(ENG 101 plus ENG 102, 109, or 167)	6
Mathematics	(MAT 120/117 College Algebra	3
Critical Inquiry/Intensive Writing or Critical Thinking		3
Physical and Biological Sciences		8
Foreign Languages or Communications		3
Arts and Humanities		6
Social/Behavioral Sciences		6
Computer Literacy		3
Physical Education		2
Computer Literacy Proficiency and Reading Level Proficiency		40

General Chemistry I & II
Approved Agricultural
major emphasis courses

18
66

Agriculture Associate of Applied Science Degree

Freshman	First Semester	Units
Composition	ENG 101	3
General Biology	BIO 102	4
Agriculture Electives		9
Computer Literacy Proficiency		
Reading Level Proficiency		

16

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

Second Semester	Units
English in 100 Level	3
General Biology	4
Agriculture Electives	9

First Semester	Units
Mathematics	3
Chemistry	4
Agriculture Electives	6

16

13

Second Semester	Units
Fundamentals of Speech	3
Social Science/Humanities	3
Agriculture Electives	12

18

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

		Units	Equine Science and Management Certificate	Units
Principles of Veterinary Science	AGR 101	3		
Introduction to Agriculture	AGR 102	3		
Range Management	AGR 105	3		
Farrier Science	AGR 107	3	Core Courses	
Team Roping	AGR 138	3	Science Courses	
Western Horsemanship	AGR 139	3	AGR 101 Principles of Vet. Science	3
Rodeo Skills	AGR 140	3	AGR 105 Range Management	3
English Equitation	AGR 141	3	AGR 230 Animal Feeding	3
Range Plants	AGR 207	3	AGR 237 Horse Science & Management	3
Animal Industry	AGR 208	3	AGR 243 Livestock Production & Mgmt.	3
Auxiliary Engine Operation and Repair	AGR 209	3	Technology Courses	
General Welding	AGR 210	3	AGR 107 Farrier Science	3
Advanced Agriculture Welding	AGR 212	3	AGR 138 Team Roping	3
Agriculture Alloy and Repair Welding	AGR 213	3	AGR 139 Western Horsemanship	3
Animal Feeding	AGR 230	3	AGR 140 Rodeo Skills	3
Horse Science and Management	AGR 237	3	AGR 212 Advanced Agriculture Welding	3
Livestock Production and Management	AGR 243	3	TOTAL	30
Project Welding	AGR 250	3		
Individual Studies	AGR 299	1-4	All these courses are required for the certificate. Two 3-unit courses may be substituted with departmental approval.	

Recommended Business Electives	
Written Communications and Reports	ENG 109
Principles of Management	BUS 143
Business English Communications	OAD 167
Financial Accounting	BUS 201
Introduction to Data Processing	CIS 120

Anthropology Associate of Arts Degree*		
General Education Requirements		Units
Composition	ENG 101	3
Composition	ENG 102	3
Foreign Language (Second semester proficiency)		8
Laboratory Science		8
Math	MAT 120/117 and above	3
Humanities		8-10
Social Science		9-12
Physical Education		2
Computer Literacy Proficiency		
Reading Level Proficiency		

Core Curriculum Courses		Units
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
Recommended Electives*		5-0
		64

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

Art		Units
Associate of Arts		
English 101, 102		6
Mathematics (MAT 120/117 or above)		3
Laboratory Science		8
Social Science *		9
Foreign Language		8
Humanities**		9
Physical Education		2
Computer Literacy Proficiency		
Reading Level Proficiency		45

* Must include HIS 140-141

**Must include ART 107-108

Required courses:		Units
Basic Drawing	ART 103	3
Basic Design	ART 106	3
Two Dimensional Design	ART 230	3
Three Dimensional Design	ART 231	3
Beginning Figure Drawing	ART 245	3
Beginning Painting	ART 280	3
Survey of World Art I	ART 107	3
Survey of World Art II	ART 108	3
		24

Art Electives: Six units of additional coursework

Aviation Maintenance Technology

Associate of Applied Science Degree

Phase		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
General Education Electives (English, Mathematics, Social Science/Humanities; 100 level or above)		18
		105

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

Aviation Maintenance Technology

S.O.C.A.D. Certificate Programs

YUMA ONLY

A professional development program for military aircraft maintenance personnel which prepares people with appropriate aircraft maintenance experience for the FAA written and practical exams

Aviation Maintenance Airframe Certificate Program

YUMA ONLY

General Aeronautics and Applications I	AMT 148	3
General Aeronautics and Applications II	AMT 149	3
Basic Airframe Mechanics I	AMT 151	3
Basic Airframe Mechanics II	AMT 152	3
Advanced Airframe Mechanics I	AMT 211	3
Advanced Airframe Mechanics II	AMT 212	3
Total		18

Aviation Maintenance Powerplant Certificate Program

YUMA ONLY

General Aeronautics and Applications I	AMT 148	3
General Aeronautics and Applications II	AMT 149	3
Basic Aircraft Powerplant Mechanics I	AMT 153	3
Basic Aircraft Powerplant Mechanics II	AMT 154	3
Advanced Aircraft Powerplant Mechanics I	AMT 216	3
Advanced Aircraft Powerplant Mechanics II	AMT 217	3
Total		18

Aviation Maintenance Airframe and Powerplant Certificate Program

YUMA ONLY

General Aeronautics and Applications I	AMT 148	3
General Aeronautics and Applications II	AMT 149	3
Basic Airframe Mechanics I	AMT 151	3
Basic Airframe Mechanics II	AMT 152	3
Advanced Airframe Mechanics I	AMT 211	3
Advanced Airframe Mechanics II	AMT 212	3
Basic Aircraft Powerplant Mechanics I	AMT 153	3
Basic Aircraft Powerplant Mechanics II	AMT 154	3
Advanced Aircraft Powerplant Mechanics I	AMT 216	3
Advanced Aircraft Powerplant Mechanics II	AMT 217	3
Total		30

Professional Pilot Technology Associate of Applied Science Degree

General Education Requirements	Units
Composition	3
Composition	3
Intermediate Algebra	3
Lab Science	4
Physical Education	2
Business Math	3
Financial Accounting	3
Managerial Accounting	3
Human Resources Management	3
Principles of Marketing	3
Principles of Microeconomics	3
Principles of Macroeconomics	3
Principles of Management or Aviation Management	3
PFT 200	3

The Legal Environment of Business or Aviation Law	BUS 233	3	Professional Pilot Technology		
Elective Suggested: Air Transportation	PFT 247		Associate of Science Degree		
Computer Literacy Proficiency and Reading Level Proficiency	PFT 245	3	Stage One - Commercial Pilot		
Core Total		42	Ground School	PFT 101	5
			Solo Flight Preparation	PFT 111	3.5
Core Curriculum Requirements			Cross Country Navigation	PFT 112	1.5
Stage One Commercial and Private Pilot Ground School	PFT 101	5	Private Pilot Certification	PFT 113	1
Solo Flight Preparation Course	PFT 111	3.5	Stage Two - Commercial Pilot		
Cross Country Navigation	PFT 112	1.5	Ground School	PFT 120	5
Private Pilot Certification Completion Course	PFT 113	1	Stage Two - Commercial Pilot		
Stage Two Commercial Ground School	PFT 120	5	Flight Lab	PFT 121	3
Stage Two Commercial Flight Laboratory	PFT 121	3	Stage Three - Commercial Pilot		
Stage Three Commercial Ground School	PFT 130	5	Ground School	PFT 130	5
Stage Three Flight Lab	PFT 131	3	Stage Three - Commercial Pilot		
Stage Four Commercial Pilot Ground School	PFT 204	5	Flight Lab	PFT 131	3
Instrument Flight Navigation and Air Traffic Control Procedures	PFT 214	3.5	Stage Four - Commercial Pilot		
Instrument Flight Cross Country Procedures and Practical Test Preparation	PFT 215	1.5	Ground School	PFT 204	5
Commercial Pilot Completion Course	PFT 218	1	Instrument Flight Navigation and Air Traffic Control Procedures	PFT 214	3.5
Core Curriculum Total		38	Instrument Flight Cross Country Procedures and Practices Test Preparation	PFT 215	1.5
Total Units		80	Commercial Pilot Completion Course		
			Composition	PFT 218	1
Optional Courses			Social/Behavioral Science	ENG 101	3
Private Pilot Practicum	PFT 102	1	Lab Science		3-4
Private Pilot Review	PFT 103	1	Humanities/Fine Arts		3-4
			Physical Education	HPE	2
			College Algebra	MAT 120/117	3
			Composition	ENG 102	3
			Social/Behavioral Science		3
			Humanities/Fine Arts		3-4
			Math	MAT 124 or higher	6-9
			Electives		3
			Computer Literacy Proficiency and Reading Level Proficiency		

Optional Courses

		Units
Private Pilot Practicum	PFT 102	1
Private Pilot Review	PFT 103	1
Commercial Pilot Practicum	PFT 219	1
Commercial Pilot Review	PFT 220	1
Multi-Engine Class Rating		
Ground School	PFT 210	1
Multi-Engine Class Rating Flight	PFT 211	1
Instrument Pilot Practicum	PFT 216	1
Instrument Pilot Review	PFT 217	1
Commercial Pilot Practicum	PFT 219	1
Commercial Pilot Review	PFT 220	1
Flight Instructor Fundamentals		
of Instruction	PFT 230	3
Flight Instructor Airplane		
Ground School	PFT 231	5
Flight Instructor Airplane Flight	PFT 232	3
Flight Instructor Review	PFT 233	1
Flight Instructor Practicum	PFT 234	2.5
Multi-Engine Airplane Instructor		
Ground School	PFT 240	2
Multi-Engine Airplane Instructor		
Flight	PFT 241	2
Instrument Flight Instructor		
Ground School	PFT 250	3
Instrument Flight Instructor Flight	PFT 251	3
Airline Transport Pilot		
Ground School	PFT 260	3
Airline Transport Pilot Flight	PFT 261	

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

Avionics Technology**Certificate Program****Avionics Technology****September and March**

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

16

January and July

Electronic Devices & Circuits I	AVT 112	6
Digital and Logic Devices	AVT 115	6
Pulse and Logic Devices	AVT 118	6

18

March and September

Electronic Communications	AVT 202	6
Electronic Devices & Circuits II	AVT 205	6
Flight Management/Control Systems	AVT 224	6

18

July and January

Navigation Systems	AVT 220	6
FCC/FAA Regulations	AVT 208	4
Aircraft Radar and Pulse Systems	AVT 228	6

16

TOTAL

68

Avionics Technology

Associate of Applied Science

Freshman	First Semester	Units
Composition	ENG 101	3
Introduction to DC Circuits	ELT 105	3
Introduction to AC Circuits	ELT 106	4
Mathematics for Electronics or Social Sciences/Humanities	ELT 110/MAT 110	3
Computer Literacy Proficiency and Reading Level Proficiency		3
		<hr/> 16
Sophomore	Second Semester	Units
Advanced Math for Electronics or	ELT 120	3
Semiconductors & Transistors	MAT 117/120	
Digital Circuits & Systems	ELT 122	4
Avionics Fundamentals*	ELT 233	4
General Education Elective	AVT 127	3
		<hr/> 3
		<hr/> 17
Sophomore	First Semester	Units
Communication Electronics I	ELT 245	4
Pulse Circuits	ELT 231	4
Modern Electronic Devices	ELT 243	4
Microprocessors & Microcomputers	ELT 265	4
General Education Elective		<hr/> 3
		<hr/> 19
Second Semester	Units	
Navigation Systems*	AVT 250	4
Flight Control Systems*	AVT 253	4
Aircraft Radar & Pulse System*	AVT 257	4
Microcomputer Systems*	ELT 270	4
		<hr/> 16

Business Administration

Associate of Science

General Education Requirements		Units
Composition	ENG 101	3
Composition	ENG 102	3
College Algebra	MAT 120/117	3
Finite Math	MAT 155	3
Calculus for Business	MAT 256	3
Social and Behavioral Science/ Humanities		12
Physical Education		2
Lab Science		8
Computer Literacy Proficiency and Reading Level Proficiency		
Core Curriculum Courses		Units
Survey of American Business or	BUS 109	3
Business Ethics	BUS 150	3
Business Communications	BUS 167	3
Statistics	BUS 219	3
Intro to Data Processing	CIS 120	3
Financial Accounting	BUS 201	3
Managerial Accounting	BUS 202	3
Legal Environment of Business	BUS 233	3
Principles of Macroeconomics	ECN 201	3
Principles of Microeconomics	ECN 202	3
Computer Applications	CIS 181	3

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

*Avionics courses offered only on the Douglas Campus.

Professional Administrative Assistant

Associate of Applied Science Degree

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

Executive Microcomputer Accounting Management General

Secretarial Specialist Assistant Support Administration

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.

Core Course Requirements (30 Units)		
Learning to Use Microcomputers	OAD 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		
Word Processing	OAD 213	3
Advanced Word Processing	OAD 214	3
Automated Office Procedures	OAD 210	3
(Legal, Medical or Executive)		
Automated Office Practice	OAD 211	3
(Legal, Medical or Executive)		
Records Management	OAD 206	3
Computerized Office Management	OAD 216	3
Terminology and Transcription	OAD 212	3
(Legal, Medical or Executive)		
Total Core Courses		30

Applied Academic Requirements (24 Units)

Business Communications	OAD 167	3
Business Speech Communications	OAD 209	3
Grammar, Usage & Punctuation	ENG 111	3
Business Math	OAD 104	3
Bookkeeping	OAD 146	3
Principles of Office Administration	OAD 207	3
Management Elective (Select One):		3
Leadership & Supervision	BUS 127	
Introduction to Business Ethics	BUS 150	
Special Problems in Management	BUS 128	
Exploring Your Potential as a Manager	BUS 150	
Technical Presentations or	OAD 268	3
Division Approved Elective		
Computer Literacy Proficiency and		
Reading Level Proficiency		
Total Applied Academic Units		

24

Professional Block (13-15 Units)

Select one area of the following specializations:

Executive Microcomputer Accounting Management General

Secretarial Specialist Assistant Support Administration

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

*Professional Block Options for Executive Secretarial	
Shorthand I (required)	OAD 204
Shorthand II (required)	OAD 205
Advanced Computer Applications	CIS 281
Business Ethics	BUS 150
Business Law	BUS 231
Current Computer Applications	OAD/CIS 193
Advanced Current Computer Applications	OAD 293
Desktop Publishing	CIS 285
Advanced Desktop Publishing	CIS 286
Field Experience in Office Technology	OAD 224
The Legal Environment of Business	BUS 233
Advanced Medical Transcription/ Terminology	OAD 215
PBL Experience	OAD 224
Other Approved	OAD/CIS Courses

*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.

Professional Block Options for Microcomputer Specialist	
Current Computer Applications	OAD/CIS 193
Advanced Current Computer Applications	OAD 293
Desktop Publishing	CIS 285
Advanced Desktop Publishing	CIS 286
Field Experience in Office Technology	OAD 224
Data Base Management	CIS 250
Advanced Computer Applications	CIS 281
PASCAL Programming	CIS 201
AFCEA Experience	CIS 224
Introduction to Data Processing	CIS 120
Other Approved CIS/OAD courses	

Professional Block Options for Accounting Assistant	
Financial Accounting	BUS 201
Managerial Accounting	BUS 202
Advanced Computer Applications	CIS 281
Current Computer Applications	OAD/CIS 193
Advanced Current Computer Applications	OAD 293
Computerized Accounting	OAD 180
Advanced Computerized Accounting	OAD 280
Field Experience in Office Technology	OAD 224
PBL Experience	BUS 224
Other Approved Accounting Courses	

Professional Block Options for Management Support	
Leadership and Supervision	BUS 127
Exploring Your Potential as a Manager	BUS 126
Special Problems in Management	BUS 128
Principles of Management	BUS 143
Human Resources Management	BUS 123
Current Computer Applications	OAD/CIS 193
Advanced Computer Applications	CIS 281
Small Business Management	BUS 283
Business Law	BUS 231
Field Experience in Business	BUS 224
PBL Experience	BUS 224
Other Approved Management Courses	
Professional Block Options for General Administration	
Courses Approved by Divisional Advisor to Equal	13-15 Units
Total Professional Block	13-15 Units
Total AAS Professional Administrative Assistant	67-70 Units

Core Curriculum Requirements	Units
Survey of American Business	3
Principles of Management	3
Principles of Marketing	3
Starting a Business	3
Business Communications	3
Computerized Accounting	3
Computer Applications	3
or equivalent	
Intro to Accounting	3
or	
Financial Accounting	3
Managerial Accounting	3
Business Law I	3
or	
Legal Environment of Business	3
Principles of Microeconomics	3
Small Business Management	3

36

Division Approved Electives	12
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Middle Management

Associate of Applied Science (Non-Transferable)*

General Education Requirements	Units
Composition	ENG 101
Composition	ENG 102
Business Math	BUS 104
Social Science/Humanities	6
General Education Electives	3
Computer Literacy Proficiency and Reading Level Proficiency	

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

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

Business Certificate Programs

Middle Management

Specialist Program (one year)

		Units
Principles of Marketing	BUS 145	3
Principles of Management	BUS 143	3
Human Resources Management	BUS 123	3
Salesmanship	BUS 144	3
Bookkeeping or/ Accounting	BUS 146	
Principles of Finance	BUS 201	3
Small Business Management	BUS 156	3
	BUS 283	3
		<hr/>
		21

Business Electives

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

9

30

Women in Management

Certificate Program

Exploring Your Potential as a Manager

Units

15

Principles of Management	BUS 126	3
Special Problems in Management	BUS 143	3
Human Resources Management	BUS 128	3
Principles of Finance	BUS 123	3
	BUS 156	3
		<hr/>
		15

Office Assistant Certificate

Certificate Prerequisites: Computer Keyboarding, OAD 113, 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
*Grammar Usage & Punctuation	ENG 111	3
Business Communications	OAD 167	3
Business Speech Communications	OAD 209	3
Business Math	OAD 104	3
Bookkeeping	OAD 146	3
Total Applied Academic Units		<hr/> 15

Core Course Requirements

Learning to Use Microcomputers	OAD 116	3
Document Preparation Courses (Two)*		<hr/> 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		
Word Processing or Advanced Word Processing	OAD 213	
	OAD 214	
Total Basic Core Curriculum		<hr/> 12

Professional Block		Units
Automated Office Procedures	OAD 210	3
Automated Office Practice	OAD 211	3
Records Management	OAD 206	3
Total Professional Block		9
Total Office Assistant Certificate		36

Receptionist Certificate

Preparatory Block (Selection determined by Placement Tests)

Reading, Writing, English, Math	3-11	
Keyboarding or Document Preparation	3	
PC Sampler	OAD 115	
Learning to Use Microcomputers	OAD 116	
and Other First Semester Courses		3-9
(12-18 Units Preparatory Block, if needed)		

Core Courses:

Elementary, Intermediate or Advanced Document Preparation	OAD 102, 103 or 201	3
Grammar, Usage and Punctuation	ENG 111	3
Business Math	BUS/OAD 104	3
Learning to Use Microcomputers	OAD 116	3
Automated Office Procedures	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
Total Receptionist Certificate		18

Medical Transcriptionist Certificate

Core Courses:	Units
Advanced or Professional Document Preparation	
Grammar, Usage and Punctuation	
Medical Transcription/Terminology	

Professional Courses:	Units
Automated Office Practice (Medical)	
Advanced Medical Transcription/Terminology	
Field Experience in Office Technology	
Division Approved Medical Electives	
Total Medical Transcriptionist Certificate	21

Computer Information Systems Associate of Applied Science Degree*

General Education Requirements	Units
Applied Technical Writing	
Intermediate Algebra	
Computer Math	
Advanced Applied Technical Writing	
Technical Presentations	
Humanities/Social-Behav. Science	
Reading Level Proficiency	6
Total General Education	21

Major	Units
Financial Accounting	
Managerial Accounting	
Introduction to Data Processing	
Algorithms	
Introduction to Operating Systems	
PC Connectivity	

Programming (Select One):		
Pascal Programming	CIS 201	4
COBOL Programming	CIS 202	
FORTRAN Programming	CIS 203	
C Programming	CIS 204	
ADA Programming	CIS 205	
Data Structures	CIS 220	4
Introduction to Networks	CIS 234	4
Data Base Management	CIS 250	4
Systems Analysis	CIS 270	3
Information Management Division		
Approved Electives		6
Major Total		43
Total Units for Degree		64

*See Information Management Division Advisor

Programming (Select One):		
PASCAL Programming	CIS 201	4
COBOL Programming	CIS 202	
FORTRAN Programming	CIS 203	
C Programming	CIS 204	
ADA Programming	CIS 205	
Systems Analysis	CIS 270	3
Principles of Macro-Economics	ECN 201	3
Principles of Micro-Economics	ECN 202	3
Information Management Division		
Approved Electives		2
Major total		27
Total Units for Degree		64

*See Information Management Division Advisor

Computer Information Systems

Associate of Science Degree*

General Education Requirements

		Units
Composition	ENG 101	3
Composition	ENG 102	3
Humanities/Social		
Behavioral Sciences		12
College Algebra	MAT 120/117	3
Finite Math	MAT 155	3
Calculus for Business	MAT 256	3
Lab Science		8
Physical Education		2
Computer Literacy Proficiency and		
Reading Level Proficiency		
Core total		37

Major

		Units
Financial Accounting	BUS 201	3
Managerial Accounting	BUS 202	3
Introduction to Data Processing	CIS 120	3
Algorithms	CIS 130	3

Computer Science

Associate of Science Degree*

General Education Requirements

		Units
Composition	ENG 101	3
Composition	ENG 102	3
Humanities/Social-Behavioral		
Sciences		12
Calculus I	MAT 261	5
Calculus II	MAT 262	5
Lab Science		8
Physical Education		2
Reading Level Proficiency		
Core Total		38

Major

		Units
Algorithms	CIS130	3

Programming (Select One):	
Intro to PASCAL	CIS 201
FORTRAN Programming	CIS 203
C Programming	CIS 204
ADA Programming	CIS 205
Assembler Programming	CIS 206
Data Structures	CIS 220
Computer Architecture	CIS 222
Discrete Math	MAT 243
Calculus III	MAT 263
Information Management Division Approved Elective	
Major total	26
Total Units for Degree	64

*See Information Management Division Advisor

Microcomputer Practitioner Certificate*

Core:	Units
Introduction to Data Processing	3
Introduction to Operating Systems	3
PC and Printer Support	3
Computer Applications	3
Advanced Computer Applications	3
Technical Writing	3
Technical Presentations	3
Information Management Division Approved Electives	6
Certificate Total	27

*See Information Management Division Advisor

Computer Programmer Certificate*

Core

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
Total		28

*See Information Management Division Advisor

Network Administrator Certificate

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
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
Certificate Total		30

Network Support Certificate*

			Sophomore	First Semester	Units
Computer Math	CIS 110	3	General Organic Chemistry or Elementary German	CHM 235	4
Introduction to Operating Systems	CIS 140	3	Physics	GER 101*	4
PC and Printer Support	CIS 142	3	Calculus II	PHY 111/230	4
PC Connectivity	CIS 150	3	Humanities/Fine Arts	MAT 262	5
Introduction to Networks	CIS 234	4			3-4
Network Management	CIS 235	4			
Network Operating Systems	CIS 236	3	Second Semester	Units	
Service & Maintenance of PC's	CIS 260	3	General Organic Chemistry or Elementary German	CHM 236	4
Network Support and Troubleshooting	CIS 262	3	Physics	GER 102*	4
Field Experience	CIS 294	1	Calculus III	PHY 112/231*	4
Certificate Total		30	Humanities/Fine Arts	MAT 263	3
			Physical Education		3-4
					1
					63-65

*See Information Management Division Advisor

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

*Pre-Dentistry Associate of Science

Chemistry Associate of Science

	Freshman	First Semester	Units	Freshman	First Semester	Units
General Chemistry	CHM 151	4		Elective Physical Education	HPE	1
Composition	ENG 101	3		Composition	ENG 101	3
College Algebra	MAT 120/117	3		College Algebra	MAT 120/117	3
Plane Trigonometry	MAT 124	3		General Chemistry I	CHM 151	4
Social Science		3		General Physics	PHY 111	4
				Social/Behavioral Science		3
		Second Semester	Units	Elective Physical Education	Second Semester	Units
General Chemistry	CHM 152	4		Composition	HPE	1
Composition	ENG 102	3		Trigonometry	ENG 102	3
Calculus I	MAT 261	5		General Chemistry II	MAT 124	3
Social Science		3		General Physics	CHM 152	4
Physical Education		1		Social/Behavioral Science	PHY 112	4

Sophomore	First Semester	Units	Core Curriculum	
General Organic Chemistry I	CHM 235	4	Technical Graphics I	DFT 112
Human Anatomy & Physiology I	BIO 201	4	Technical Graphics II	DFT 113
Humanities or Equivalent	HUM 205	3-4	Mfg. Mat. & Processes I	GTC 105
Elective		3	Mfg. Mat. & Processes II	GTC 106
			Computer Aided Drafting	DFT 150
			Adv. Computer Aided Dft.	DFT 250
General Organic Chemistry II	CHM 236	4	Drafting for Manufacturing	DFT 200
Human Anatomy & Physiology II	BIO 202	4	Drafting for Electronics	DFT 130
Humanities or Equivalent	HUM 206	3-4	Electro-Mechanical Design	DFT 230
Calculus I	MAT 261	5	Tool Design	DFT 240
Computer Literacy Proficiency and Reading Level Proficiency			Spatial Relationships	DFT 120
				<hr/>
				35
				<hr/>
				74

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

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

Drafting Technology Associate of Science

General Education Requirements

Composition	ENG 101	3
Composition	ENG 102	3
College Algebra	MAT 120	3
Trigonometry	MAT 124	3
Calculus I	MAT 261	5
Social/Beh. Science/Humanities		12
Lab Science		8
Physical Education		2
Computer Literacy Proficiency and Reading Level Proficiency		

Drafting Technology

Associate of Applied Science

Freshman	First Semester	Units
Technical Graphics I	DFT 112	3
Spatial Relationships	DFT 120	3
Technical Math I	GTC 100	3
Manufacturing Materials & Processes I	GTC 105	3
Composition	ENG 101	3
Second Semester	Units	
Technical Graphics II	DFT 113	3
Drafting for Electronics	DFT 130	3
Technical Math II	GTC 101	3
Manufacturing Materials & Processes II	GTC 106	3
Composition	ENG 102	3
Sophomore	First Semester	Units
Drafting for Manufacturing	DFT 200	4
Topographical Design & Drafting	DFT 210	4
General Education Electives:		6

	Second Semester	Units
Electro Mechanical Design	DFT 230	3
Construction Drafting	DFT 220	3
Tool Design	DFT 240	4
General Education Electives:		6
Computer Literacy Proficiency and		
Reading Level Proficiency		
		60

Pre-Education Associate of Arts Degree

General Education Requirements		Units
Composition	ENG 101	3
Composition	ENG 102	3
Mathematics	MAT 115 or 116 or 117 or 120 (or higher)	3
Humanities/Fine Arts*		9-12
Intensive Writing/Critical Inquiry	PHI 130	3
Social/Behavioral Science*		9-12
(must include POS 220 and PSY 101)		
Laboratory Science*		8-12

Drafting Technology Certificate Program

	First Semester	Units	(second semester proficiency)		
Technical Graphics I	DFT 112	3	Physical Education		8
Spatial Relationships	DFT 120	3	Computer Literacy Proficiency and		2
Technical Math I	GTC 100	3	Reading Level Proficiency		
Manufacturing Materials & Processes I	GTC 105	3			48-58
General Education Electives:		3	Core Curriculum Courses		Units
			Introduction to Education	EDU 201	3
			Computer Literacy	CIS 181	
				or equivalent	3
			Field Experience in Education	EDU 224	1-3
Second Semester	Units				7-9
Technical Graphics II	DFT 113	3			
Drafting for Electronics	DFT 130	3	Recommended Electives*		
Technical Math II	GTC 101	3	History of the U.S.	HIS 110/111	3
Manufacturing Materials & Processes II	GTC 106	3	School and Community Health	HPE 186	3
General Education Electives:		3	Ethnic/Gender Awareness	SOC 160	3
			TOTAL		64

*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.

Teacher Aide Certificate Program

		Units
Composition	ENG 101	3
Mathematics	MAT 010 or higher	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
Introduction to Art	ART 101	3
Basic Design	ART 103	3
Art in the Elementary Sch.	ART 105	3
Basic Drawing	ART 106	3
Survey of World Art	ART 107	3
Survey of World Art	ART 108	3
Psychology and/or Counseling (one of the following)		3
Intro to Psychology	PSY 101	3
The Growing Yrs (Telecourse)	CPD 100	3
The Challenge of Parenting	CPD 105	3
Personality & Adjustment	CPD 103	3
Sociology (one of the following)		3
Intro to Sociology	SOC 101	3
Ethnic Groups & Minorities	SOC 160	3
Social Problems	SOC 202	3
Computers (one of the following)		3
Intro to Data Processing	CIS 120	3
Computer Applications	CIS 181	3

Electronics Technology Associate of Science Degree

	Freshman	First Semester	Units
Composition	ENG 101	ENG 101	3
College Algebra	MAT 120/117	MAT 120/117	3
General Physics	PHY 111	PHY 111	4
Introduction to D.C. Circuits	ELT 105	ELT 105	3
Introduction to A.C. Circuits	ELT 106	ELT 106	4
		Second Semester	Units
Composition	ENG 102	ENG 102	3
Plane Trigonometry	MAT 124	MAT 124	3
General Physics	PHY 112	PHY 112	4
Semiconductors & Transistors	ELT 122	ELT 122	4
Electronic Circuits & Systems	ELT 125	ELT 125	4
	Sophomore	First Semester	Units
Social/Behavioral Science	ELT 231	ELT 231	4
Pulse Circuits	ELT 233	ELT 233	4
Digital Circuits	ELT 243	ELT 243	4
Modern Electrical Devices	ART 105	ART 105	3
Humanities/Fine Arts	ART 106	ART 106	3
Physical Education	ART 107	ART 107	1
		Second Semester	Units
Social/Behavioral Science	ART 108	ART 108	3
Physical Education	PSY 101	PSY 101	1
Calculus I	CPD 100	CPD 100	5
Humanities/Fine Arts	CPD 105	CPD 105	3
Microprocessors & Microcomputers	CPD 103	CPD 103	4
Computer Literacy Proficiency and Reading Level Proficiency	SOC 101	SOC 101	
	SOC 160	SOC 160	
	SOC 202	SOC 202	
	CIS 120	CIS 120	
	CIS 181	CIS 181	

Electronics Technology

Associate of Applied Science Degree

Freshman	First Semester	Units
Composition	ENG 101	3
Introduction to DC Circuits	ELT 105	3
Introduction to AC Circuits	ELT 106	4
Math for Electronics or Basic Computer Programming	ELT 110 MAT 110 ELT 107	3 3

	Second Semester	Units
Advanced Math for Electronics or MAT 120/117	ELT 120	3
Semiconductors & Transistors	ELT 122	4
Electronic Circuits & Systems	ELT 125	4
Electives		3
Social Science/Humanities		3

Sophomore	First Semester	Units
Pulse Circuits	ELT 231	4
Digital Circuits	ELT 233	4
Modern Electrical Devices	ELT 243	4
Communications Electronics	ELT 245	4

	Second Semester	Units
Communications Elect II	ELT 247	4
Avionics	ELT 260	4
Microprocessors & Microcomputers	ELT 265	4
Computer Literacy Proficiency and Reading Level Proficiency		
Electives		

English

Associate of Arts

	Units
Composition	ENG 101, 102
Mathematics	Mat 120/117 or above
Laboratory Science	
Humanities	8-9
Social Science	9
Foreign Language	8
Physical Education	2
Computer Literacy Proficiency and Reading Level Proficiency	

44-45

Additional units from the following: (6) ENG 203, 104, 220, 221, 222, 224, 225, 226, 227.

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

Pre-Engineering

Associate of Science

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

Second Semester	Units
Composition	ENG 102
Calculus I	MAT 261
General Chemistry II	CHM 152
Humanities/Fine Arts	
Principles of Macroeconomics	ECN 201
Physical Education	1

Sophomore	First Semester	Units	Core Curriculum	Units
Calculus II	MAT 262	5	Computer Applications	3
Physics with Calculus	PHY 230	4	Fundamentals of Fire Prevention	3
Social/Behavioral Science		3	Fire Fighter I	6
Humanities/Fine Arts		3-4	Fire Fighter II	6
Fortran Programming	CIS 203	3	Fire Service Hydraulics	3
	Second Semester	Units	Fire Apparatus & Equipment	3
Calculus III	MAT 263	3	Rescue Practices	3
Physics with Calculus	PHY 231	4	Fire Fighting Tactics & Strategies	3
Humanities/Fine Arts		3	Supervisory Training for Firefighters	3
Social/Behavioral Science		3	Hazardous Material Incident	
Electives		6	(First Responder)	3
Computer Literacy Proficiency and			Emergency Medical Technology	7
Reading Level Proficiency			Field Experience in Fire Science	
			Technology	3
				<hr/>
				49
			Total AAS Degree Requirements	71

Consult your counselor as to transferability, differences exist depending upon 4 year university requirements.

*Check with advisor.

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

Fire Science Technology Associate of Applied Science

General Education Requirements		Units
Composition	ENG 101, 102	6
Written Communications & Reports	ENG 109	3
Intermediate Algebra	MAT 110	3
Fundamentals of Speech	COM 102	3
Social Science or Humanities		3
Stress Management	CPD 107	2
Physical Education	HPE	2
Computer Literacy Proficiency and		
Reading Level Proficiency		

22

Fire Fighter Level I		Units
Intro 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
		<hr/>
		49
	Total AAS Degree Requirements	71

Fire Science Technology Certificate Program

Fire Fighter Level I		Units
Intro 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	COM 109 (3 Units)	
and		
Special Topics in Fire Science		
(National Fire Academy/		
Field Courses)*		5
or		
Special Topics in Fire Science		
(National Fire Academy/		
Field Courses)*		
	FST 193 (2 Units)	
Special Topics in Fire Science		
(National Fire Academy/		
Field Courses)*		
	FST 193	5
		<hr/>
		30

Fire Fighter Level II		Units	Sophomore	First Semester	Units
Fire Fighter II	FST 111	6	Principles of Macroeconomics	ECN 201	3
Fire Service Hydraulics	FST 120	3	Plant Biology	BIO 184	4
Fire Apparatus & Equipment	FST 200	3	Business Statistics	BUS 219	3
Rescue Practices	FST 220	3	Fundamentals of Speech	COM 102	3
Fire Fighting Tactics and Strategy	FST 240	3	Elective or Finite Math	MAT 155	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	<u>3</u> <u>30</u>	Principles of Microeconomics	ECN 202	3
			Animal Biology	BIO 190	4
			Controlled Elective		4
			Written Communications and Reports	ENG 109	3
			Elective		3
			Calculus I or Business w/Calculus and Elective	MAT 261	5-6
			Computer Literacy Proficiency and Reading Level Proficiency	MAT 256	
			Total Units		
					<u>67</u>

*or coursework from the Fire Science Technology AAS degree
General Education Requirements.

Pre-Forestry Associate of General Studies

Freshman	First Semester	Units
Composition	ENG 101	3
Physical Education	HPE	1
College Algebra	MAT 120/117	3
Intro. Data Processing	CIS 120	3
Humanities		3
Intro to Geology (Physical)	GLG 101	4
Second Semester	Units	
Composition	ENG 102	3
Physical Education	HPE	1
Plane Trigonometry	MAT 124	3
Fundamental Chemistry	CHM 130	4
Humanities		3
Social Science Elective		3

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

History

Associate of Arts

General Education Requirements*

Composition	ENG 101	3
Composition	ENG 102	3
Laboratory Science		8
Humanities/Fine Arts		9-12
Social Science		9-12
Foreign Language (2nd Semester Proficiency)		8
Physical Education		2
College Algebra (or above)	MAT 120/117	3
Computer Literacy Proficiency and Reading Level Proficiency		

Units

45-51

Core Curriculum Courses

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
Recommended Electives*		4-0

Units

64-65

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

Hospitality Administration

Certificate Program

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
Total		33

Recommended Electives

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

Hospitality Administration

Associate of Applied Science

General Education Requirements

Composition	ENG 101	3
Composition	ENG 102	3
College Algebra	MAT 120	3
Foreign Language (101 or higher)		8
Lab Science		8
Geography	GEO 102, 104 or 105	3
Humanities	HUM 205 or 206, JRN 101 or ART 101,	3
Physical Education		2
Computer Literacy Proficiency and Reading Level Proficiency		

33

Core Curriculum			General Education Requirements:	Units
Intro to the Hospitality Industry	HAD 100	3	ENG 101/107 with a grade of "C" or better	3
Intro to Property Management	HAD 120	3	Coursework of "C" or better or equivalent proficiency measured by college placement exams:	
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		
		33		
Degree Total		66		
Recommended Electives			Required Courses:	
Commercial Food Preparation Theory	HAD 240	3	Humanities in Contemporary Life	3
Advanced Commercial Food Preparation and Lab	HAD 241	4	Heritage from Mexico	3
Field Experience in Hospitality	HAD 224	1-6	Cultural Values in the Borderlands	
			Workplace	3
			Spanish Business Communications	3
			Business English Communications	3
			Effective Messages or Fundamentals of Translation & Interpretation	
			Word Processing	3
			(or more advanced)	3
				21

International Communications Certificate Program

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

International Studies

Associate of Arts
Transfer to NAU or UA

General Education Requirements

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

		Units
Composition	ENG 101	3
Composition	ENG 102	3
College Algebra	MAT 120/117	3
Laboratory Science		8
Physical Education		1
Computer Literacy Proficiency and Reading Level Proficiency		

Core Curriculum		Units	Latin American Emphasis	Units
Introduction to International Relations	POS 230	3	Foreign Language: Spanish 101, 102, 201, 202 or equivalent proficiency demonstrated by placement exam	
Humanities	HUM 205	3	Heritage from Mexico	
Humanities	HUM 206	3	History of Mexico I	
Principles of Macroeconomics	ECN 201	3	History of Mexico II	
Principles of Microeconomics	ECN 202	3	HUM 104	3
			HIS 229	3
			HIS 230	3
				<u>17-25</u>

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

Business Emphasis		Units
Financial Accounting	BUS 201	3
Managerial Accounting	BUS 202	3
COBOL Programming	CIS 202	4
Foreign Language: German or Spanish 101, 102, 201, 202 or equivalent proficiency demonstrated by placement exam.		8-16

European Emphasis:		Units
Foreign Language choice: French and/or German 101, 102, 201, 202 or equivalent proficiency demonstrated by placement exam		20-26
World Literature	ENG 226	3
History of Western Civilization	HIS 140	3
History of Western Civilization	HIS 141	3
		<u>17-25</u>

Journalism Associate of Arts

Freshman	First Semester	Units
Composition	ENG 101	3
Elective Physical Education	HPE	1
Elective Foreign Language		4
Elective Lab Science or Math		3-4
Elective Social/Behavioral Science		3

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

Sophomore	First Semester	Units
Critical Reading and Writing	ENG 206	3
Elective Foreign Language		4
Basic Reporting	JRN 102	3
Humanities/Fine Arts		3-4
Elective Social/Behavioral Science		3

	Second Semester Units	
Intermediate Reporting	JRN 103	3
Elective Foreign Language		4
Creative Writing	ENG 119	3
Humanities/Fine Arts		3-4
Elective Social/Behavioral Science		3
Computer Literacy Proficiency and Reading Level Proficiency		

Pre-Law Associate of Arts

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

The following suggested program may improve the student's ability to pass the LSAT test to succeed in law school once admitted.

Computer Literacy Proficiency and Reading Level Proficiency
Mathematics (MAT 120/117 and above)
Composition (ENG 101, 102, 103 and 206)
Economics (ECN 201 and 202)
Political Science
History
Philosophy (PHI 111, 113, or 130)
Speech (COM 102, 110, or 115)
Criminal Law (AJS 200 and 201)
Business Law (BUS 231 and 232)

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

Liberal Arts Associate of Arts

General Education Requirements*	Units
Composition	ENG 101
Composition	ENG 102
Humanities/Fine Arts	9-12
Social Science	12
College Algebra (or above)	MAT 120/117
Laboratory Science	8
Foreign Language (2nd Semester Proficiency)	8
Physical Education	2
Computer Literacy Proficiency and Reading Level Proficiency	
Recommended Electives*	16-13

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

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

Life Sciences Associate of Science (Biology, Botany, Ecology, Genetics, Zoology)

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

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

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

	Second Semester	Units
**Controlled Electives		8
Calculus I	MAT 261 (or above)	5
Total		13
Computer Literacy Proficiency and Reading Level Proficiency		
Total Units		67

*See University Transfer Curriculum Guide for applicable courses.
 **Controlled Electives may be selected from the following:
 CHM 235-236 General Organic Chemistry I and II
 BIO 226 Ecology
 CIS 120 Introduction to Data Processing
 GEO 101 Physical Geography
 BIO 205 Microbiology
 PHY 111-112 General Physics I and II
 PHY 230-231 Physics with Calculus
 Any other science department approved course
 Selection of Controlled Electives depends on University. See Area Advisor.

Life Sciences
Associate of Arts
(Biology, Botany, Ecology, Genetics, Zoology)

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

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

	First Semester	Units
Sophomore		
***Controlled electives		8
**Foreign Language		4
*Social Science		3
*Humanities		3
Total		18

	Second Semester	Units
***Controlled Electives	8	
**Foreign Language	4	
*Humanities	3	
Total	15	
Computer Literacy Proficiency and Reading Level Proficiency		
Total Units	69	

*See University Transfer Curriculum Guide for applicable courses.

**Second semester proficiency.

***Controlled Electives may be selected from the following:

CHM 235-236 General Organic Chemistry I and II

PHY 111-112 General Physics I and II

BIO 226 Ecology

BIO 205 Microbiology

CIS 120 Introduction to Data Processing

GEO 101 Physical Geography

Any other science department approved course

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

Machine Technology

Machinists Standard Technical Certificate

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

Manufacturing Technology Associate of Applied Science

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

Second Semester	Units
Intermediate Algebra	3
Composition or Written Communications & Reports	3
Technical Graphics II	3
Arc Welding	3
Machine Shop for Technicians II	3
General Physics	4
	19

Sophomore	First Semester	Units
College Algebra	MAT 120/117	3
Humanities/Social Science		3
Manufacturing Materials & Processes I	GTC 105	3
Drafting for Manufacturing	DFT 200	4
Welding	WLD 207	3
Physical Education		1
		17

	Second Semester	Units
Plane Trigonometry	MAT 124	3
Manufacturing Materials & Processing II	GTC 106	3
Computer-Aided Drafting	DFT 150	3
Introduction to DC Circuits	ELT 105	3
Introduction to AC Circuits	ELT 106	4
Principles of Management	BUS 143	3
		<hr/>
		19

Computer Literacy Proficiency and Reading Level Proficiency

***Major Emphasis**

Welding:	DFT 299	
	WLD 210	
	WLD 211	
	WLD 215	
Drafting:	DFT 120	
	DFT 130	
	DFT 240	
	DFT 299	
Electronics:	ELT 122	
	ELT 265	
	DFT 130	
	DFT 230	

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

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

**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
Composition	ENG 101 and 102 6
MAT 120 or higher	3
*Lab Science	8
Critical Reading and Writing	ENG 206 3
Foreign Language Proficiency	8
(or equivalent proficiency)	
*Social Sciences	9-12
*Humanities/Fine Arts	9-12
Physical Education	2
*Electives	3-0
Computer Literacy Proficiency and Reading Level Proficiency	
Total	46-51

Media Core Courses		
Public Speaking	COM 110	3
Mass Communications	MED/JRN 101	3
Writing for Publications	MED/JRN 102	3
Desktop Publishing (or equivalent proficiency)	MED/JRN/CIS 285	3
ART/MED (Visual Arts Elective)		3
Total		18

*Specific options to be chosen according to requirements or the university to which the student plans to transfer.

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

Media Arts

Print Media 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:

Composition*	ENG 101	3
Business Math*	BUS 104	3
Keyboarding*	OAD 101	3
Word Processing*	OAD 213	3
Speech*	COM 102	3

*or equivalent proficiency as demonstrated by placement/testing.

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

Mass Communications	MED/JRN 101	3
Intro to Desktop Publishing	MED/JRN207/CIS285	3
Computer Art and Design		3
Advertising and Public Relations	MED/BUS 148	3
Basic Reporting	JRN 102	3
Field Experience in Communications/ Media Technology	JRN 224	3
Advanced Reporting,	JRN 103, recommended	

Those interested in graphic design are encouraged to take ART 103 and ART 265.

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

Computer Literacy Proficiency and

Reading Level Proficiency

Composition	ENG 101	3
Business Math	BUS 104	3
(or any math meeting the AAS degree math requirement)		
Fundamentals of Speech	COM 102	3
Advertising and Public Relations	ENG 109	3
Principles of Macroeconomics	ECN 201	3
Ethics	PHI 130 or BUS 150	3
Survey of Western Civilization	HIS 142 or	
The Modern World	HUM 207	3
TOTAL		34

Print Emphasis			Sophomore	First Semester	Units
Intro to Mass Communications	MED/JRN 101	3	Science Electives*		8
Basic Reporting	MED/JRN 102	3	Humanities/Fine Arts		3-4
Student Newspaper	MED/JRN 201	3	Calculus I	MAT 261	5
Intro to Desktop Publishing	MED/JRN 207 or CIS 285	3			
Advanced Desktop Publishing	MED/JRN208 or CIS 286	3	Second Semester	Units	
Field Experience in Communication/ Media Technology	JRN 224	3	Science Electives*		8
Mirage: Production of Literary Magazine	MED 299	3	Humanities/Fine Arts		3-4
TOTAL		<u>21</u>	Social/Behavioral Science		<u>3</u>
			Total Units		64-65
			Computer Literacy Proficiency and Reading Level Proficiency		

Additional credits 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.

*Science Electives may include:

BIO 205 Microbiology

BIO 226 Ecology

CHM 235-236 General Organic Chemistry I and II

PHY 111-112 General Physics I and II

Check transfer curriculum guide for the university you plan to transfer to.

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

Pre-Med Associate of Science

	First Semester	Units
Freshman		
Composition	ENG 101	3
Physical Education	HPE	1
General Chemistry I	CHM 151	4
Plant Biology	BIO 184	4
College Algebra	MAT 120/117	3

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

Motor Transport Technology Certificate

	Units	
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	<u>5.5</u>
		<u>16</u>

Nursing

Nursing Assistant – Certificate

Practical Nurse – Certificate

Associate Degree Nurse – Associate of Applied Sciences

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

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-acutely 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 four semester 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	Units
Human Anatomy & Physiology I	BIO 201	4
Composition	ENG 101	3
Nursing I	NUR 122	8
Medication Math	NUR 121	1
		16

Second Semester	Units
Human Anatomy & Physiology II	4
Intro to Psychology	3
Nursing II	10
	17

First year total 33

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

Sophomore	Third Semester	Units
Microbiology	BIO 205	4
Anthropology or	ANT 102	3
Sociology	SOC 101	3
Controlled Elective		3
Nursing III	NUR 232	9
		19

Fourth Semester		Units		Second Semester Units
Fundamental Chemistry or	CHM 130	4	Composition	ENG 102 3
General Chemistry I	CHM 151		General Chemistry II	CHM 152 4
English Composition	ENG 102	3	Elective Physical Education	HPE 1
Nursing IV	NUR 233	9	Trigonometry	MAT 124 3
		16	General Physics II	PHY 112 4
			Social/Behavioral Science	
				3
Second year total		35		
Program total		68		

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

Acceptance into the Nursing Program does not guarantee successful completion of the program. Attendance at classes and clinical requires travel to both campuses and clinical locations at Douglas, Bisbee, and Sierra Vista. Experience in a clinical agency is essential to complete this program. Eligibility for placement in a clinical agency is decided by the faculty. Its decision is based on the mental and psychological status of the student, as well as performance in class and skills laboratory. Any possible legal impediment to licensure must be made known to the Nursing Division prior to assignment to a clinical agency. Acceptance into the program and/or successful completion of the program does not guarantee a license will be granted by the Arizona State Board of Nursing or any other State Board of Nursing at either the Practical Nurse or Registered Nurse levels.

Composition	ENG 102	3
General Chemistry II	CHM 152	4
Elective Physical Education	HPE	1
Trigonometry	MAT 124	3
General Physics II	PHY 112	4
Social/Behavioral Science		3

Sophomore	First Semester	Units
Calculus I	MAT 261	5
Human Anatomy & Physiology I	BIO 201	4
Elective Humanities/Fine Arts		3-4
Fundamentals of Speech	COM 102	3
Principles of Macroeconomics	ECN 201	3

Second Semester Units
Human Anatomy & Physiology II
Chemistry Elective
Elective Humanities/Fine Arts
Intro to Sociology
Introduction to Psychology
Computer Literacy Proficiency and Reading Level Proficiency

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

Physical Education Associate of Arts

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

Pre-Pharmacy Associate of Science

	First Semester	Units
Freshman		
Composition	ENG 101	3
General Chemistry I	CHM 151	4
Elective Physical Education	HPE	1
College Algebra	MAT 120/117	3
General Physics I	PHY 111	4
Social/Behavioral Science		3

Core Curriculum Courses		Units	General Education Requirements		Units
Physical Education Activity Courses		4-5	Composition	ENG 101 and ENG 102	3 3
Orientation to Physical Education	HPE 180	3	Mathematics	MAT 117/ ...	3
First Aid & Safety, or	HPE 189		Humanities/Fine Arts*		6-9
First Aid & CPR	HPE 188	1-3	Intensive Writing/Critical Inquiry	PHI 130	3
Personal Health	HPE 187	3	Foreign Language/Communications	COM 102 or foreign language	3-4
Care & Prevention of Athletic Injuries	HPE 197	3	Social/Behavioral Science*		6-9
Coaching Theory (HPE 192, 193, 194, or 195)		2-3	(must include PSY 101)		
Health and Physical Education Electives		6-0	Computer Literacy	CIS 181 or equivalent	3
		22-20	Physical Education		2

Recommended Health and Physical Education Electives

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

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

Composition	ENG 101 and ENG 102	3 3
Mathematics	MAT 117/ ...	3
Humanities/Fine Arts*		6-9
Intensive Writing/Critical Inquiry	PHI 130	3
Foreign Language/Communications	COM 102 or foreign language	3-4
Social/Behavioral Science*		6-9
(must include PSY 101)		
Computer Literacy	CIS 181 or equivalent	3
Physical Education		2
Computer Literacy Proficiency and Reading Level Proficiency		
Total		32-39

Core Curriculum Courses:

Animal Biology	BIO 190	4
General Chemistry I	CHM 151	4
General Chemistry II	CHM 152	4
General Physics I	PHY 111	4
General Physics II	PHY 112	4
Human Anatomy & Physiology I	BIO 201	4
Human Anatomy & Physiology II	BIO 202	4
Intro to Physical Therapy	HPE 250	3

Total

Total Units

31

64-67

*See major area advisor 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.

Pre-Physical Therapy Associate of General Studies

Cochise College offers a Pre-Physical Therapy Associate of General Studies Degree Program which enables the student to fulfill university lower division requirements. It is important to note that licensing as a physical therapist requires graduate education, usually in the form of a Master's Degree. Since university requirements differ widely, students must see a Cochise College Pre-Physical Therapy faculty advisor or counselor to plan an appropriate program of study.

Political Science Associate of Arts

General Education Requirements*

		Units
Composition	ENG 101	3
Composition	ENG 102	3
College Algebra	MAT 120/117	3
Humanities/Fine Arts*		9-12
Laboratory Science*		8
Foreign Language (Second Semester Proficiency)		8
Social Science		9-12
Physical Education		2
Computer Literacy Proficiency and Reading Level Proficiency		45-51

Core Curriculum Courses **

Introduction to Political Science	POS 100	3
American National Government	POS 110	3
World Politics	POS 230	3
Comparative Politics	POS 240	3
Arizona Constitution (fulfills teaching certification requirements)	POS 221	1
		13

*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.

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

Power Plant Operations Associate of Applied Science

Majors*: Mechanical Maintenance
Instrumentation and Controls
Power Controls
Electrical Maintenance

General Education Requirements	Units
Composition	ENG 101
Written Communications & Reports	ENG 109
Intermediate Algebra	MAT 110
Management & Organizational Behavior or Leadership & Supervision	BUS 125
Electives (lab science and/or MAT 120 and above)	BUS 127
Computer Literacy Proficiency and Reading Level Proficiency	
TOTAL	18
Core Courses	Units
Power Plant Operations	5
Cooperative Education	12
TOTAL	17
Major	29-30
TOTAL AAS Degree	64-65

*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.

Majors

Mechanical Maintenance	Units
Maintenance & Mechanical I	5
Maintenance & Mechanical II	5
Maintenance & Mechanical III	5
Maintenance & Mechanical IV	5
Maintenance & Mechanical V	5
Safety	5
Basic Electricity	2
TOTAL	30

Instrumentation & Controls

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
TOTAL		30

Power Control

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
TOTAL		30

Electrical Maintenance

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		30

Psychology

Associate of Arts, Associate of Science

General Education Requirements	AA	AS
English Composition ENG 101,		
ENG 102	6	6
Humanities*	8	12
Laboratory Science*	8	8
Mathematics MAT 120/117		
or above	3	11
Foreign Language*	8	0
(2nd Semester Proficiency)		
Physical Education	2	2
Free Elective	11-12	7-8
Computer Literacy Proficiency and		
Reading Level Proficiency		

Core Curriculum Courses

Introduction to Psychology

Introduction to Psychological

Research, Measurement and Statistics

PSY 250 3

Experimental Psychology PSY 290 3 **Required Electives (Two of the Following)**

Required Electives

Social Psychology PSY 210 Personality Theory & Research	3	3
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Personality Theory & Research PSY 230

Developmental Psychology PSY 240 3 3

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

Social Services

Associate of General Studies

General Education Requirements*

		Units
English Composition	ENG 101	3
English Composition	ENG 102	3
Laboratory Science		8
Mathematics or above*	MAT 120/117	3
Humanities/Fine Arts		8
Physical Education		2
Recommended Electives		3
Computer Literacy Proficiency and Reading Level Proficiency		

Core Curriculum Courses*

		Units
Introduction to Sociology	SOC 101	3
Social Problems	SOC 202	3
Introduction to Social Welfare	SOC 207	3
Marriage & the Family	SOC 210	3
Economics	ECN 201 or 202	3
American National Government	POS 110	3
Introduction to Psychology	PSY 101	3
Developmental Psychology	PSY 240	3
Psychological Statistics	PSY 250	3
Ethnic Groups & Minorities	SOC 160	3
Introduction to Philosophy	PHI 111	3
		64

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

Social Services

Associate of Applied Science

General Education Requirements*

		Units
English Composition	ENG 101	3
English Composition	ENG 102	3
Mathematics/Science		6
Electives		6-3
Computer Literacy Proficiency and Reading Level Proficiency		

Core Curriculum Courses*

		Units
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
		32-36

Major Emphasis

Total 15

Total 65-69

Recommended Electives

		Units
Criminal Law	AJS 200	3
Psychology in Law Enforcement	AJS 254	3
History		3
Social Psychology	PSY 210	3
Developmental Psychology	PSY 240	3
Human Anatomy & Physiology I	BIO 201	4

Major Emphasis

The student can choose one of the following Major Emphasis.

Social Services in Corrections

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

Guidance and Counseling

		Units
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
Elective		<u>3</u>
		<u>15</u>

Social Work

		Units
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
Elective		<u>3</u>
		<u>15</u>

Rehabilitation

		Units
Loss, Grief, and Dying	SSV 190	3
Substance Abuse	SSV 193	3
Determinants of Human Behavior	SSV 273	3
Elective		<u>6</u>
		<u>15</u>

Social Services

Associate of Arts Degree

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

*See specific university requirements for applicable courses.

Major Emphasis: Arizona State University: Social Work

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

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

Major Emphasis: University of Arizona:
Criminal Justice Administration

		Units	
The Criminal Justice System	AJS 101	3	
Finite Math	MAT 155	3	
Calculus for Business	MAT 256	3	
Business	BUS 201	3	
	CIS 120	3	
	BUS 219	3	
Speech	COM 110 or 102	3	
		<u>21</u>	

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

Speech	COM 110 or 102	3	
Recommended Electives		18	
		<u>21</u>	

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

Major Emphasis: University of Arizona:
Rehabilitation

Human Anatomy & Physiology I	BIO 201	4	
II	BIO 202	4	
Recommended Electives		12	
		<u>20</u>	

Major Emphasis: Northern Arizona University:
Gerontology

Human Anatomy & Physiology I	BIO 201	4	
II	BIO 202	4	
Recommended Electives		12	
		<u>20</u>	

Recommended Electives

Sociology	SOC 160	3	
	SOC 202	3	
	SOC 207	3	
Economics	ECN 201	3	
	ECN 202	3	
Anthropology	ANT 102	3	
Social Services	SSV 190	3	
	SSV 193	3	
	SSV 273	3	

Social Services

Certificate Program

		Units
Social Problems	SOC 202	3
or Ethnic Groups & Min.	SOC 160	
or Society & Culture	ANT 102	
Intro to Psychology	PSY 101	3
Intro to Sociology	SOC 101	3
Intro to Social Welfare	SOC 207	3
Composition	ENG 101	3
Five (5) courses selected from one of the Social Services AAS Degree Program Major Emphases.		

Spanish
Associate of Arts

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

Required Courses:

SPA 201, 202	8
Recommended Electives:	12

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

Supervisory Management

Certificate

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

		Units	
Management Skills	PAD 101	2	
The Manager and Systems			
Relationships	PAD 102	2	
The Manager and the Work Group	PAD 103	2	
Composition*	ENG 101	3	
MAT*	Any level	3	
Recommended Electives*		3	
		15	

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

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

Leadership and Management Systems Approach to Public Management	PAD 201	4
The Decision-Making Process and Case Method Analysis	PAD 202	3
Composition, or	ENG 102	3
Written Reports*	ENG 109	3
Recommended Electives*		2-3
		15-16

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

Recommended Electives:	Units
Introduction to Sociology	3
Social Problems	3
Introduction to Social Welfare	3
Introduction to Psychology	3
American National Government	3
National and Arizona Constitution	3

Certified Public Manager

Certificate

Program Prerequisites:

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

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
Computers Applications	CIS 181	3
Principles of Macroeconomics or	ECN 201	3
Principles of Microeconomics	ECN 202	3

*Pre-Veterinary Associate of Science

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

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

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

	Second Semester	Units	
General Physics	PHY 112	4	
Science Elective*		4	
Calculus I	MAT 261	5	
Microbiology	BIO 205	4	
Total Units		67-69	
Computer Literacy Proficiency and Reading Level Proficiency			

*Science Elective may be selected from:

BIO 226 Ecology
CHM 235-236 General Organic Chemistry I and II
CIS 120 Introduction to Data Processing

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

Welding Certificate Program

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

*Offered at Sierra Vista Campus only.

Welding Technology Associate Of Science Degree

Freshman	First Semester	Units
Composition	ENG 101	3
Technical Graphics	DFT 112	3
Manufacturing Materials and Processes I	GTC 105	3
College Algebra	MAT 120/117	3
Oxyacetylene Welding	WLD 105	3
Physical Education	HPE	1

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

*Offered at Sierra Vista Campus only.

***Recommended Electives:**

Illustration DFT 170 (3)

***Offered at Sierra Vista Campus only.**

Welding Technology Associate Of Applied Science Degree

General Education Requirements:

Composition	ENG 101	3
Composition	ENG 102	3
Intermediate Algebra	MAT 110	3
Social Science/Humanities		3
General Education Electives		6
Computer Literacy Proficiency and Reading Level Proficiency		

Arizona Department of Corrections

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

Building Maintenance Certificate

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

Business Certificate Program

Core Courses

Survey of American Business	BUS 109	3
Bookkeeping and Financial Mgmt	BUS 146	3
Keyboarding	OAD 113	3
Business Math	BUS 104	3
Grammar, Usage and Punctuation	ENG 111	3
Report Writing	ENG 109	3

Units

18

Office Education Emphasis

Word Processing	OAD 213	3
Records Management	OAD 206	3
General Office Procedures	OAD 106	3
Leadership and Supervision	BUS 127	3
Business Communications	OAD 167	3

Units

5

Business Management Emphasis

Principles of Management	BUS 143	3
Small Business Management	BUS 283	3
Principles of Marketing	BUS 145	3
Computer Applications	CIS 181	3
Salesmanship, or	BUS 144	3
Human Resources Management	BUS 123	3

Units

15

General Interest Courses

Basic Drafting	
Consumer Education	
Real Estate	
Introduction to Data Processing	

Business Machines Repair Certificate

Part #1 - Typewriter Repair

IBM Selectric I & 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 & 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

40

Consumer Electronics Repair Certificate

Radio Theory and Repair

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

Video Cassette Player/Recorder Repair	CER 200	4
Compact Disc Player Repair	CER 202	3
Microwave Oven Theory & Repair	CER 204	4
Power Amplifiers	CER 205	3
Advanced Television Repair	CER 206	4

28

General Electronics Technician Certificate

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	
		23	

Horticulture Certificate

		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	
		15	

Masonry Certificate

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

Principles Of Technology Certificate Program

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

Principles Of Technology

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

Course Descriptions

Note: *Indicates Lab Fees

Administration of Justice

AJS 101 The Criminal Justice System/3 Units

Prerequisite: None.

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

3 hours lecture.

AJS 105 Police Science/3 Units

Prerequisite: None.

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

3 hours lecture.

AJS 109 Prisoners' Rights/1 Unit

Prerequisite: None.

A practical overview of prisoners' procedural due process and substantive constitutional rights. (Credit awarded for successful completion of the Arizona Correctional Officer Training Academy.)

1 hour lecture.

AJS 111 Correctional Institutions/3 Units

Prerequisite: None.

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

3 hours lecture.

AJS 112 Corrections as a System/3 Units

Prerequisite: None.

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

3 hours lecture.

AJS 113 Crisis Intervention/1 Unit

Prerequisite: None.

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

1 hour lecture.

AJS 114 Arrest, Search and Seizure/1 Unit

Prerequisite: None.

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

1 hour lecture.

AJS 115 Theories of Criminal Behavior/1 Unit

Prerequisite: None.

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

1 hour lecture.

AJS 116 Criminal Evidence/1 Unit

Prerequisite: None.

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

1 hour lecture.

AJS 117 Arizona Criminal Code/1 Unit

Prerequisite: None.

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

1 hour lecture.

AJS 118 Communications in Criminal Justice/1 Unit

Prerequisite: None.

A practical study of effective intradepartmental and interdepartmental communication within the criminal justice profession including barriers to effective communication, communication with the community and communication within the courtroom. (Credit awarded for successful completion of the Arizona Correctional Officer Training Academy.)

1 hour lecture.

AJS 119 Firearms/1 Unit

Prerequisite: None.

A practical approach of the moral aspects, legal provisions, safety precautions and restrictions covering the use of firearms and the firing of the sidearm and shotgun. (Restricted to Law Enforcement Personnel.)

1 hour lecture.

AJS 120 Firearms Certification/1 Unit

Prerequisite: None.

Training and practical application in the use of firearms.

Qualifications in the use of the .38 caliber revolver, .223 caliber rifle, and the f12 gauge shotgun. (Restricted to Law Enforcement Personnel.)

1 hour lecture.

AJS 121 Rangemaster Certification/3 Units

Prerequisite: None.

Designed to certify Arizona Department of Corrections Security Staff as Rangemasters, and to prepare the Rangemaster to operate a shooting range and teach formal classes. (Restricted to Law Enforcement Personnel.)

3 hours lecture.

AJS 122 Police Patrol Functions/3 Units

Prerequisite: None.

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

3 hours lecture.

AJS 125 Private Security, Principles and Practices/3 Units

Prerequisite: None.

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

hospital, cargo and computer security; and security services, contract and proprietary.

3 hours lecture.

AJS 130 Juvenile Procedures/3 Units

Prerequisite: ENG 101 recommended.

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

3 hours lecture.

AJS 150 United States Penology/3 Units

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 156 Criminology/3 Units

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

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

3 hours lecture.

AJS 159 Correctional Case Work Techniques/3 Units

Prerequisite: None.

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

3 hours lecture.

AJS 161 Identification of Gangs/1 Unit

Prerequisite: None.

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

1 hour lecture.

AJS 162 Organization and Impact of Gangs/1 Unit

Prerequisite: None.

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

1 hour lecture.

AJS 163 Special Populations I/1 Unit

Prerequisite: None.

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

1 hour lecture.

AJS 164 Special Populations II/1 Unit

Prerequisite: None.

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

1 hour lecture.

AJS 165 Basic Management Skills/1 Unit

Prerequisite: None.

An overview of the entire management process in criminal justice agencies with emphasis upon the fundamental skills of

basic management, motivation, leadership, communication, decision making and community relations.

1 hour lecture.

AJS 167 Management by Objectives/1 Unit

Prerequisite: None.

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

1 hour lecture.

AJS 170 Parole Supervision/3 Units

Prerequisite: None.

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

3 hours lecture.

AJS 171 Victim Assistance/1 Unit

Prerequisite: None.

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

1 hour lecture.

AJS 184 Correctional Supervision I/3 Units

Prerequisite: None.

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

3 hours lecture.

AJS 185 Correctional Supervision II/3 Units

Prerequisite: AJS 184.

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

3 hours lecture.

AJS 186 Correctional Administration/3 Units

Prerequisite: None.

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

3 hours lecture.

AJS 187 Criminal Justice Management

Problems/1 Unit

Prerequisite: None.

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

1 hour lecture.

AJS 190 Police Reserve Academy I/10 Units

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

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

9 hours lecture; 3 hours laboratory.

AJS 192 Critical Issue in Penology/.5-1 Unit

Prerequisite: None.

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

1/2 to 1 hour lecture.

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

Prerequisite: None.

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

1/2 hour lecture.

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

Prerequisite: None.

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

1/2 hour lecture.

AJS 200 Criminal Law I (Substantive)/3 Units

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

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

3 hours lecture.

AJS 201 Criminal Law II (Procedural)/3 Units

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

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

3 hours lecture.

AJS 205 Community Corrections/3 Units

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

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

3 hours lecture.

AJS 215 Penology/3 Units

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

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

3 hours lecture.

AJS 224 Field Experience in Administration of Justice/1-6 Units

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

A supervised Cooperative Education work experience involving the combined efforts of educators and employers to accomplish

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

AJS 235 Criminal Investigation/3 Units

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

An introduction to the principles of criminal investigation to include elements of various crimes, such as arson, robbery, burglary, homicide and sex crimes. Emphasis is placed upon preliminary and follow-up investigations, interview and interrogation (principles and legal aspects), evidence processing, and criminalistic applications.

3 hours lecture.

AJS 240 Police-Community Relations/3 Units

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

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

3 hours lecture.

AJS 254 Psychology in Law Enforcement/3 Units

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

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

3 hours lecture.

AJS 265 Critical Issues in Criminal Justice/.5-1 Unit

Prerequisite: None.

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

1/2-1 hour lecture.

AJS 266 Hazardous Material Incident

Response/3 Units

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 Units

Prerequisite: None.

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

3 hours lecture.

AJS 290 Instructor Skill Development/3 Units

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

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

3 hours lecture.

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

Prerequisite: None.

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

1 hour lecture.

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

Prerequisite: None.

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

1 hour lecture.

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

Prerequisite: None.

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

1 hour lecture.

AJS 294 Correctional Instructor Certification/1.5 Unit

Prerequisite: None.

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

1.5 hour lecture.

AJS 295 Police Reserve Academy II/10 Units

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

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

9 hours lecture; 3 hours laboratory.

Agriculture

AGR 101 Principles of Veterinary Sciences/3 Units

Prerequisite: None.

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

3 hours lecture.

AGR 102 Introduction to Agriculture/3 Units

Prerequisite: None.

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

3 hours lecture.

AGR 103 Introduction to Animal and Disease Process/3 Units

Prerequisite: None.

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

3 hours lecture.

AGR 104 Principles of Agronomy/3 Units

Prerequisite: None.

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

3 hours lecture.

AGR 105 Range Management/3 Units

Prerequisite: None.

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

3 hours lecture.

AGR 106 Animal Diseases and Sanitation/3 Units

Prerequisite: None.

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

3 hours lecture.

AGR 107* Farrier Science/3 Units

Prerequisite: None.

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

1 hour lecture; 3 hours laboratory.

AGR 108 Introduction to Beekeeping/3 Units

Prerequisite: None.

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

3 hours lecture.

AGR 138* Team Roping/3 Units

Prerequisite: Basic riding experience and interest in roping.

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

2 hours lecture; 3 hours laboratory.

AGR 139 Western Horsemanship/3 Units

Prerequisite: None.

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

2 hours lecture; 3 hours laboratory.

AGS 140* Rodeo Skills/3 Units

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

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

2 hours lecture; 3 hours laboratory.

AGR 141* English Equitation/3 Units

Prerequisite: None.

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

May be repeated for Cochise College credit.

2 hours lecture; 3 hours laboratory.

AGR 207 Range Plants/3 Units

Prerequisite: Botany.

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

1 hour lecture; 3 hours laboratory.

AGR 208 Animal Industry/3 Units

Prerequisite: None.

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

3 hours lecture.

AGR 209 Auxiliary Engine Operation and Repair/3 Units

Prerequisite: None.

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

1 hour lecture; 3 hours laboratory.

AGR 210* General Welding I/3 Units

Prerequisite: None.

Techniques of operating arc welding machines; oxyacetylene torches for fusion welding, heating, brazing, cutting, hardfacing, and soldering of all common types of metal. Emphasis on individual projects.

1 hour lecture; 3 hours laboratory.

AGR 211 Economics in American Agriculture/3 Units

Prerequisite: None.

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

3 hours lecture.

AGR 212* Advanced Agriculture Welding/3 Units

Prerequisite: AGR 210.

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

2 hours lecture; 3 hours laboratory.

AGR 213* Agriculture Alloy & Repair Welding/3 Units

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

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

2 hours lecture; 3 hours laboratory.

AGR 214 Soils & Fertilizers/3 Units

Prerequisite: None.

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

3 hours lecture.

AGR 215 Home Gardening/3 Units

Prerequisite: None.

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

3 hours lecture.

AGR 224 Field Experience in Agriculture & Natural Resources/1-6 Units

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

A supervised Cooperative Education work experience involving the 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 Units

Prerequisite: None.

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

3 hours lecture.

AGR 237* Horse Science & Management/3 Units

Prerequisite: None.

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

3 hours lecture.

AGR 242 Livestock Judging/3 Units

Prerequisite: None.

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

3 hours lecture.

AGR 243 Livestock Production and Management/3 Units

Prerequisite: None.

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

3 hours lecture.

AGR 250* Project Welding/3 Units

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

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

2 hours lecture; 3 hours laboratory.

AGR 299 Individual Studies/1-4 Units

Prerequisite: Permission of division chair and instructor.

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

Anthropology

ANT 100 Faces of Culture/3 Units

Prerequisite: None.

An introductory anthropology telecourse embracing cultures from all continents illustrating social patterns and human adaptations to the environment. Topics include the nature of culture, how cultures are studied, language and communication, marriage and the family, social stratification, religion and magic, cultural change, acculturation and child rearing, the arts, and patterns of subsistence, kinship and descent. Cochise College elective credit unless otherwise designated in degree programs. Limited to students having access to Desert Cable.

3 hours lecture.

ANT 101 Origin and Antiquity of Man/3 Units

Prerequisite: None.

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

3 hours lecture.

ANT 102 Society and Culture/3 Units

Prerequisite: None.

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

technology, social, political and economic systems, religion, and language.

3 hours lecture.

ANT 110 Exploring Archaeology/3 Units

Prerequisite: None.

A 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 Units

Prerequisite: None.

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

1.5 hours lecture; 4.5 hours laboratory.

ANT 140* Rock Art of the American Indian/3 Units

Prerequisite: None.

The study of the prehistoric carvings and paintings on rock surfaces throughout North America with an emphasis on recording processes, field work, and the Southwest.

2 hours lecture; 3 hours laboratory.

ANT 192 Special Topics in Anthropology/.5-1 Unit

Prerequisite: None.

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

1/2-1 hour lecture.

ANT 235 Introduction to Archaeology/3 Units

Prerequisite: None.

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

3 hours lecture.

ANT 285 Prehistoric Culture of North America/3 Units

Prerequisite: None.

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

3 hours lecture.

ANT 286 Historic Indian Tribes of North America/3 Units

Prerequisite: None.

A survey of historical North American native cultures including basic anthropological, historical and ethnological theory, methods and concepts. Focus is upon such cultures as the Apache, Pueblo, Pima-Papago, Shoshonean, as well as those of the Northeast Coast, the Great Plains and the Northeast. The status of contemporary tribes is also addressed.

3 hours lecture.

ANT 287 Archaeology of the Southwest/3 Units

Prerequisite: None.

A study of the prehistoric people of the American Southwest from the late Pleistocene to the Spanish conquest. The course includes discussions of local archaeological cultures emphasizing the process for cultural development within key regions.

3 hours lecture.

ANT 299 Individual Studies/1-4 Units

Prerequisite: Approval of the division chair and instructor.

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

Art

Note: All studio courses except ART 101 - Introduction to Art - may be repeated once for credit. (The second semester is usually allowed as an art elective.) These courses may be repeated indefinitely beyond the second semester for non transfer credit.

Note: *indicates lab fees.

ART 101* Introduction to Art/3 Units

Prerequisite: None.

An introduction of art elements and principles and materials used in art courses and a study of the development of concepts, materials, techniques and processes.

2 hours lecture; 4 hours studio.

ART 103* Basic Design/3 Units

Prerequisite: None.

An introduction to the basic elements of design: line, shape, value, texture and color. This includes skill development in arranging these elements according to the basic principles of organization (harmony and variety) within a two-dimensional framework.

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

2 hours lecture, 4 hours studio.

ART 105* Art in the Elementary School/3 Units

Prerequisite: None.

An introduction to materials used in elementary art class; a study of a child's artistic development through lectures, slides, films, and appropriate art experience for teacher's aides. Will not fulfill art education requirement for teacher's certification.

3 hours lecture.

ART 106* Beginning Drawing/3 Units

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 Units

Prerequisite: None.

A survey presentation of the art and architecture of western civilizations through the Gothic Era, including prehistoric and primitive cultures of the world.

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

3 hours lecture.

ART 108 Survey of World Art: Renaissance Through The Twentieth Century/3 Units

Prerequisite: None.

A survey presentation of the art and architecture of western civilizations from the Renaissance through the twentieth century.

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

3 hours lecture.

ART 120 Appreciation of Visual Arts/3 Units

Prerequisite: None.

A general overview of the Visual Arts, to include philosophies, history, techniques, various media, elements of design, form, line, space, and texture. Fulfils the art education requirement for teacher certification.

3 hours lecture.

ART 130* Painting for Personal Development I/2 Units

Prerequisite: None.

Introduction to techniques of water-color, oil or acrylic with emphasis on composition and materials. Students must complete several projects judged on the basis of individual skill and development. Not intended for transfer to a four-year institution. May be repeated for credit.

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 Units

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 Units

Prerequisite: None.

A rotating forum/seminar/workshop emphasizing regional art forms and the development and practical application of artistic skills using a variety of media. Topics will vary in accordance with changes in student 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 230* Color and Design/3 Units

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 Units

Prerequisite: ART 103 or permission of instructor.

A studio course with an inquiry into the use of volume, mass, color and textural relationships as they exist in actual space.

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

2 hours lecture; 4 hours studio.

ART 245* Figure Drawing/3 Units

Prerequisite: ART 106 or permission of instructor.

Drawing from the model and other subjects to develop pictorial and perceptual skills with an emphasis on the human figure in its environment.

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

2 hours lecture; 4 hours studio.

ART 265* Beginning Commercial Design/3 Units

Prerequisite: ART/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 Units

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 275* Ceramics II/3 Units

Prerequisite: ART 103, ART 231, and ART 270 or permission of instructor.

A more advanced course than ART 270, Ceramics I. Students will need to have a basic knowledge of handbuilt and wheelthrown techniques with various clay bodies and, a basic knowledge of glazes, their application and kiln loading and firing processes. 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 hours lecture; 4 hours studio.

ART 280* Painting I/3 Units

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 Units

Prerequisite: ART 103 or 106, and 280, or permission of instructor.

An intermediate course in painting with an emphasis on developing individual expressive and pictorial skills in oil and/or acrylic media.

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

2 hours lecture; 4 hours studio.

ART 285* Beginning Photography/3 Units

Prerequisite: 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 Units

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 Units

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/.5-4 Units

Prerequisite: ART 192 or permission of instructor.

A rotating forum/seminar/workshop emphasizing regional art forms and the development and practical application of artistic skills using a variety of media. Topics will vary in accordance with changes in student needs and interests. May be repeated for Cochise College credit. Cochise College elective only unless otherwise designated in degree programs.

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

1/2 hour to 4 hours lecture/studio.

ART 299 Individual Studies/1-4 Units

Prerequisite: Approval of the division chair and instructor.

Complete a research problem or an outlined course of study under the direction of a faculty member with contract for the individual study agreed upon by the student, the instructor and the division chair prior to initiation of the study. May be repeated for credit.

Astronomy

AST 180 Introduction to Astronomy/4 Units

Prerequisite: MAT 110 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 Units

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 Units

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 384 hours/17 Units

Prerequisite: Phase I.

A comprehensive study of aircraft structures with emphasis on structural repairs and finishing techniques on metal and fabric covered aircraft.

50% Lecture; 50% Laboratory.

AMT 260* Phase III 384 Hours/17 Units

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 384 Hours/17 Units

Prerequisite: Phase I.

A continuation of aircraft powerplants and related systems, including propeller, fuel, ignition, lubrication, electrical and cooling.

50% Lecture; 50% Laboratory.

AMT 275* Phase V 384 Hours/17 Units

Prerequisite: Phases I and IV.

An introduction of aircraft powerplant theory and maintenance on reciprocating and turbine engines.

50% Lecture; 50% Laboratory.

AMT 280* Helicopter Maintenance and inspection Fundamentals/4 Units

Prerequisite: Completion of AMT 150, 160, 260 or have a F.A.A. Airframe Certificate or permission of the Aviation Department Airframe and Powerplant Instructors.

A study of helicopter inspection and maintenance techniques and basic rotary wing aerodynamics with emphasis on the exacting requirements of rotary wing aircraft maintenance.

AMT 282 Transport Category Aircraft Familiarization Course/5 Units

Prerequisite: Student must hold A & P Certificates or obtain instructor's permission.

A lecture focused on the operating systems of large FAR Part 25 certified aircraft.

5 hours lecture.

AMT 285 Phase VI/1-6 Units

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 Units

Prerequisite: None.

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

70% Lecture; 30% Laboratory.

AMT 295* Practicum in Aviation Maintenance Technology Upgrade/6 Units

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.

Yuma Program**AMT 148 General Aeronautics and Applications/3 Units.**

Prerequisite: None.

A study of the "General" mechanic subjects designated by the F.A.A. This course includes ground operations and servicing,

mathematics, basic physics, basic electricity, fluid lines and fittings, and aircraft drawings.

2.5 hours lecture; 1.5 hours laboratory.

AMT 149 General Aeronautics and Applications/3 Units

Prerequisite: None.

A study of the "General" mechanic subjects designated by the F.A.A. This course includes weight and balance, maintenance publications, mechanics privileges and limitations, maintenance forms and records, cleaning and control, and materials and processes.

2.5 hours lecture; 1.5 hours laboratory.

AMT 151 Basic Airframe Mechanics/3 Units

Prerequisite: None.

A study of the airframe mechanic subjects designated by the F.A.A. This course includes airframe inspection, sheet-metal structures and cabin atmosphere system and controls.

2.5 hours lecture; 1.5 laboratory.

AMT 152 Basic Airframe Mechanics/3 Units

Prerequisite: None.

A study of airframe mechanic subjects required by the F.A.A. This course includes aircraft electrical systems, hydraulic and pneumatic power systems.

2.5 hours lecture; 1.5 hours laboratory.

AMT 153 Basic Aircraft Powerplant Mechanics/3 Units

Prerequisite: None.

A study of aircraft powerplant subjects required by the F.A.A. This course consists of reciprocating engine theory and applications.

2.5 hours lecture; 1.5 hours laboratory.

AMT 154 Basic Aircraft Powerplant Mechanic/3 Units

Prerequisite: None.

A study of aircraft powerplant subjects required by the F.A.A. This course consists of turbine engine theory, applications, and engine inspection methods.

2.5 hours lecture; 1.5 hours laboratory.

AMT 211 Advanced Airframe Mechanics/3 Units

Prerequisite: AMT 151 and AMT 152 or permission of instructor.

A study of the airframe mechanic subjects required by the F.A.A. This course includes assembly and rigging, wood structures, fabric covering, and aircraft finishes.

2.5 hours lecture; 1.5 hours laboratory.

AMT 212 Advanced Airframe Mechanics/3 Units

Prerequisite: AMT 151 and AMT 152 or permission of instructor.

A study of the airframe mechanic subjects required by the F.A.A. This course includes ice and rain control, communications and navigation systems, instrument systems, landing gear, position and warning systems, fuel systems and welding.

2.5 hours lecture; 1.5 hours laboratory.

AMT 216 Advanced Aircraft Powerplant Mechanics/3 Units

Prerequisite: AMT 153 and AMT 154 or permission of instructor.

A study of aircraft powerplant subjects required by the F.A.A. This course consists of fuel metering systems, lubricating systems, engine fuel systems, induction systems, engine cooling systems, and engine exhaust systems.

2.5 hours lecture; 1.5 hours laboratory.

AMT 217 Advanced Aircraft Powerplant**Mechanics/3 Units**

Prerequisite: AMT 153 and AMT 154 or permission of instructor.

A study of aircraft powerplant subjects required by the F.A.A.

This course consists of ignition systems, engine electrical system, propellers, and engine fire protection systems.

2.5 hours lecture; 1.5 hours laboratory.

Avionics Technology

AVT 101* Math for Basic Electronics/3 Units

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 Units

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 Units

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 Units

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 Units**

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.

4 hours lecture; 4 hours laboratory.

AVT 118* Pulse and Digital Circuits/6 Units

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.

4 hours lecture; 4 hours laboratory.

AVT 127 Avionics Fundamentals/3 Units

Prerequisite: ELT 106.

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

3 hours lecture.

AVT 202* Electronic Communications/6 Units

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.

4 hours lecture; 4 hours laboratory.

AVT 205* Electronic Devices and Circuits II/6 Units

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; 4 hours laboratory.

AVT 208* FCC/FAA Regulations/4 Units

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.

AVT 220* Navigation Systems/6 Units

Prerequisite: AVT 202.

An introduction to aircraft navigation systems with emphasis on the theory and systems analysis of modern electronic equipment.

4 hours lecture; 4 hours laboratory.

AVT 224* Flight Management/Control Systems/6 Units

Prerequisite: AVT 208.

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

4 hours lecture; 4 hours laboratory.

AVT 228* Aircraft Radar & Pulse Systems/6 Units

Prerequisite: AVT 118.

A study of radar principles and application, microwave principles, signal processing and display systems.

4 hours lecture; 4 hours laboratory.

AVT 250* Navigation Systems/4 Units

Prerequisite: ELT 245.

An introduction to aircraft navigation systems with emphasis on the theory and systems analysis of modern electronic equipment.

3 hours lecture; 3 hours laboratory.

AVT 253* Flight Control Systems/4 Units

Prerequisite: ELT 265.

Corequisite: ELT 270.

An introduction to the principles, 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 Units

Prerequisite: ELT 231.

A study of radar principles and application, microwave principles, signal processing and display systems.

3 hours lecture; 3 hours laboratory.

Biological Sciences

Note: *Indicates Lab Fees

BIO 098 Special Topics In the Biological Science/.5-1 Unit

Prerequisite: None.

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

1/2-1 hour lecture.

BIO 101* General Biology (non-majors): Selected Topics/4 Units

Prerequisite: None.

Selected biological topics including methods used by biologists to make discoveries and evaluate scientific data, principles and concepts of biology with reference to the organization and function of cells, inheritance and man. Not open to majors in the biological sciences or the pre-professional curricula.

3 hours lecture; 3 hours laboratory.

BIO 102* General Biology (non-majors): Additional Topics/4 Units

Prerequisite: None.

Biological topics not covered in BIO 101. Review methods used by biologists to make discoveries and evaluate scientific data. Includes major principles of biology as illustrated by the animal and plant kingdoms, speciation, and ecology. Not open to majors in the biological sciences or the pre-professional curricula.

3 hours lecture; 3 hours laboratory.

BIO 160* Introduction to Human Anatomy and Physiology/4 Units

Prerequisite: None.

Not for biology or pre-med majors. Examination of the systems of the human body. For students in health occupation programs which require a one semester anatomy and physiology course, or to fulfill a one-semester lab science requirement.

3 hours lecture; 3 hours laboratory.

BIO 183* Marine Biology/4 Units

Prerequisite: Strong performance in high school biology or BIO 101.

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

For biology majors, science requirements, and other interested students.

3 hours lecture; 1 1/2 hours laboratory; and a 4-day field laboratory.

BIO 184* Plant Biology/4 Units

Prerequisite: None.

Basic course in botany for students of plant or animal science. An introduction to the principles of botany as illustrated by flowering plants, with emphasis on anatomy and physiology.

3 hours lecture; 3 hours laboratory.

BIO 190* Animal Biology/4 Units

Prerequisite: Strong performance in high school biology or BIO 101.

Principles of animal structure and function, including characteristics and evolution of organisms, environmental relations, behavior, metabolism; and an evolutionary survey of the animal kingdom. For biology and preprofessional majors and other interested students.

3 hours lecture; 3 hours laboratory.

BIO 191* General Zoology I/4 Units

Prerequisite: None.

An introduction to animal life including cell structure and function; animal-like members of the kingdom Protista, a survey of the major phyla of the animal kingdom including structure, function, life cycles and classification; principles of taxonomy, ecology; effect of humans on the environment. Includes behavioral studies on living organisms and dissections of preserved phylum and class representatives.

2 hours lecture; 6 hours laboratory.

BIO 192* General Zoology II/4 Units

Prerequisite: BIO 101 or BIO 184 or BIO 191.

An introduction to the vertebrates including how they arose; the structure and function of the "typical" vertebrate organ systems and their variations among the vertebrates; introductions to embryology, genetics, principles of evolution.

2 hours lecture; 6 hours laboratory.

BIO 201* Human Anatomy and Physiology I/4 Units

Prerequisite: Either one year high school Biology (C or better) taken in last five years or BIO 101 or BIO 184 or BIO 191 or permission of instructor.

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

3 hours lecture; 3 hours laboratory. Discussion 1 hour (optional).

BIO 202* Human Anatomy and Physiology II/4 Units

Prerequisite: BIO 201.

An integrated study of the structural and functional features of the endocrine system, circulatory system, urinary system, respiratory system, digestive system, and reproductive system. Offered spring only.

3 hours lecture; 3 hours laboratory. Discussion 1 hour (optional).

BIO 205* Microbiology/4 Units

Prerequisite: Completion of a semester of a college biological science is highly recommended.

A survey of microbic 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 Units

Prerequisite: MAT 020 and one semester of a college level biological science.

An introduction to ecological concepts and methods in biology including: ecological niche, species, diversity, population biology, ecosystem, life history strategies, environmental factors, environmental cycles, animal behavior and evolution and their functions in the environment.

3 hours lecture; 3 hours laboratory; 1 Saturday field trip.

BIO 299 Individual Studies/1-4 Units

Prerequisite: Approval of the division chair and instructor.

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

Botany

See Biological Sciences.

Business Administration

BUS 104 Business Math (Programmed)/3 Units

Prerequisite: MAT 010 or equivalent.

The fundamentals of business mathematics leading to the ability to communicate with the number language of the business world.

3 hours lecture.

BUS 105 Technical Writing/1 Unit

Prerequisite: None.

An overview of the technical aspects of developing written reports to include available resources, technical exposition, style, and computer-assisted development.

1 hour lecture; 1 hour laboratory.

BUS 109 Survey of American Business/3 Units

Prerequisite: None.

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

3 hours lecture.

BUS 121 Taxation Principles and Procedures/3 Units

Prerequisite: BUS 201 or permission of instructor.

Tax laws, accounting procedures and preparation of required United States and Arizona Income Tax returns as they apply to individuals and businesses.

3 hours lecture.

BUS 123 Human Resources Management/3 Units

Prerequisite: None.

A study of policies and techniques pertaining to personnel management and human relations as applied to employee selection, placement, training, motivation, promotion, evaluation and supervision. Employer and employee social responsibilities introduced.

3 hours lecture.

BUS 124 Military Organizations and Staff Functions/3 Units

Prerequisite: None.

A functional study of the development of U.S. defense policy; the organization, role and mission of the Department of Defense, Departments of the Army, Air Force and Navy; the organization and functions of the general and special staff at the Army division level; and the organization and operations of combat support groups.

3 hours lecture.

BUS 125 Management and Organizational Behavior/3 Units

Prerequisite: None.

Study of group behavior, inter-personal relationships and inter-group relationships in the organization, conceptual tools for analyzing behavior and managing group processes of conflict, communication and task accomplishment.

3 hours lecture.

BUS 126 Exploring Your Potential as a Manager/3 Units

Prerequisite: None.

A course to assist women in evaluating their aptitudes, capabilities and values, and to relate this evaluation to possible career choices in the business world.

3 hours lecture.

BUS 127 Leadership and Supervision/3 Units

Prerequisite: BUS 123 or permission of instructor.

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

3 hours lecture.

BUS 128 Special Problems in Management/3 Units

Prerequisite: None.

An introduction to problems unique to women choosing business as careers, and to prepare women to deal effectively as managers.

3 hours lecture.

BUS 143 Principles of Management/3 Units

Prerequisite: None.

Managerial principles with emphasis on planning, organizing, motivating, and controlling for effective business decisions.

3 hours lecture.

BUS 144 Salesmanship/3 Units

Prerequisite: None.

Career opportunities in sales work, practical and psychological factors in selling, development of a desirable sales personality and correct techniques in conducting sales campaigns, include student participation in practical sales demonstrations.

3 hours lecture.

BUS 145 Principles of Marketing/3 Units

Prerequisite: None.

Marketing principles involved in the distribution of goods and services from the producer to the ultimate consumer, including functions of wholesaling, retailing, direct selling, risk-taking, and storage.

3 hours lecture.

BUS 146 Introduction to Accounting/3 Units

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 Units

Prerequisite: BUS 145 or permission of instructor.

Consideration of planning, financing, and managing a campaign; selection of advertising media, displaying, and publicity; studying of color and balance in its application to good merchandising.

3 hours lecture.

BUS 149 Merchandising Management/3 Units

Prerequisite: None.

The organization and operation of retail outlets, trends and concepts retailing both goods and services, solutions for buying, selling, stocking, servicing and controlling in retail outlets.

3 hours lecture.

BUS 150 Introduction to Business Ethics/3 Units

Prerequisite: ENG 101.

An introductory course in the application of moral philosophy to contemporary ethical and moral problems in business.

3 hours lecture.

BUS 156 Principles of Finance/3 Units

Prerequisite: BUS 146 or BUS 201 or permission of instructor.

An introduction to the world of finance dealing with the relationship of money in our economy and an in-depth study of the role and techniques of financial management within the firm.

3 hours lecture.

BUS 160 Job and Family Success Skills/3 Units

Prerequisite: None.

A study of problem areas workers may encounter in obtaining and maintaining their employment including job seeking skills, dressing for success, decision making strategies, self-esteem, job stress, nutrition, communication skills and coping with stress as a working parent. (Same as CPD 160.)

3 hours lecture.

BUS 167 Business Communications/3 Units

Prerequisite: ENG 101, ENG 111, or permission of instructor.

A study of the strategies and processes of writing in the business world, including purpose and audience, with emphasis on the generation of both internal and external documents. Students will learn to prepare text appropriate in usage, syntax, and diction to a business environment. Same as OAD 167 and ENG 167.

3 hours lecture.

BUS 168 Customer Relations in the Work Place/1 Unit

Prerequisite: None.

An exploration of the ways human beings relate to one another using typical problems that occur on a day-to-day basis within organizations. This course will serve as a foundation for improving human relations and personal management skills.

1 hour lecture.

BUS 180* Computerized Accounting /3 Units

Prerequisite: BUS 146 or BUS 201.

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

3 hours lecture.

BUS 183 Starting a Business

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 to establish the business, including practical problems in marketing, financial analysis and control, management and organization.

3 hours lecture.

BUS 192 Applications in Management**Development/.5 Unit**

Prerequisite: None.

A study of a variety of topics such as the strategic planning process, leadership practices, policy analysis, program evaluation and budgeting including financial management, information management, organizational design, culture and productivity. May be repeated for credit.

1/2 hour lecture.

BUS 201 Financial Accounting/3 Units

Prerequisite: MAT 020 or BUS 104 or equivalent.

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

3 hours lecture; 2 hours laboratory.

BUS 202 Managerial Accounting/3 Units

Prerequisite: BUS 201, CIS 181.

An introductory course in accounting concept methods and techniques used by managers to support financial and operating decision-making within an organization.

3 hours lecture; 2 hours laboratory.

BUS 203 Introduction to Fund Accounting/3 Units

Prerequisite: BUS 201.

An introductory course in the accounting principles and procedures used in federal, state, county and city governments and other not-for-profit organizations.

3 hours lecture; 2 hours laboratory.

BUS 210 Intermediate Accounting/3 Units

Prerequisite: BUS 202.

A comprehensive course in gathering, recording, 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 Units

Prerequisite: BUS 210.

A continuation of BUS 210. Accounting treatment of liabilities and capital accounts and the analysis of financial statements.

3 hours lecture; 1 hour laboratory.

BUS 214 Auditing Techniques/3 Units

Prerequisite: BUS 211 or permission of instructor.

The quantitative opinion formulation process of the professional auditor that includes the auditor's reports, professional standards and internal and operational auditing.

3 hours lecture.

BUS 219 Business Statistics/3 Units

Prerequisite: MAT 120.

Introductory topics of business statistics such as data presentation, data summarization, probability, probability distributions, sampling distributions, elementary decision-making, estimation of population means, testing of hypotheses, analysis of variance and regressive analysis. (Although not required, MAT 110 Intermediate Algebra helpful.)

3 hours lecture.

BUS 220 Business Statistics/3 Units

Prerequisite: BUS 219.

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

3 hours lecture.

BUS 224 Field Experience in Business Administration/1-6 Units

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

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

BUS 228 Personal Financial Planning and Investments/3 Units

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; tax, retirement, and estate planning. A strong emphasis will be placed on investment techniques and selection.

3 hours lecture.

BUS 231 Business Law/3 Units

Prerequisite: Sophomore Standing.

A presentation of law as part of the American society with an emphasis on judicial procedures, business transactions, contracts, torts, personal and real property, administrative, criminal, and consumer law.

3 hours lecture.

BUS 232 Business Law/3 Units

Prerequisite: Sophomore standing and completion of BUS 231 or permission of instructor.

A presentation of the laws pertaining to sales, commercial paper, creditor's rights and secured transactions, agency and employment, partnerships and special ventures, and corporations.

3 hours lecture.

BUS 233 The Legal Environment of Business/3 Units

Prerequisite: None.

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

3 hours lecture.

BUS 236 Analyzing Financial Statements/3 Units

Prerequisite: BUS 201 or permission of instructor.

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

3 hours lecture.

BUS 240 Principles of Real Estate I/3 Units

Prerequisite: None.

A course on basic real estate principles including introduction to the profession and license law, definition of real property, legal descriptions, rights and interest in property, ownership, contracts, real estate economics, financing and foreclosure, 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 Units

Prerequisite: BUS 240 or permission of instructor.

An advanced course in real estate including escrow procedures and title insurance, liens and encumbrances, advanced contracts, water rights, toxic waste and environmental hazards, agency, ethics, and professional relationships, real estate code and the commissioners' rules, investment, property management and government restriction.

3 hours lecture.

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

Prerequisite: Sophomore level or permission of instructor.

Applying problem-solving and decision-making techniques to practical business situations based on current readings in marketing and management. Designed to blend and apply current business theories and practices to meet class and individual needs.

3 hours lecture.

BUS 282 Management Information Systems/3 Units

Prerequisite: CIS 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 Units

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 Units

Prerequisite: None.

Taught in Spanish, a basic introduction to the methods and practice of Industrial Engineering for business managers and students. The course emphasizes fundamental principles of work organization and job design in an industrial setting.

Practical aspects of application to Twin Plant Industries along the U.S. Mexican Border will be highlighted.

3 hours lecture.

BUS 299 Individual Studies/1-4 Units

Prerequisite: Approval of the division chair and instructor.

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

Chemistry

Note: *Indicates Lab Fees

CHM 100* Preparation for Chemistry/4 Units

Prerequisite: MAT 020 or equivalent.

Elements of general chemistry adapted to the needs of those students who have not had high school chemistry.

3 hours lecture; 3 hours laboratory.

CHM 130* Fundamental Chemistry/4 Units

Prerequisite: MAT 020 or equivalent.

A one-semester course introducing fundamentals of general chemistry with emphasis placed on principles important to the understanding of human biological functions and related medical aspects. Especially adapted to the needs of students in nursing and other health related fields. Serves as a laboratory science for degree requirements.

3 hours lecture; 3 hours laboratory.

CHM 140* Fundamental Organic and Biochemistry/4 Units

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 Units

Prerequisite: MAT 110 or equivalent.

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 152* General Chemistry II/4 Units

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 Units

Prerequisite: CHM 152, CHM 235 is a prerequisite for CHM 236.

An introduction to the chemical compounds of carbon, structural formulae, nomenclature, special configurations of molecules, synthesis and the relation between different classes of organic compounds.

3 hours lecture; 3 hours laboratory.

CHM 299 Individual Studies/1-4 Units

Prerequisite: Approval of division chair and instructor.

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

Civil Engineering Technology

CET 100 Engineering Survey I/3 Units

Prerequisite: None.

Mensuration through the application of surveying techniques; theory of errors and their analysis; fundamental concepts of horizontal, vertical, and angular measurements; basic surveying operations and computations, control systems, and datums for engineering surveys; locating & positioning man-made structures.

2 hours lecture; 4 hours laboratory.

CET 101 Engineering Surveys II/3 Units

Prerequisite: CET 100 Engineering Survey I.

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

2 hours lecture; 3 hours laboratory.

Communications

COM 100 Introduction to Communications/3 Units

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 Units

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 Units

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 Units

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 Units

Prerequisite: COM 102 or permission of instructor.

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

3 hours lecture.

COM 193 Special Topics in Communications/1 Unit

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 Units

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.

3 hours lecture (Identical with SSV 270).

COM 271 Communications in Small Groups/3 Units

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 Units

Prerequisite: MAT 110.

A study of the mathematics used in computer programming including problem solving techniques, numbering systems, linear programming, and Boolean algebra concepts.

3 hours lecture.

CIS 116 Learning to Use the Microcomputer/3 Units

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 Units

Prerequisite: None.

An overview of the data processing field, general practices and aims of business, data processing systems and terminology, data collection, report preparation, functions of data processing units, flow charts and system design concepts. Students receive practice in writing computer programs using Pascal Programming Language.

3 hours lecture.

CIS 125* Telecommunications Techniques/3 Units

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 Units

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 Units

Prerequisite: None.

An introduction to computer operating systems used to monitor and control all internal input/output and processing operations. DOS and Windows are addressed.

3 hours lecture; 1 hour laboratory.

CIS 142* PC and Printer Support/3 Units

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 Units

Prerequisite: None

PC Connectivity is the fastest-growing area of computer or 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 Units

Prerequisite: ENG 100 (C or better) or placement into ENG 101. College level reading.

An applied skill 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 Units

Prerequisite: CIS 116 or permission of instructor.

A course in the use of management information software for microcomputers. Applications include spreadsheets, databases, word processing, graphics and the computer's operating system. No programming experience is necessary.

3 hours lecture.

CIS 192 Computer Application Orientation/.5 Unit

Prerequisite: None.

Workshops designed for personal/professional improvement. Principles and practice of various computer applications, each session directed toward skills mastery of a particular instance of microcomputer applications software with emphasis on the effective use of the software under study. 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 5.1 Spanish
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 Unit

Prerequisite: None.

One unit modules designed for personal/professional improvement. Principles and practices of various computer applications, each session directed toward skills mastery of a particular instance of microcomputer applications software with emphasis on the effective use of the software under study.

CIS 193A Beginning Quattro Pro
CIS 193B Intermediate Quattro Pro
CIS 193C Advanced Quattro Pro

CIS 193D Quattro Pro Macros
CIS 193E Beginning Lotus 1-2-3
CIS 193F Intermediate Lotus 1-2-3
CIS 193G Advanced Lotus 1-2-3
CIS 193H Lotus 1-2-3 Macros
CIS 193I Beginning dBase III Plus
CIS 193J Intermediate dBase III Plus
CIS 193K Advanced dBase III Plus
CIS 193L Beginning Xenix Operating Systems
CIS 193M Intermediate Xenix Operating Systems
CIS 193N Advanced Xenix Operating Systems
CIS 193O Harvard Graphics I
CIS 193P Harvard Graphics II
CIS 193Q Harvard Graphics III

1 hour lecture/laboratory.

CIS 201* PASCAL Programming/ 4 Units

Prerequisite: MAT 020, CIS 130(or concurrent enrollment) or permission of instructor.

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

3 hours lecture; 3 hours laboratory.

CIS 202* COBOL Programming/4 Units

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 Units

Prerequisite: CIS 130, MAT 110.

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 Units

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, and arrays.

3 hours lecture; 3 hours laboratory.

CIS 205* ADA Programming/4 Units

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 Units

Prerequisite: CIS 130 and CIS 110 or MAT 243.

A detailed study of the 8088/8086 Assembly Programming language that converts individual instructions written in symbolic form and converts them into machine language. Computer organization, architecture data structure, input-output and operation considerations. Students will write a minimum of eight operational programs.

3 hours lecture; 3 hours laboratory.

CIS 207* LISP Programming/4 Units

Prerequisite: CIS 130 or permission of instructor.

A non-mathematical study of the fundamentals of the LISP programming language and its application to artificial intelligence, to include problem definition, program design, program development and testing.

3 hours lecture; 3 hours laboratory.

CIS 218 Windows Programming/4 Units

Prerequisite: CIS 130 and CIS 140 or permission of instructor.

A non-mathematical study of the fundamentals of computer programming within the Windows environment. Emphasis is placed on the Windows Application Programming Interface, objects and the use of graphics.

3 hours lecture; 3 hours laboratory.

CIS 219* RPG Programming/4 Units

Prerequisite: MAT 020 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 Units

Prerequisite: CIS 130 and one programming language course or permission of instructor.

A course in data structures concepts. Topics will include the design, implementation and application of stacks, queues, lists, trees, sets, matrices and graphs.

3 hours lecture; 3 hours laboratory.

CIS 222 Computer Architecture/3 Units

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 227* Object-Oriented Programming/4 Units

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 Units

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 230 Data Communications/3 Units

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 234* Introduction to Networks/4 Units

Prerequisite: CIS 140.

The Local Area Network (LAN) is among the more important tools which support office automation. Novell's NetWare is currently the runaway market leader in LAN operating systems. This course is presented as an introduction to the administration of NetWare LANs. The student will study NetWare configuration and operation.

3 hours lecture; 3 hours laboratory.

CIS 235* Novell Network Management/4 Units

Prerequisite: CIS 234.

PC Connectivity is the fastest-growing area of computer office automation, offering resource-sharing and group-productivity

technologies. This course is designed for individuals who manage a Novell network. Topics will include Novell's client-server platform, supervisor utilities, server and workstation configuration, network security, network management and design concepts.

3 hours lecture; 3 hours laboratory.

CIS 236* Network Operating Systems/3 Units

Prerequisite: CIS 234.

The Local Area Network (LAN) is among the more important tools which support office automation. Novell's Netware is currently the market leader, but a number of other systems are important factors in this burgeoning industry. This course surveys systems from Microsoft, Banyan, Artisoft and others, comparing features and preparing the student to potentially utilize them in the work-place.

2 hours lecture; 3 hours laboratory.

CIS 240* Software Engineering/4 Units

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 Units

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 262* Network Support and Troubleshooting/3 Units

Prerequisite: CIS 234, CIS 260

A course designed for individuals who support a Novell network. Topics will include installation of Novell NetWare, LAN diagnostic utilities, workstation installation and configuration,

adapter card installation and configuration, common network physical and data-link layer troubleshooting, bridging and routing, and application configuration problems.

2 hours lecture; 3 hours laboratory.

CIS 270 Information Systems Analysis/3 Units

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 Units

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 Units

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. Identical to BUS 280.

2 hours lecture; 3 hours computer laboratory.

CIS 281* Advanced Computer Applications/3 Units

Prerequisite: CIS 181 or permission of instructor.

Advanced topics in computer applications software for management and office usage. Applications include integrated

software, computerized project management techniques, and advanced data base software from the user's point of view.

3 hours lecture.

CIS 285* Introduction to Desktop Publishing/3 Units

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 Units

Prerequisite: CIS 285.

Advanced techniques and practices to create printed materials of diverse size and complexity using a desk-top 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 Units

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

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

Consumer Electronics Repair

The following courses, CER 100, 102, 104, 200, 202, 204, 205 and 206 were designed specifically for the Arizona Department of Corrections in Douglas.

CER 100 Radio Theory and Repair/3 Units

Prerequisite: General Electronic Technician Certificate.

A course designed to teach the student radio receiver theory, mechanical components, and electronic circuit operation of the AM/FM radio receiver, with special emphasis on alignment procedures, proper replacement parts selection and substitution using small tools, test equipment, and a soldering iron.

3 hours lecture plus individualized laboratory instruction.

CER 102 Audio Tape Recorder/Player Repair/3 Units

Prerequisite: CER 100 Radio Theory and Repair.

A course designed to make the student proficient in repairing audio tape recorder/player equipment. The student will learn magnetic media storage, sound amplification, tape drive systems, types of record and playback heads, microphone and ear phone apparatus used in recording and playback, and how to use diagnostic equipment, diagnostic and repair techniques, hand tools, soldering equipment and repair procedures to facilitate repairs.

3 hours lecture plus individualized laboratory instructions.

CER 104 Television Theory and Repair/4 Units

Prerequisite CER 100 Radio Theory and Repair.

A course designed to teach the student television receiver theory and the diagnostic techniques used to repair malfunctions with special emphasis on using test equipment, alignment procedures, and the safe use of maintenance tools, materials and supplies to facilitate repairs of television receivers.

4 hours lecture plus individualized laboratory instruction.

CER 200 Video Cassette Recorder Repair/4 Units

Prerequisite: CER 104 Television Theory and Repair.

A course designed to make the student proficient in video cassette recorder repair. The student will learn video and sound recording and playback using magnetic media, and how to troubleshoot defective circuits using materials, supplies and diagnostic procedures with emphasis on test equipment and alignment procedures to facilitate repairs.

4 hours lecture plus individualized laboratory instruction.

CER 202 Compact Disc Player Repair/3 Units

Prerequisite: CER 102 Audio Tape Recorder Repair.

A course designed to make the student proficient in compact disc player repair. The student will learn sound recording and playback using optical laser technology, and how to troubleshoot and repair defective equipment by safely using maintenance tools, gauges, materials and supplies, with emphasis on test equipment and alignment procedures to facilitate repairs.

3 hours lecture and individualized laboratory instruction.

CER 204 Microwave Oven Repair/4 Units

Prerequisite: General Electronics Technician Certificate.

A course designed to make the student proficient in microwave oven repair. The student will learn to schedule maintenance, allot maintenance task hours, and the cost-efficient and safe use of maintenance tools, gauges, materials and supplies with emphasis on test equipment and alignment procedures to facilitate repairs.

4 hours lecture plus individualized laboratory instruction.

CER 205 Power Amplifier Repair/3 Units

Prerequisite: CER 100 Radio Theory and Repair.

A course designed to teach the student advanced power amplifier theory such as integrated amplifiers, integrated stereo systems, graphic equalizers and high power amplifiers. The student will learn the diagnostic techniques used to repair malfunctions with special emphasis on test equipment use, alignment procedures, and the safe use of maintenance tools, materials and supplies to facilitate repairs.

3 hours lecture and individualized instruction.

CER 206 Advanced Television Repair/4 Units

Prerequisite: CER 104 Television Theory and Repair.

A course designed to teach the student advanced television receiver theory picture-in-picture, projection and high definition televisions. The student will learn the diagnostic techniques used to repair malfunctions with special emphasis on test

equipment, alignment procedures, and the safe use of maintenance tools, materials and supplies to facilitate repairs.

4 hours lecture and individualized laboratory instruction.

CER 224 Field Experience in Consumer Electronics Repair/1-6 Units

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. NOTE: Lower-and upper-division Cooperative Education courses may be combined but cannot exceed 16 units.

Consumerism

CSN 110 Consumer Education/3 Units

Prerequisite: None.

A course designed to create an awareness of the problems facing the modern consumer: government and business relations, contracts, money, banking and credit, saving and investing; health services, and specific major purchases made by the consumer.

3 hours lecture.

CSN 120 Consumers and the Marketplace/3 Units

Prerequisite: CSN 110.

An analysis of consumer products and the features which affect purchasing decisions; a development of the remedies available to the consumer for defective or marginally acceptable products; and a presentation of current ways that the consumer is affecting the marketplace.

3 hours lecture.

CSN 130 Consumers and Their Health/3 Units

Prerequisite: None.

Reading and discussions on various topics related to individuals health care needs. Focus on consumer approach to selecting and establishing health care services for maintenance of health. Available resources, services, and alternative health care options.

3 hours lecture.

CSN 210 Consumers and Their Environment/3 Units

Prerequisite: Sophomore standing and completion of CSN 110.

An analysis of the various factors in housing and the basic elements (air, water, etc.) necessary to sustain life which have an impact on the physical and emotional well-being of the individual.

3 hours lecture.

CSN 220 Consumers and Their Government/3 Units

Prerequisite: Sophomore standing and completion of CSN 110.

An informed approach to maximizing the individuals participation in benefit programs; to minimize tax impact and other limitations on the consumer's rights imposed by government; an exploration of ways to effectuate change in the system through explanation of concerted political or individual action.

3 hours lecture.

Cooperative Education

CED 110 Internship in Cooperative Education/1-16 Units

Prerequisite: Prior approval of Cooperative Education Coordinator.

Provides students with internship experiences in various career areas meeting individual goals and objectives. Students may complete internships in Hospitality and Recreation, Personal Services, Marketing and Distribution, Public Service, Manufacturing, Electronics, Drafting and others depending on

students career fields. Students may earn up to sixteen (16) elective units for CED 110.

CED 120 Seminar in Cooperative Education/1 Unit

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

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

CED 124 Work Experience in Cooperative Education/1-4 Units

Prerequisite: Prior approval of Cooperative Education Program Coordinator or Faculty Advisor.

A supervised cooperative work experience in Cooperative Education allowing students to apply entry-level skills gained in the classroom in a real world-of-work situation. Variable credit is available by special arrangement. May be taken four times for a maximum of 16 credit hours.

CED 224 Field Experience in Cooperative Education/1-6 Units

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

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

Corrections Training Academy

COR 275 Corrections Training Academy/12 Units

Prerequisite: Employment with Arizona Department of Corrections (DOC).

A survey of the correctional field with emphasis on the acquisition of knowledge, skills, and attitudes necessary for successful employment.

11 hours lecture; 1 hour laboratory.

COR01 275 Corrections Training Academy/3 Units

Prerequisite: Employment with Department of Corrections.

Acquisition of knowledge, skills, and attitudes necessary for successful employment.

3 hours lecture.

Counseling And Personal Development

CPD 010 Building Self-Esteem/1 Unit

Prerequisite: None.

A course to help students become more aware of themselves and their relationships with others. Assists students in exploring personal strengths and resources. Includes assessment of values, feelings, attitudes and communications skills needed for improving self-confidence.

1 hour lecture.

CPD 100* The Growing Years (Telecourse)/3 Units

A telecourse presentation of child growth and development from prenatal through adolescent years, with emphasis upon physical and intellectual growth and learning sequences including socialization, language and personality development.

Cochise College elective credit only unless otherwise designated in degree programs (Identical with HEC 100).

Limited to students having access to Desert Cable.

3 hours lecture.

CPD 101 College Seminar/1 Unit

Prerequisite: None.

A course designed to promote academic success and to instill individual confidence. Students, traditional 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 Units

Prerequisite: None.

A study of basic theoretical principles of psychology and their application to human behavior and growth. Emphasis on scientific psychology's contributions to more effective professional and personal relationships. Group activities and self-evaluation included.

3 hours lecture.

CPD 105 Challenge of Parenting/3 Units

Prerequisite: None.

The application of principles and concepts of effective parenting to more effectively meet the challenges and problems of being a parent in a modern American society (Identical to HEC 105).

3 hours lecture.

CPD 107 Stress Management/2 Units

Prerequisite: None.

A review of the various physiological and psychological approaches to the management of stress with emphasis upon personal options and methodologies for coping with anxiety and stress.

2 hours lecture.

CPD 121 Career and Life Planning/3 Units

Prerequisite: None.

An exploration of career opportunities to assist students in deciding on and planning for their chosen careers.

3 hours lecture.

CPD 299 Individual Studies/1-4 Units

Prerequisite: Approval of the division chair and instructor.

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

Drafting

Note: *Indicates Lab Fees

DFT 100 Blueprint Interpretation and Basic Drafting/3 Units

Prerequisite: None.

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

2 hours lecture; 4 hours laboratory.

DFT 112* Technical Graphics I/3 Units

Prerequisite: None.

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

2 hours lecture; 4 hours laboratory.

DFT 113* Technical Graphics II/3 Units

Prerequisite: DFT 112.

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

2 hours lecture; 4 hours laboratory.

DFT 120* Spatial Relationships/3 Units

Prerequisite: DFT 112 or concurrent with.

Solution of points, lines and planes, single-curved, double-curved and warped surfaces, emphasis upon mechanical, civil and mining engineering application.

2 hours lecture; 4 hours laboratory.

DFT 130* Drafting for Electronics/3 Units

Prerequisite: DFT 112 or concurrent with.

A study of drafting in the electrical and electronic industry including components and their symbols, schematic and logic diagrams, printed circuit board layout and tape-up, silk-screen, detail and assembly drawings of P.C. boards.

2 hours lecture; 4 hours laboratory.

DFT 150* Computer-Aided Drafting/3 Units

Prerequisite: DFT 112, 113 or concurrent with 130.

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

2 hours lecture; 4 hours laboratory.

DFT 170* Illustration/3 Units

Prerequisite: DFT 112 or permission of instructor.

A study of illustration 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 200* Drafting for Manufacturing/4 Units

Prerequisite: DFT 112, GTC 101.

A study of fabrication procedures, machine elements, and the influence of manufacturing on design, includes precision dimensioning and tolerancing, detail and assembly drawings, engineering change orders.

2 hours lecture; 6 hours laboratory.

DFT 224 Field Experience in Drafting/1-6 Units

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

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

DFT 230* Electro-Mechanical Design/3 Units

Prerequisite: DFT 112 and DFT 130.

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

2 hours lecture; 4 hours laboratory.

DFT 240* Tool Design/4 Units

Prerequisite: DFT 120 and GTC 101, or permission of instructor.

A study of standardized tooling components materials including jigs and fixtures, gages, punch and die sets with emphasis on design of the various tooling elements.

2 hours lecture; 6 hours laboratory.

DFT 250* Computer Aided Drafting/3 Units

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

A course to introduce the computer as a drafting tool with multi-view, pictorial and electronic drawings made using computer graphics techniques.

2 hours lecture; 4 hours laboratory.

Economics

ECN 201 Principles of Macroeconomics/3 Units

Prerequisite: None.

A view of the economy at the highest level of aggregation. A study of aggregate supply and demand, gross national product, national income, employment, inflation, banking, and monetary versus fiscal policy with emphasis on household, business, and government sectors.

3 hours lecture.

ECN 202 Principles of Microeconomics/3 Units

Prerequisite: None.

A study of individual market interactions. An inquiry into the elasticity of supply and demand, the production function, consumer choice, price theory, utility, and cost behavior as applied to households and businesses under competition, monopoly, and oligopoly market situations.

3 hours lecture.

ECN 299 Individual Studies/1-4 Units

Prerequisite: Approval of the division chair and instructor.

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

Education

EDU 193 Special Topics in Education/1 Unit

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 Units**

Prerequisite: Instructor certification complete except for this course.

A study of the history, philosophy, role, objectives and educational functions of the community college with emphasis on organization, operation, curriculum and instruction at Cochise College in particular and Arizona community colleges in general.

3 hours lecture.

EDU 201 Introduction to Education/3 Units

Prerequisite: ENG 101.

An overview of the education profession and the United States Educational System with emphasis upon educational history, current issues and the roles and responsibilities of the teacher.

3 hours lecture.

EDU 211 Teacher Competency Test Preparation Reading/2 Units

Prerequisite: Sophomore standing in the pre-education program, ENG 101, 102, MAT 110 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.

1 hour lecture; 3 hours laboratory.

EDU 212 Teacher Competency Test Preparation Mathematics/.5 Units

Prerequisite: Sophomore standing in the pre-education program, MAT 110 or permission of instructor.

Preparation for the sophomore pre-education major to take the mathematics portion of the Pre-Professional Skills Test (PPST) as required for admittance to Arizona Universities' Colleges of Education. The course emphasizes review of essential mathematics skills and test-taking techniques tailored to individual student needs.

1/2 hour lecture.

EDU 213 Teacher Competency Test Preparation English/.5 Unit

Prerequisite: Sophomore standing in the pre-education, ENG 101 and 102, or permission of instructor.

Preparation for the sophomore pre-education major to take the English portion of the Pre-Professional Skills Test (PPST) as required for admittance to Arizona Universities' Colleges of

Education. The course emphasizes review of essential writing skills tailored to individual student needs.

1/2 hour lecture.

EDU 224 Field Experience in Educational Instruction/1-6 Units

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 Educational Instruction. 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.

EDU 290 Instructor Skill Development/3 Units

Prerequisite: None.

Designed to impart a wide range of teaching skills, concepts, and techniques applicable to adult learning situations. Topics covered include adult learning, training needs, research methodology, instructional objectives, program development, instructional methodology, and evaluation techniques. (Identical to AJS 290.)

3 hours lecture.

Electronics

ELT 100 Electronics Foundations/3 Units

Prerequisite: MAT 020 or equivalent.

An introduction to electronic principles including DC and AC circuits, passive and active circuits, and applications that will give the student a general concept of the electronics field. For non-electronics majors.

3 hours lecture.

ELT 101 Beginning Digital Electronics/3 Units

Prerequisite: None.

A beginning course in digital electronics for students planning to enter the electronics field.

3 hours lecture.

ELT 105* Introduction to DC Circuits/3 Units

Prerequisite: ELT 110 or MAT 110.

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

2 hours lecture; 3 hours laboratory.

ELT 106* Introduction to AC Circuits/4 Units

Prerequisite: ELT 105 (ELT 105 may be taken concurrently.)

An introduction to alternating current passive circuits, and the application of trigonometry and vectors to circuit solutions.

3 hours lecture; 3 hours laboratory.

ELT 107* Basic Computer Programming/3 Units

Prerequisite: Intermediate Algebra.

An introduction to computers and the BASIC language with emphasis on the concepts, writing and execution of computer programs, processing of data, and the development of algorithms for the computer solution to problem solving.

2 hours lecture; 3 hours laboratory.

ELT 110 Math for Electronics/3 Units

Prerequisite: One year of high school algebra or equivalent.

A review of arithmetic and the study of algebraic principles necessary to analyze electronic circuitry and provide a firm background for advanced studies. Topics include fractions, decimals, fundamental concepts of algebra, scientific notation, graphing, linear equations and the solution of DC electric circuits.

3 hours lecture.

ELT 120 Advanced Mathematics for Electronics/3 Units

Prerequisite: ELT 110 or equivalent.

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

3 hours lecture.

ELT 122* Semiconductors and Transistors/4 Units

Prerequisite: ELT 106 and ELT 110 or MAT 110.

A comprehensive study of semiconductor devices stressing the qualitative and quantitative analysis of semiconductor circuits with major emphasis on DC biasing, small signal analysis of diodes and transistors, load lines, approximate hybrid parameters, and multistage systems.

3 hours lecture; 3 hours laboratory.

ELT 125* Electronic Circuits and Systems/4 Units

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

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

3 hours lecture; 3 hours laboratory.

ELT 224 Field Experience in Electronics/1-6 Units

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

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

ELT 231* Pulse Circuits/4 Units

Prerequisite: ELT 122.

A study of waveforms, RC and RL networks, passive and active pulse circuitry, diode and transistor switching circuits, nonlinear waveshaping and multivibrators.

3 hours lecture; 3 hours laboratory.

ELT 233* Digital Circuits and Systems/4 Units

Prerequisite: ELT 122.

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

3 hours lecture; 3 hours laboratory.

ELT 243* Modern Electronic Devices/4 Units

Prerequisite: ELT 122.

A study of the characteristics of differential and operational amplifiers, applications, and analysis of practical op amp circuits, photoconductive and photovoltaic devices, unijunction transistors, silicon controlled rectifiers, and selected materials covering other electronic devices.

3 hours lecture; 3 hours laboratory.

ELT 245* Communication Electronics I/4 Units

Prerequisite: ELT 120, 122, 125 (ELT 120 may be taken concurrently.)

The application of qualitative and quantitative theoretical concepts to practical communications circuits AM and FM receiver systems, voltage and power amplifiers, feedback, oscillators, resonance, filters, coupling, frequency synthesizers and phaselock techniques are studied.

3 hours lecture; 3 hours laboratory.

ELT 247* Communication Electronics II/4 Units

Prerequisite: ELT 245.

A continuation of Communication Electronics I, including AM transmitters, frequency modulation systems, transmission lines, antennas and propagation. Laboratory emphasis on the

use of electronic test equipment in the analysis and adjustment of receivers and transmitters.

3 hours lecture; 3 hours laboratory.

ELT 265* Microprocessors and Microcomputers/4 Units

Prerequisite: ELT 233.

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

3 hours lecture; 3 hours laboratory.

ELT 270 Microcomputer Systems/4 Units

Prerequisite: ELT 233 and concurrent enrollment in ELT 265.

Analysis of small computer systems. Computer organization and the hardware and software required for peripheral interfacing.

3 hours lecture; 3 hours laboratory.

Emergency Medical Technology

EMT 101 First Responder Training/2 Units

Prerequisite: None.

A practical study of the role of the first responder as a provider of immediate emergency medical care, with emphasis upon evaluating accidents, patient assessment, CPR, emergency care for internal and external injuries, emergency childbirth, poisons and drugs, and the minimization of further injury and complications.

2 hours lecture; 1 hour laboratory.

EMT 174* Emergency Medical Technology/6-7 Units

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, and the basic legal responsibilities, anatomy and physiology, triage, assessment, CPR, and life-support system.

6-7 hours lecture; 1 hour laboratory.

EMT 176* Emergency Medical Technology

Refresher/2 Units

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 Unit

Prerequisite: None.

A review of basic techniques for success in college, including practical exercises in listening to lectures, concentration, time management, note-taking, test-taking, textbook analysis and review, outlining, summarizing, writing essay questions, using the library and the microcomputer to study spelling and vocabulary.

1 hour lecture.

ENG 002 Basic English for Vocations/1 Unit

Prerequisite: Permission of instructor.

A course taken in conjunction with ESL 034, ENG 020 or ENG 022 designed to introduce the student to the vocabulary and study skills important for success in a specific vocational field.

Specific areas in which modules are currently available include office communications, administration of justice, drafting, aviation (both for pilots and for airframe and powerplant). Modules in other fields will be developed as demand warrants.

1 hour lecture.

ENG 004 Spelling Improvement/1 Unit

Prerequisite: None.

A review of spelling fundamentals helps freshmen conceptualize words used in various content fields as well as basic function words for college writing; a review of basic phonetics, common roots, silent consonants and vowel blends. Included in the Reading Improvement Block or taught individually by student contract through the Student Development Center.

1 hour lecture.

ENG 010 English Fundamentals/3 Units

Prerequisite: Appropriate placement test score and/or recommendation of former English/ESL instructor.

An intensive review of grammar, spelling, vocabulary, and other fundamentals, with emphasis on writing paragraphs and short essays. Non-transferable.

3 hours lecture.

ENG 011 Written Military Communications and Reports/1 Unit

Development of the skills of written communications and reports with emphasis on accuracy, brevity and clarity. Assignments will consist of military reports and correspondence normally written by junior officers.

1 hour lecture.

ENG 019 Transitional Reading/3-4 Units

Prerequisite: ESL 034 or placement test score.

A course designed for ESL students beginning regular college classes and for lower level readers of English. Emphasis on basic, literal comprehension, vocabulary building and reading rate improvement. Upon completion, the student will read at the 6.0 reading level or equivalent as measured by a standardized reading test. (Identical with RDG 019.)

3 hours lecture; 1-2 hours laboratory.

ENG 020 Reading Fundamentals/3 Units

Prerequisite: None.

A review of basic skills for college reading emphasizing content, vocabulary growth, improved rate of comprehension in various materials, review of phonetic rules applied to English spelling, dictionary and library use complementing general study skills. Designed to be taught three hours weekly, with ENG 001 Study Skills and ENG 004 Spelling Improvement, as the basic skills block for all freshmen testing below grade level 11.5 on the Nelson-Denny placement test.

3 hours lecture.

ENG 022 Individualized Reading/3 Units

Prerequisite: ENG 020.

A continuation of reading ENG 020 for second semester students whose Nelson-Denny scores remain below 12.1; individualized approaches to reading for mature adults, part-time evening vocational students or those who wish to concentrate on selected aspects of literal and critical comprehension while developing higher level thinking skills using college vocabulary.

3 hours lecture.

ENG 100 Intermediate Writing/3 Units

Prerequisite: Appropriate placement test scores or a grade of C in ENG 010.

A review of vocabulary, spelling, and sentence construction, with emphasis on writing and revising paragraphs and short essays using expository patterns.

3 hours lecture.

ENG 101 Composition/3 Units

Prerequisite: ENG 100 with grade of "C" or better or appropriate placement test score.

A review of usage and syntax, study of and practice in the process of writing, methods of organization, expository patterns, and the documented paper based on library resources.

3 hours lecture.

ENG 102 Composition/3 Units

Prerequisite: ENG 101 or its equivalent with a grade of C or better.

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

3 hours lecture.

ENG 104 Introduction to Literature/3 Units

Prerequisite: ENG 102 or permission of instructor.

A study of literary genre: drama, poetry, fiction, criticism. Emphasis on writing critically about literature.

3 hours lecture.

ENG 106 Intermediate Writing for Foreign Students/3 Units

Prerequisite: Placement by the English Immersion staff based on a series of tests. The student will need a score of between 55-75 on the Michigan Test, 5-6.9 on the Nelson Reading Test, and 2+ to 3- on the writing sample.

Designed to improve the writing ability of foreign students. Includes a review of the mechanics of writing, punctuation,

spelling and capitalization, vocabulary development exercises, reading, and intensive practice in writing at the sentence and paragraph levels.

3 hours lecture; 2 hours laboratory.

ENG 107 English Composition for Foreign Students I/3 Units

Prerequisite: ENG 106 or ENG 100, or recommendation from placement testing.

College composition course for non-native speakers of English, with emphasis on writing about prose readings, summary and analysis, documentation, library research methods, and writing a research paper.

3 hours lecture.

ENG 108 English Composition for Foreign Students II/3 Units

Prerequisite: ENG 107 or ENG 101.

A continuation of ENG 107 with emphasis on argumentation and persuasion and an introduction to the research paper for students whose native language is not English.

3 hours lecture.

ENG 109 Written Communications and Reports/3 Units

Prerequisite: ENG 101 or permission of instructor.

Development of the skills of effective written communications and reports with emphasis on clarity and accuracy; assignments individualized by occupational discipline.

3 hours lecture.

ENG 111 Grammar, Usage and Punctuation/3 Units

Prerequisite: ENG 100, or 101 or 106 or 107 or permission of instructor.

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

3 hours lecture.

ENG 112 Children's Literature/3 Units

Prerequisite: None.

A survey of literary materials available for children from their very early years through their teens exploring the means through which children may enjoy literature, selection tools available for adults, use of reference materials and audio-visuals.

3 hours lecture.

ENG 114 The Research Paper/1 Unit

Prerequisite: ENG 020 or its equivalent.

A study of the research methods with emphasis on bibliography, note-taking and footnoting, organizing materials and developing research topics. Three hours a week for five weeks or one hour a week for fifteen weeks.

ENG 115 The Genealogy of English Words/3 Units

Prerequisite: None.

A course to increase the student's command of modern English with emphasis on words derived from Latin which considers etymological meanings, modern meanings and the semantic and phonetic changes involved.

3 hours lecture.

ENG 116 Genealogy of English Words/3 Units

Prerequisite: None.

A course to assist the student to increase his command of modern English emphasizing words derived from Greek. ENG 115 not a prerequisite to 116.

3 hours lecture.

ENG 119 Creative Writing/3 Units

Prerequisite: ENG 101 or permission of instructor.

An introduction to creative writers and writing using narrative prose, poetry, short stories and student work to model and critique.

3 hours lecture.

ENG 167 Business English Communications/3 Units

Prerequisite: ENG 101, ENG 111 or permission of instructor.

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

3 hours lecture.

ENG 179* Applied Technical Writing/3 Units

Prerequisite: ENG 100 (C or better) or placement into ENG 101. College level reading.

An applied skill 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 Unit

Prerequisite: None.

A rotating forum/seminar emphasizing linguistic development and change, regional literature, literary styles, folklore and related topics. Topics will vary in accordance with changes in student need and interest. Cochise College elective credit only unless otherwise designated in degree programs.

1/2-1 hour lecture.

ENG 203 Advanced Composition/3 Units

Prerequisite: ENG 102 or permission of instructor.

An introduction to writing critically about literature with analysis of various literary genre. Credit for ENG 104 will not be granted if the student has taken ENG 203.

3 hours lecture.

ENG 206 Critical Reading & Writing/3 Units

Prerequisite: ENG 101 and 102 or placement test score C, grade level 12.1 on Nelson-Denny Test.

A study of reading and composition as an analytical, interpretative process requiring the student to make rational judgments based on valid criteria concerning content and style emphasizing non-fiction essays, news articles and complete books.

3 hours lecture.

ENG 209 Introduction to Poetry/3 Units

Prerequisite: ENG 101 or equivalent or permission of instructor.

A survey of selected traditional, modern, and contemporary poetry designed to promote a sensitive reading, appreciation, and understanding of poetry with emphasis on the ordering of language by which poetry brings into being patterns of thought and feeling which release meaning.

3 hours lecture.

ENG 210 The Bible as Literature/3 Units

Prerequisite: None.

A study of the Bible as a work of literature emphasizing historical development, types of literature, allusions, and impact upon later writers and the literary expression of cultural values.

3 hours lecture.

ENG 219 Advanced Creative Writing/3 Units

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

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

3 hours lecture.

ENG 220 British Literature I/3 Units

Prerequisite: ENG 101.

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

3 hours lecture.

ENG 221 British Literature II/3 Units

Prerequisite: ENG 101.

A survey of major authors from the beginning of the eighteenth century to the present. Need not be taken in sequence.

3 hours lecture.

ENG 222 Introduction to Shakespeare/3 Units

Prerequisite: Six units of freshman English.

An introduction to the major comedies, histories, and tragedies of Shakespeare.

3 hours lecture.

ENG 224 American Literature I/3 Units

Prerequisite: ENG 101.

A survey of major American authors from the colonial period to 1860, including the works of Hawthorne, Poe, Melville, and Emerson.

3 hours lecture.

ENG 225 American Literature II/3 Units

Prerequisite: ENG 101.

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

3 hours lecture.

ENG 226 World Literature/3 Units

Prerequisite: Six units of freshman English or permission of instructor.

A study of some of the master works of literature through the Renaissance, including selections by Homer, the Greek tragic writers, Virgil, Dante, Chaucer, Cervantes and Shakespeare.

3 hours lecture.

ENG 227 World Literature/3 Units

Prerequisite: Six units of freshman English or permission of instructor.

A study of eight major literary works from the Renaissance to the present, including selections of Voltaire, Goethe, Stendahl, Dickens, Dostoevsky, Turgenev, Flaubert, Mann. ENG 226 is not a prerequisite to ENG 227.

3 hours lecture.

ENG 228 Mythology and Folklore/3 Units

Prerequisite: ENG 101 or permission of instructor.

A survey of beliefs and customs from ancient Greece to the present with emphasis on folk beliefs, legends, myths and folk tales from various cultures.

3 hours lecture.

ENG 265 Major American Writers/3 Units

Prerequisite: ENG 102.

An exploration of selected works by major American authors from the last century to the present.

3 hours lecture.

ENG 279* Advanced Applied Technical Writing/3 Units

Prerequisite: CIS/ENG 179

An applied skill course on writing effective, clear, technical reports and communications with confidence, skill and flair. Emphasis on using appropriate processes and products for reporting technical information. Industry-standard writing

mechanics/syntax, forms/format and technical style are stressed. Same as CIS 279.

3 hours lecture.

ENG 299 Individual Studies/1-4 Units

Prerequisite: Approval of the division chair and instructor.

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

English As A Second Language

ESL 009 Adult Basic Reading for ESL/3 Units

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 and English phonetics, and how to read print and to form words into basic English sentences.

3 hours lecture.

ESL 011 Conversational English/3 Units

Prerequisite: Recommendation from placement testing.

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

3 hours lecture.

ESL 012 Conversational English/3 Units

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

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

3 hours lecture.

ESL 013 Conversational English/3 Units

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

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

3 hours lecture.

ESL 014 Conversational English/3 Units

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

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

3 hours lecture.

ESL 024* Speaking and Understanding

English I/3-4 Units

Prerequisite: Recommendation from placement testing.

This course is designed as a study of beginning grammar, vocabulary and listening comprehension with controlled conversation. Language laboratory reinforcement of aural/oral patterns is also provided.

3-4 hours lecture.

ESL 025* Speaking and Understanding

English I/3-4 Units

Prerequisite: Recommendation from placement testing.

This course is designed as a study of basic grammar, vocabulary and listening comprehension with controlled conversation. Language laboratory reinforcement of aural/oral patterns is also provided.

3-4 hours lecture.

ESL 026* Speaking and Understanding English I/6-8 Units

Prerequisite: Recommendation from placement testing.

A study of beginning grammar, vocabulary and listening comprehension with controlled conversation with language laboratory reinforcement of aural/oral patterns provided.

ESL 027* Speaking and Understanding English I/6-8 Units

Prerequisite: Recommendation from placement testing.

A study of basic grammar, vocabulary and listening comprehension with controlled conversation, language lab reinforcement of aural/oral patterns.

ESL 028 Reading English I/3-4 Units

Prerequisite: Placement through the English Immersion Program based on scores from the Michigan English Placement Test & Nelson Reading Test.

An introduction to basic reading skills with an emphasis on structural reinforcement, vocabulary development, and comprehension for students whose native language is not English.

ESL 029 Elementary Writing Skills/3-4 Units

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

An introduction to written sentence patterns and paragraph development in English.

ESL 030 Read and Write English II/3-4 Units

Prerequisite: ESL 028 or recommendation from placement test.

A continuation of reading and writing skills for non-native speakers of English, with short readings in a variety of content areas designed to improve fundamental reading skills and develop vocabulary. Continued study of paragraph writing emphasizing academic rhetorical form on topics that describe common student experiences.

3 hours lecture; 2 hours individualized instruction.

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

Prerequisite: ESL 027 or recommendation from testing.

An intense, rapid review of English grammar and expansion of listening comprehension with conversation and language laboratory reinforcement of aural/oral structures.

ESL 032 Reading English III/3-4 Units

Prerequisite: ESL 030 or recommendation from placement testing.

An intermediate level reading course for English as a second language students, designed to increase vocabulary and reading ability through the mastery of a series of reading skills applied to academically-related reading selections of 1 to 2 pages in length.

3 hours lecture; 2 hours individualized instruction.

ESL 033 Paragraph Writing/3-4 Units

Prerequisite: ESL 029 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.

ESL 034 Reading English IV/3-4 Units

Prerequisite: ESL 032 or recommendation from placement testing.

A course designed to improve reading comprehension, expand vocabulary, develop basic reading skills, and teach basic study skills for students whose native language is not English.

3 hours lecture; 2 hours individualized instruction.

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

Prerequisite: ESL 031 or recommendation from placement testing.

A review of basic English grammatical structures and a presentation of more advanced structures with speaking

practice designed to aid the student of English as a Second Language to express himself in a more natural manner.

ESL 040* Using and Reading English I/6-8 Units

Prerequisite: None.

Designed for students with little or no knowledge of English. Students will practice the sounds of English, study the structure of English as used in simple sentences and questions, and learn an elementary vocabulary.

ESL 041* Lab for Using and Reading English I/2 Units

Prerequisite: ESL 040 (concurrently or permission from instructor).

Designed to give students practice using English in simulated situations such as dialogue practice, conversations, role playing activities, drama activities, speaking exercises, and exercises involving A/V equipment in conjunction with special projects.

ESL 042* Using and Reading English II/6-8 Units

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

A continuation of Using and Reading English I. The course covers grammar, reading, vocabulary, and listening exercises at the low-intermediate level with communicative activities more advanced than ESL 040.

ESL 043* Lab for Using and Reading English II/2 Units

Prerequisite: ESL 042 (concurrently or permission from instructor).

Designed to give students practice using English in simulated situations such as dialogue practice, conversations, role playing activities, drama activities, speaking exercises, and exercises involving A/V equipment in conjunction with special projects.

ESL 044* Using and Reading English III/6-8 Units

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

A continuation of Using and Reading English II. Covers grammar, reading, vocabulary, and listening exercises at the

high intermediate level, with more advanced activities than the ESL 042.

ESL 045* Lab for Using and Reading English III/2 Units

Prerequisite: ESL 044 (concurrently or permission of instructor).

A course to give students practice using English in simulated situations such as dialogue practice, conversations, role-playing activities, drama activities, speaking exercises, and exercises involving A/V equipment in conjunction with special projects.

ESL 046* Using and Reading English IV/6-8 Units

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

A continuation of Using and Reading English III covering grammar, reading, vocabulary, and listening comprehension at the advanced level. The communicative activities at this level are the most advanced, and student completing this level should be able to take regular courses at Cochise College.

ESL 047* Lab for Using and Reading English IV/2 Units

Prerequisite: ESL 046 (concurrently or permission of instructor).

A course to give students practice using English in simulated situations such as dialogue practice, conversations, role playing activities, drama activities, speaking exercises, and exercises involving A/V equipment in conjunction with special projects.

ESL 100 Academic Skills/3 Units

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.

3 hours lecture; 2 hours individualized instruction.

ESL 193 Current Topics in ESL/1 Unit

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 Units

Prerequisite: None.

A general study of man's impact upon the environment, its pollution problems, and possible solutions to current dilemmas related to population and basic ecological principles.

3 hours lecture.

EVS 110 Wilderness Problems/3 Units

Prerequisite: None.

Focuses upon the philosophy of the wilderness movement, the Wilderness Act of 1964, the Endangered Species Act, the Environmental Policy Act, and the current U.S. Wilderness system with special emphasis on Cochise County.

3 hours lecture.

EVS 111 Wildland Ecology/3 Units

Prerequisite: None.

A seven-day field course designed to familiarize the student with Southwestern ecosystems, their 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 bag, backpack, food and personal hygiene needs.

1 hour lecture; 3 hours laboratory.

EVS 192 Special Topics in Environmental Studies/.5 Units

Prerequisite: None.

A rotating forum/seminar emphasizing environmental topics of current interest to public and private sector organizations. Includes seminars based upon E.P.A. and O.S.H.A. 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 Unit^a

Prerequisite: None.

A rotating forum/seminar emphasizing environmental topics of current interest to public and private sector organizations. Includes seminars based upon E.P.A. and O.S.H.A. regulations.

1 hour lecture.

- 193A Environmental Law and Its Impact**

- 193B Basic Wastewater Treatment**

Fire Science

FST 101 Introduction to Fire Science/3 Units

Prerequisite: None.

A study of the historical and scientific background of the fire protection field. 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 Units

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 Units

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 Units

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 Units

Prerequisite: FST 110 and 111.

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 pumbers.

3 hours lecture.

FST 193 Special Topics in Fire Science/1 Unit

Prerequisite: None

A rotating forum/seminar emphasizing fire science topics of current interest to area fire departments and related public service agencies. Includes seminars based upon National Fire Academy field courses.

1 hour lecture.

193A Incident Command System

193B Fire Science Supervision: Increasing Personal Effectiveness

193C Fire Science Supervision: Increasing Team Effectiveness

193D Volunteer Fire Service Management

193E Firefighter Health and Safety

193F Firefighter Safety and Survival: The Company Officer's Responsibility

193G Public Fire Education Planning

193H Instructional Techniques for Company Officers

193I Basic Fire Prevention Inspections

FST 200 Fire Apparatus and Equipment/3 Units

Prerequisite: FST 110 and 111 or permission of the instructor.

A practical study of the selection, care, construction, operation and maintenance of fire department equipment. The basic principles of equipment, trouble-shooting, and testing will be investigated.

3 hours lecture.

FST 220 Rescue Practices/3 Units

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 Units**

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

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

FST 240 Fire Fighting Tactics and Strategy/3 Units

Prerequisite: FST 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 Units

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 Units

Prerequisite: FST 110 and FST 111 or permission of the instructor.

A study of administrative methods and practices as applied to the fire service, 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 Units**

Prerequisite: None.

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

3 hours lecture.

French**FRE 101 Elementary French/4 Units**

Prerequisite: None.

An introduction to conversation, comprehension of the spoken language, pronunciation, grammar, reading and composition and stress on language use and vocabulary development.

3 hours lecture; 2 hours laboratory.

FRE 102 Elementary French/4 Units

Prerequisite: FRE 101 or permission of instructor based on demonstrated competence.

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

3 hours lecture; 2 hours laboratory.

FRE 201 Intermediate French/4 Units

Prerequisite: FRE 102 or three years of high school French with a grade of C or equivalent competency as demonstrated by placement examination.

A review of grammar, pronunciation, and development of patterns of speech in French, with additional practice in reading, writing, speaking, and understanding the language.

Supplemental readings and assignments will enrich the student's vocabulary.

4 hours lecture; 1 hour laboratory.

FRE 202 Intermediate French/4 Units

Prerequisite: FRE 201 or equivalent competency as demonstrated by placement examination.

A review of grammar, pronunciation, and development of patterns of speech in French, with additional practice in reading, writing, speaking, and understanding the language.

Supplemental readings and assignments will enrich the student's vocabulary.

4 hours lecture; 1 hour laboratory.

General Electronics Technician

The following classes, GET 103, 104, 108, 123, and 240 were designed specifically for the Arizona Department of Corrections in Douglas.

GET 103 Basic Electronic Circuits and Diagnostics/3 Units

Prerequisite: None.

A course designed to develop student proficiency in diagnosing basic electronic circuits, defective components, 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 Units

Prerequisite: GET 103.

A comprehensive course designed to make the student proficient in diagnosing complex direct current circuits and defective components, and in performing repair procedures for complex series, parallel, and series/parallel circuits using appropriate test equipment and supplies to facilitate repairs. Use schematic diagrams as a diagnostic tool. Learn how components are made and how to select the proper replacement or substitution part.

3 hours lecture plus individualized laboratory instruction.

GET 108 Alternating Current Circuit Diagnostics/4 Units

Prerequisite: GET 104.

A comprehensive course designed to make the student proficient in diagnosing complex alternating current circuits, defective components, and in performing repair procedures for complex series, parallel, and series/parallel circuits using appropriate test equipment and supplies to facilitate repairs. Use schematic diagrams as a diagnostic tool. Learn how components are made and how to select the proper replacement or substitution part.

4 hours lecture plus individualized laboratory instruction.

GET 123 Semiconductor Device Diagnostics and Repair/4 Units

Prerequisite: GET 108.

A comprehensive course designed to make the student proficient in diagnosing simple and complex semiconductor device circuits and defective components, and in performing repair procedures using appropriate test equipment and supplies. Use schematic diagrams as a diagnostic tool. Learn how components are made and how to select the proper replacement or substitution part.

4 hours lecture plus individualized laboratory instruction.

GET 240 Electronic Systems Diagnostics and

Repair/6 Units

Prerequisite: GET 123.

A comprehensive course designed to make the student proficient in diagnosing power supplies, amplifiers, oscillators, digital and microprocessor circuits, and in using schematic diagrams as diagnostic tools, and locating defective components, selecting proper replacement part, and in performing repair procedures using appropriate test equipment, tools and supplies, and in performing system checks to verify proper operation, and that repairs were successful.

4 hours lecture plus 4 hours of individualized laboratory instruction.

General Technology

Note: *Indicates Lab Fees.

GTC 001 Home Maintenance/3 Units

Prerequisite: None.

A "do it yourself" home maintenance course covering use of common hand and power tools for routine electrical, carpentry, plumbing repairs. May be repeated for AA credit.

1 hour lecture; 3 hours laboratory.

GTC 002 General Technical Math I/1 Unit

Prerequisite: Math placement test scores below requirements for successful completion of MAT 010 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 Unit

Prerequisite: GTC 002.

A general technology arithmetic course in an open entry/open exit format emphasizing drill in skills and techniques of computation. Includes basic operations with fractions and decimals using terminology of different technologies. Completion of the GTC 002/003/004 sequence is equivalent to MAT 005.

1 hour lecture.

GTC 004 General Technical Math III/1 Unit

Prerequisite: GTC 003.

A general technology arithmetic course in an open entry/open exit format emphasizing drill in skills and techniques of computation. Includes basic operations and applications of decimals, ratio, proportion, and percent using terminology of different technologies. Completion of the GTC 002/003/004 sequence is equivalent to MAT 005.

1 hour lecture.

GTC 005 Read-Study/1 Unit

Prerequisite: Referral from faculty or college counselor to SDC Director concerning "a special needs student."

Tutorial for pre-vocational students functioning below grade level 8. A review of reading comprehension necessary to a vocational program. Required competencies include study strategies for textbooks, vocabulary, interpreting visuals, writing related to study assignments, and exams.

1 hour lecture.

GTC 006 Word ID-Spelling/1 Unit

Prerequisite: Recommendation by a counselor or vocational program advisor to the Student Development Center Director for individualized instruction. The class may be repeated once for credit.

Introduction to basic decoding/spelling rules with application for adults functioning below grade level 7.0 on a standardized

placement test indicating a need for phonetic/structural analysis.

1 hour lecture.

GTC 007 General Technical Math IV/1 Unit

Prerequisite: Indicated mathematics deficiency.

A general technology arithmetic course in an open entry/open exit format emphasizing drill in computational skills and techniques. Includes fundamental math operations with whole numbers, fractions, and prime factorization. Completion of the GTC 007/008/009 sequence is equivalent to MAT 010.

1 hour lecture.

GTC 008 General Technical Math V/1 Unit

Prerequisite: GTC 007.

A general technology arithmetic course in 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 010.

1 hour lecture.

GTC 009 General Technical Math VI/1 Unit

Prerequisite: GTC 008.

A vocationally oriented basic arithmetic course in an open entry/open exit format emphasizing drill in skills and techniques of computation. Includes operations with percentages and signed numbers. Also emphasized are conversions within and between English and Metric systems of measurement. Completion of the GTC 007/008/009 sequence is equivalent to MAT 010.

1 hour lecture.

GTC 012* General Automotive Mechanics I/3 Units

Prerequisite: None.

Automotive maintenance and repair including tune-up, electrical systems, fuel systems, cooling systems, lubrication systems

and oils, transmissions and clutches, brake systems and accessories, such as air conditioning.

1 hour lecture; 4 hours laboratory.

GTC 014* Know Your Automobile/3 Units

Prerequisite: None.

A course to develop entry level auto mechanic skills: basics of engine operation, powertrain operation, use of tools, care and selection of tires, use of jack, changing tires, lubrication system service, checking fluid levels, cooling system and minor service, repacking wheel bearings, fuel system theory and very minor service, basics of electricity, basics of battery, starter, and 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 Units

Prerequisite: None.

Basic application of theory of refrigeration and techniques of servicing automotive air conditioners.

1 hour lecture; 4 hours laboratory.

GTC 017* Advanced Automobile Refrigeration/3 Units

Prerequisite: GTC 016.

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

1 hour lecture; 4 hours laboratory.

GTC 018* Commercial Refrigeration/3 Units

Prerequisite: GTC 016.

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

1 hour lecture; 4 hours laboratory.

GTC 022 Water and Waste Water Plant Operation/3 Units

Prerequisite: Admissibility to Cochise College.

A course designed to provide the student with the knowledge, skills, and techniques required to pass a State of Arizona Certification Examination or Class I or Class II or Waste Water Plant Operator.

2 hours lecture; 3 hours laboratory.

GTC 025 Solar Energy Systems/3 Units

Prerequisite: MAT 110 or equivalent knowledge of basic hand tools.

Design, installation and operation of residential solar energy systems including basic solar heating and cooling theory and laboratory experience to develop student understanding of solar energy systems, emphasis on selection of components and operation of the system.

2 hours lecture; 3 hours laboratory.

GTC 100 Technical Mathematics I/3 Units

Prerequisite: One semester of high school algebra or permission of instructor.

A review of arithmetic and the study of fundamentals of algebra and geometry applied to practical problems of the drafting room, machine shop, and engineering.

3 hours lecture.

GTC 101 Technical Mathematics II/3 Units

Prerequisite: GTC 100 or permission of instructor.

A continuation of GTC 100 which emphasizes application of trigonometry to practical problems in industry, including use of logarithms and calculators to solve problems related to screw threads, gears, and technical problems in engineering.

3 hours lecture.

GTC 105 Manufacturing Materials and Processes I/3 Units

Prerequisite: None.

Manufacturing materials, operations, procedures, and processes with emphasis on their relationship to drafting and design.

3 hours lecture.

GTC 106 Manufacturing Materials and Processes II/3 Units

Prerequisite: None.

Manufacturing processes involving finished parts including machining processes and automated manufacturing techniques as they apply to drafting and design.

3 hours lecture.

The following courses GTC 110, GTC 111, GTC 112, GTC 120, GTC 121, GTC 122, GTC 123, GTC 124, GTC 125, GTC 126, GTC 127, GTC 130, GTC 131, GTC 132, GTC 133, GTC 134 were designed specifically for the Arizona Department of Corrections in Douglas.

GTC 110 Masonry I/3 Units

Prerequisite: MAT 005 and 010 or equivalent.

An examination of the masonry profession with an emphasis upon the use of masonry tools and the techniques of laying brick and block.

2 hours lecture; 3 hours laboratory.

GTC 111 Masonry II/3 Units

Prerequisite: GTC 110.

A continuation of Masonry I, with emphasis upon the decorative and design possibilities of brick and block 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 Units

Prerequisite: GTC 111.

A continuation of Masonry II concentrating on the design and construction of various types of fireplaces and on decorative stone-work, arches and tile.

2 hours lecture; 3 hours laboratory.

GTC 120 Concrete Construction and Finish/3 Units

Prerequisite: None.

A combination of step-by-step layout and finish techniques with the theory of practical concrete formulation.

2 hours lecture; 3 hours laboratory.

GTC 121 Painting: Exterior and Interior/3 Units

Prerequisite: None.

Student preparation for proficiency in patching, repainting, and maintaining painted surfaces in the interior and exterior of building and structures with an emphasis on surface preparation, the selection of paints, their application and the safe and proper storage of all painting materials and tools.

2 hours lecture; 4 hours laboratory.

GTC 122 Air Conditioning Maintenance/3 Units

Prerequisite: None.

A course to provide the student with proficiency in inspecting trouble-shooting, repairing and maintaining air conditioning 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 Units

Prerequisite: None.

A course to provide the student with proficiency in maintaining trouble-shooting, and repairing existing residential and industrial circuitry and equipment. The student will install original circuitry in newly remodeled spaces or additions.

3 hours lecture.

GTC 124 Carpentry Maintenance and Repair/3 Units

Prerequisite: None.

A course to provide the student with proficiency in maintaining, repairing, replacing, and remodeling existing or new building components including floor coverings, wall coverings, and glazing.

GTC 125 Plumbing Maintenance and Repair/3 Units

Prerequisite: None.

A course to provide the student with proficiency in the maintaining, trouble-shooting, repairing, and replacing of liquid supply and waste removal or drainage systems.

GTC 126 Maintenance Management/3 Units

Prerequisite: None.

A course to provide the student with proficiency in scheduling maintenance, allotting maintenance task hours, and the cost efficient and safe use of maintenance tools and materials with an emphasis on the cost of preventive maintenance versus unscheduled maintenance.

GTC 127 Blueprint Reading and Estimating/3 Units

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 Units

Prerequisite: GTC 100 and DFT 100.

Techniques and procedures of contract interpretation; material selection; and materials, labor and time estimation.

3 hours lecture.

GTC 131 Principles of Technology I/6 Units

Prerequisite: GTC 101.

An introductory course in applied science and associated mathematics to study how concepts such as force, work, rate, resistance and energy apply to mechanical, fluidic, electrical and thermal energy systems for those students preparing to enter high technology career fields.

3 hours lecture; 6 hours lab and/or individualized instruction.

GTC 132 Principles of Technology II/6 Units

Prerequisite: GTC 131.

An intermediate course in applied science and related mathematics to study how concepts such as power, force transformation, momentum, waves, vibrations and energy conversion apply to mechanical, fluidic, electrical and thermal energy systems for the student preparing to enter high technology career fields.

3 hours lecture; 6 hours lab and/or individualized instruction.

GTC 133 Principles of Technology III/6 Units

Prerequisite: GTC 132.

An advanced course in applied science and associated mathematics to study how concepts such as transducers, radiation, light, optics, and time constants apply to mechanical, fluidic, electrical and thermal energy systems for students preparing to enter high technology career fields.

3 hours lecture; 6 hours lab and/or individualized instruction.

GTC 134 Business and Industrial Cleaning/3 Units

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 224 Field Experience in Masonry Technology/1-6 Units

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 Units

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 Units

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.

Geography

GEO 101* Physical Geography/4 Units

Prerequisite: None.

An introduction to the various features of the earth's physical environment including the origin and development of landforms and the composition of the earth's crust, weather, climate, vegetation, soils and the mineral resources used by man.

3 hours lecture; 3 hours laboratory.

GEO 102 Cultural Geography/3 Units

Prerequisite: None.

A study of the cultural regions of the world and the important world geographical characteristics.

3 hours lecture.

GEO 104 Political Geography/3 Units

Prerequisite: None.

A study of political phenomena in different locations in conjunction with the physical features of the earth's landscape.

3 hours lecture.

GEO 105 Economic Geography/3 Units

Prerequisite: None.

A survey of the world's economics, subsistence economic activities, commercial gathering of animals and plants, commercial bioculture, mining, manufacturing, transportation and trade, and tertiary economic activities centering on basic economics and their relationship to the natural resources of the area involved and the relationship of the physical features; climate, soil, vegetation, and topography.

3 hours lecture.

GEO 121 World Regional Geography/3 Units

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 192 Regional Geography/.5 Unit

Prerequisite: None.

A progressive (four module) in-depth study of a particular region of man's subsequent 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

GEO01 192A Physical - North America

GEO01 192B Physical - Central America

GEO01 192C Physical - South America

GEO01 192D Physical - Europe (non-Slavic)

GEO01 192E Physical - Eurasia (Slavic)

**GEO01 192F Physical - North Africa/Southwest Asia
(Arabic/Turkic/Farsi)**

GEO01 192G Physical - East Asia (non-Slavic)

GEO01 192I Physical - Africa South of the Sahara

GEO02 192A Cultural - North America

GEO02 192B Cultural - Central America

GEO02 192C Cultural - South America

GEO02 192D Cultural - Europe (non-Slavic)

GEO02 192E Cultural - Eurasia (Slavic)

**GEO02 192F Cultural - North Africa/Southwest Asia
(Arabic/Turkic/Farsi)**

GEO02 192G Cultural - East Asia (non-Slavic)

GEO02 192H Cultural - South/Southeast Asia

GEO02 192I Cultural - Africa South of the Sahara
GEO03 192A Economic - North America
GEO03 192B Economic - Central America
GEO03 192C Economic - South America
GEO03 192D Economic - Europe (non-Slavic)
GEO03 192E Economic - Eurasia (Slavic)
GEO03 192F Economic - North Africa/Southwest Asia (Arabic/Turkic/Farsi)
GEO03 192G Economic - East Asia (non-Slavic)
GEO03 192H Economic - South/Southeast Asia
GEO03 192I Economic - Africa South of the Sahara
GEO04 192A Political - North America
GEO04 192B Political - Central America
GEO04 192C Political - South America
GEO04 192D Political - Europe (non-Slavic)
GEO04 192E Political - Eurasia (Slavic)
GEO04 192F Political - North Africa/Southwest Asia (Arabic/Turkic/Farsi)
GEO04 192G Political - East Asia (non-Slavic)
GEO04 192H Political - South/Southeast Asia
GEO04 192I Political - Africa South of the Sahara

GEO 193 National Studies/1 Unit

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 192, Regional Studies, has nine major regional areas, each the subject of a separate course of instruction. GEO 193 follows the same regional precursor arrangement which adds an alphabetic subscript (A through I) indicating the nation or country under study.

There are nine major regions in this program, generally oriented to the major language groupings. The alphabetic precursor indicates the major region.

1 hour lecture.

GEO00 193A National Studies in North America
GEO00 193B National Studies in Central America
GEO00 193C National Studies in South America
GEO00 193D National Studies in Europe (non-Slavic)
GEO00 193E National Studies in Eurasia (Slavic)
GEO00 193F National Studies in North Africa/Southwest Asia (Arabic/Turkic/Farsi)
GEO00 193G National Studies in East Asia (non-Slavic)
GEO00 193H National Studies in South/Southeast Asia
GEO00 193I National Studies in Africa South of the Sahara

Geology

Note: *Indicates lab fees

GLG 101* Introduction to Geology I (Physical)/4 Units

Prerequisite: None.

Principles of physical geology for both general-interest students and those who plan to major in geology. Includes materials of interest on recent trends in earth science and the environmental science.

3 hours lecture; 3 hours laboratory.

GLG 102* Introduction to Geology II (Historical)/4 Units

Prerequisite: GLG 101 recommended but not required.

Presents the most current model of the development of the surface of our planet and the life found upon it. For general-interest students and those majoring in geology, archaeology, or the biological sciences.

3 hours lecture; 3 hours laboratory.

GLG 192 Special Topics in Geology/.5-1 Unit

Prerequisite: None.

A rotating forum/seminar emphasizing geological topics of current regional significance; topics to vary in accordance with scientific advances and with changes in student needs and interests. May be repeated for Cochise College credit. Cochise College elective credit only unless otherwise designated in degree programs.

1/2 hour lecture/laboratory.

GLG 299 Individual Studies/1-4 Units

Prerequisite: Approval of the division chair and instructor.

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

German

GER 001 Conversational German/3 Units

Prerequisite: None.

Essentials of German conversation in every day situations designed for students who intend to use the language for business, pleasure or travel. Transferable to a four-year institution only upon satisfactory performance of a proficiency examination.

3 hours lecture.

GER 101 Elementary German/4 Units

Prerequisite: None.

An introduction to the German language through conversation, reading and composition; emphasis on grammar, pronunciation, and listening vocabulary.

4 hours lecture; 1 hour laboratory.

GER 102 Elementary German/4 Units

Prerequisite: GER 101 or permission based on demonstrated competence.

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

4 hours lecture; 1 hour laboratory.

GER 201 Intermediate German/4 Units

Prerequisite: GER 102 or ability to pass corresponding examination.

An intermediate course in speaking, writing, understanding and reading German. Integration and utilization of new structures, with emphasis on longer non-technical essays and analysis of short stories and socially pertinent texts.

4 hours lecture; 1 hour laboratory.

GER 202 Intermediate German/4 Units

Prerequisite: GER 201 or ability to pass corresponding examination.

A continuation of GER 201, with emphasis on understanding of the usage and structure in the language and familiarity with German culture. Students will read material in such fields as art, literature and technology. Students will also write and present brief term papers.

4 hours lecture; 1 hour laboratory.

Health Physical Education

HPE 105 Coed Low Intensity Aerobic Exercise/1 Unit

Prerequisite: None.

A practical introduction to low intensity aerobic exercise with emphasis upon the acquisition of basic skills and movements, as well as the improvement and maintenance of individual fitness. Recommended for the poorly conditioned, novice student.

1 hour lecture; 1 hour laboratory.

HPE 106 Coed Aerobic Exercise/1 Unit

Prerequisite: None.

A practical introduction to aerobic exercise with emphasis upon the acquisition of basic skills and movements as well as the improvement and maintenance of individual fitness.

1 hour lecture; 1 hour laboratory.

HPE 107 Aqua Aerobics/1 Unit

Prerequisite: None.

Stretching and toning aerobic exercises conducted in a swimming pool, with emphasis upon cardiovascular fitness. Individual needs and limitations are considered, and each student progresses at his/her own rate. No swim skills necessary.

1 hour lecture; 1 hour laboratory.

HPE 110 Coed Body Conditioning/1 Unit

Prerequisite: None.

A practical application of the accepted fitness principles and concepts conducive to the development and maintenance of an adequate level of overall fitness. The course introduces the student to aerobic and anaerobic activities that promote cardiovascular endurance, flexibility, and muscular endurance.

1 hour lecture; 1 hour laboratory.

HPE 111 Coed Body Dynamics/1 Unit

Prerequisite: None.

A practical introduction to the principles and concepts of physical fitness through the use of various exercise equipment and activities.

1 hour lecture; 1 hour laboratory.

HPE 112 Coed Weight Training/1 Unit

Prerequisite: None.

An activity course introducing basic skills and knowledge necessary to develop a proper weight training program and cardiovascular development.

1 hour lecture; 1 hour laboratory.

HPE 113 Coed Athletic Conditioning & Training/2 Units

Prerequisite: None.

A practical introduction to fitness activities conducive to the development of strength, flexibility, endurance and cardiovascular fitness. Designed to enhance athletic performance of the athlete.

1 hour lecture; 3 hours laboratory.

HPE 115 Personal Fitness I/2 Units

Prerequisite: None.

A practical introduction to the theory and skills of lifetime fitness with emphasis upon aerobic activities to maintain and/or improve the student's cardiorespiratory system and overall fitness level. Student Fitness profiles are developed and utilized to determine an individualized exercise program in the Exercise Physiology Lab.

1 hour lecture; 2 hours laboratory.

HPE 116 Personal Fitness II/1-2 Units

Prerequisite: HPE 115 or permission of instructor.

A continuation of the theory and skills of lifetime fitness introduced in HPE 115 Personal Fitness. Student fitness profiles are developed and utilized to determine an individualized exercise program in the Exercise Physiology Lab.

2-4 hours laboratory.

HPE 120 Basic Coed Judo/1 Unit

Prerequisite: None.

An introduction to the fundamental theory 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 Unit

Prerequisite: HPE 120 or permission of instructor.

A study of intermediate judo with emphasis upon acquisition of intermediate-level skills and techniques. Introduction of selected elements of advanced judo.

1 hour lecture; 1 hour laboratory.

HPE 122 Beginning Coed Karate/1 Unit

Prerequisite: None.

Introduction to basic karate with emphasis upon the underlying theory and practical application of beginning karate techniques.

1 hour lecture; 1 hour laboratory.

HPE 123 Intermediate Coed Karate/1 Unit

Prerequisite: HPE 122 or permission of instructor.

A theoretical and practical study of intermediate karate skills with emphasis upon sparring and self-defense techniques. Elements of advanced techniques will provide a basis for continued study by the individual student.

1 hour lecture; 1 hour laboratory.

HPE 124 Practical Self-Defense/1 Unit

Prerequisite: None.

An introduction to the art of self-defense with emphasis upon practical instruction in various self-defense techniques and their appropriate situational applications and the prevention of dangerous or compromising situations.

1 hour lecture; 1 hour laboratory.

HPE 125 Coed Hiking/1 Unit

Prerequisite: None.

An introduction to wilderness trail and off-trail hiking with emphasis on the care and handling of equipment, the use of maps, the care and protection of wilderness trails, the use of emergency first aid, and the importance of physical conditioning.

1 hour lecture; 1 hour laboratory.

HPE 126 Coed Backpacking/1 Unit

Prerequisite: HPE 125 or its equivalent or permission of instructor.

A study of back-country hiking and camping designed to develop skills in wilderness living and travel. Emphasis is on developing a wilderness philosophy and an awareness of the individual's ability to live in the back country. Students must furnish boots, packs, sleeping bags and shelter.

1 hour lecture; 1 hour laboratory.

HPE 130 Beginning Coed Swimming/1 Unit

Prerequisite: None.

An introduction to the primary skills of swimming for the non-swimmer with emphasis upon water safety, basic strokes and developing the ability to swim thirty yards.

1 hour lecture; 1 hour laboratory.

HPE 131 Intermediate Coed Swimming/1 Unit

Prerequisite: HPE 130 or permission of instructor.

A practical study of swimming designed to improve skills in the four fundamental strokes: crawl, breast, back and side. Upon course completion, students will have the ability to swim continuously for five minutes on front, side, and back.

1 hour lecture; 1 hour laboratory.

HPE 132 Advanced Coed Swimming, and Water Sports/1 Unit

Prerequisite: HPE 131 or permission of instructor.

A study of advanced swimming techniques, emphasizing variations on the four fundamental strokes, water sports, synchronized swimming and other aquatic activities.

1 hour lecture; 1 hour laboratory.

HPE 133 Coed Life Saving and Water Safety 1 Unit

Prerequisite: HPE 131 or permission of instructor.

A practical study of life saving skills and water safety with emphasis upon water extrication/rescue, emergency first aid

and cardiorespiratory resuscitation. American Red Cross Advanced Life Saving certificate available to successful course completors.

1 hour lecture; 1 hour laboratory.

HPE 134 Water Safety Instructor/2 Units

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

Development of swimming and life-saving instructional skills. Meets the requirements for American National Red Cross Water Safety Instructor Certification.

2 hours lecture; 1 hour laboratory.

HPE 135* Coed Skin and Scuba Diving/2 Units

Prerequisite: Students must be comfortable in the water.

A basic introduction to fundamental skin diving and scuba diving techniques. PADI International Life-time Open Water Certification achieved upon the successful course completion.

1 hour lecture; 3 hours laboratory.

HPE 140 Coed Archery/1 Unit

Prerequisite: None.

A practical introduction to archery with emphasis upon the acquisition of the basic skills and knowledge of archery and an appreciation for the sport as a lifelong leisure activity.

Demonstrate an appreciation for the competitive archer's skills.

1 hour lecture; 1 hour laboratory.

HPE 141 Coed Badminton/1 Unit

Prerequisite: None.

A practical introduction designed to provide the student with the basic skills, rules and strategies necessary to participate in recreational badminton as a lifelong leisure activity.

1 hour lecture; 1 hour laboratory.

HPE 142 Coed Basketball/1 Unit

Prerequisite: None.

A practical introduction to the basic skills, rules and strategies of recreational basketball to prepare the student for participation in a lifelong leisure activity.

1 hour lecture; 1 hour laboratory.

HPE 143 Beginning Coed Bowling/1 Unit

Prerequisite: None.

A practical introduction to bowling with emphasis on the acquisition of basic skills and knowledge of bowling and on bowling as a lifelong leisure activity.

1 hour lecture; 1 hour laboratory.

HPE 144 Intermediate Coed Bowling/1 Unit

Prerequisite: HPE 143 or permission of instructor.

A practical introduction to the advanced skills 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 Unit

Prerequisite: None.

A practical introduction to the basic skills, rules and etiquette of golf to prepare the student for participation in a lifelong leisure activity.

1 hour lecture; 1 hour laboratory.

HPE 146 Intermediate Coed Golf/1 Unit

Prerequisite: HPE 145.

A practical introduction to the advanced skills and strategies of golf with emphasis on the acquisition of a lifelong leisure activity.

1 hour lecture; 1 hour laboratory.

HPE 147 Beginning Coed Handball/1 Unit

Prerequisite: None.

A practical introduction to handball with emphasis upon the acquisition of the basic skills and knowledge necessary for participation in handball. The student shall also acquire an appreciation for the sport as a lifelong leisure activity.

1 hour lecture; 1 hour laboratory.

HPE 143 Beginning Coed Racquetball/1 Unit

Prerequisite: None.

A practical introduction to racquetball with emphasis upon the acquisition of the basic skills and knowledge necessary for participation in racquetball. The student shall also acquire an appreciation for the sport as a lifelong leisure activity.

1 hour lecture; 1 hour laboratory.

HPE 150 Coed Softball/1 Unit

Prerequisite: None.

A practical introduction designed to provide the student with the basic skills, rules and strategies necessary to participate in recreational softball as a lifelong leisure activity.

1 hour lecture; 1 hour laboratory.

HPE 151 Coed Beginning Tennis/1 Unit

Prerequisite: None.

A practical introduction designed to provide the student with the basic skills, rules and strategies necessary to participate in recreational tennis as a lifelong leisure activity.

1 hour lecture; 1 hour laboratory.

HPE 152 Coed Intermediate Tennis/1 Unit

Prerequisite: HPE 151.

A practical introduction designed to provide the student with the advanced skills and strategies necessary to participate in recreational tennis as a lifelong leisure activity.

1 hour lecture; 1 hour laboratory.

HPE 153 Coed Volleyball/1 Unit

Prerequisite: None.

A practical introduction to the basic skills, rules and strategies of recreational volleyball to prepare the student for participation in a lifelong leisure activity.

1 hour lecture; 1 hour laboratory.

HPE 170 Varsity Baseball/1 Unit

Prerequisite: None.

Designed to provide the intermediate/advanced athlete with the skills and strategies necessary to compete at the intercollegiate level.

1 hour lecture; 3 hours laboratory.

HPE 171 Varsity Men's Basketball/1 Unit

Prerequisite: None.

Designed to provide the intermediate/advanced athlete with the skills and strategies necessary to compete in basketball at the intercollegiate level.

1 hour lecture; 3 hours laboratory.

HPE 172 Varsity Women's Basketball/1 Unit

Prerequisite: None.

Designed to provide the intermediate/advanced athlete with the skills and strategies necessary to compete at the intercollegiate level.

1 hour lecture; 3 hours laboratory.

HPE 173 Varsity Volleyball/1 Unit

Prerequisite: None.

Designed to provide the intermediate/advanced athlete with the skills and strategies necessary to compete at the intercollegiate level.

1 hour lecture; 3 hours laboratory.

HPE 175 Cheerleading/1 Unit

Prerequisite: Permission of instructor and tryouts.

An applied study of cheerleading emphasizing individual and group physical exercises, stunts, dances, routines, and chants with demonstration of these skills at school rallies and games.

1 hour lecture; 1 hour laboratory.

HPE 179 Lifelong Wellness/2 Units

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.

2 hours lecture.

HPE 180 Orientation to Physical Education/3 Units

Prerequisite: None.

A comprehensive introduction to the basic foundations of physical education and sport. Includes an examination of career preparation and opportunities.

3 hours lecture.

HPE 181 Orientation to Recreation/3 Units

Prerequisite: None.

A comprehensive introduction to the basic foundations of recreation. An examination of career opportunities in the field of recreation.

3 hours lecture.

HPE 183 Cardiopulmonary Resuscitation and Elements of First Aid/.5 Unit

Prerequisite: None.

A basic course in CPR and first aid for the first responders. Upon completion of the course, the student will be certifiable by the American Heart Association in CPR.

1/2 hour lecture.

HPE 185 Elementary School Physical Education/3 Units

Prerequisite: None.

A comprehensive overview of child development theories, general and specific physical education instruction, procedures, and activity sequences.

3 hours lecture.

HPE 186 School and Community Health/3 Units

Prerequisite: None.

The basic plan of the school health program, health services, health instruction and healthful school environment. The role of the teacher in relation to the school health program and the community health program.

3 hours lecture.

HPE 187 Personal Health/3 Units

Prerequisite: None.

A survey of human adaptation emphasizing study of birth, growth and development, drugs, disease, life style, marriage and parenthood, quality life and death.

3 hours lecture.

HPE 188 First Aid and CPR/1 Unit

Prerequisite: None.

A study of first aid and cardiopulmonary resuscitation skills for first responders in an emergency. American Red Cross First Aid and CPR certification awarded upon successful course completion.

1 hour lecture.

HPE 189 First Aid and Safety/3 Units

Prerequisite: None.

A study of first aid 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 Units

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 Units

Prerequisite: None.

An overview of coaching skills and theory with emphasis upon coaching team sports at the youth and secondary levels. Introduces the student to career and professional opportunities in the coaching field. Basic and intermediate skills inherent in several team sports (as selected by the instructor) will be introduced to the student.

2 hours lecture.

HPE 193 Theory of Coaching Baseball/3 Units

Prerequisite: None.

An overview of coaching skills and theory with emphasis upon coaching baseball at the youth and secondary levels. Introduces the student to the aspects of coaching baseball at the collegiate level.

3 hours lecture.

HPE 194 Theory of Coaching Basketball/3 Units

Prerequisite: None.

A theoretical and practical study of coaching with emphasis upon coaching basketball at the youth and secondary levels. Introduces the student to the aspects of coaching basketball at the collegiate level.

3 hours lecture.

HPE 195 Theory of Coaching Volleyball/3 Units

Prerequisite: None.

An overview of coaching skills and theory with emphasis upon coaching volleyball at the youth and secondary levels. Introduces the student to the aspects of coaching volleyball at the collegiate level.

3 hours lecture.

HPE 197 Care & Prevention of Athletic Injuries/3 Units

Prerequisite: None.

A theoretical and practical study of common athletic injuries including appraisal, treatment, prevention, psychological implications, and legal issues.

3 hours lecture.

HPE 224 Field Experience in Recreation Occupations/1-6 Units

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

A supervised Cooperative Education work experience involving the combined efforts of educators and employers to accomplish career objectives in 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 Units

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 Units

Prerequisite: Approval of the division chair and instructor.

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

Health Technology

HLT 109 Nursing Assistant One/4 Units

State Certificate of Achievement

Prerequisite: 8th grade reading level.

A course to prepare and certify the basic level of nursing assistant to meet the criteria of Medicare with emphasis on basic concepts of communication, patient safety, anatomy and physiology, nursing process, patient rights, legal and professional responsibilities, and specific patient care skills. The student will learn to recognize and meet basic physical, psychosocial, and cultural needs of patients, especially on the needs of the geriatric patient.

2 hours lecture; 3 hours clinical.

HLT 110* Nursing Assistant/6 Units

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

4 hours lecture; 6 hours skill laboratory.

HLT 111* Nursing Assistant/6 Units

Prerequisite: HLT 110 unless taken concurrently.

A course designed to prepare the student to assume the role of nursing assistant in a health care institution. The student will learn the concepts of communication, patient safety, anatomy

and physiology, growth and development, the nursing process, and specific patient care skills to prepare for the health care provider role. The student will learn to recognize and meet basic physical, psychosocial and cultural needs of patient/clients, emphasizing the needs of the geriatric patient.

4 hours lecture; 6 hours skill laboratory.

HLT 114 Home Health Assistant/3 Units

Prerequisite: Nursing Assistant.

Prerequisite: None.

Overview of the allied health professions with an emphasis on the role of pharmacy support personnel including pharmacy law, medical terminology and pharmaceutical abbreviations with an emphasis on the root, prefixes and suffixes needed to build a medical vocabulary.

2 hours lecture.

HLT 130 Sterile Products/4 Units

Prerequisite: Pharmaceutical Calculations; Pharmacy Operations.

Applications of aseptic techniques and use of the laminar flow hood in the preparation of sterile products.

3 hours lecture; 3 hours laboratory.

HLT 131 Interprofessional Relations/2 Units

Prerequisite: HLT 120; Pharmacy Operations.

Study of the interprofessional skills necessary for the pharmacy technician to communicate effectively as a representative of the profession of pharmacy, as an intermediary between the pharmacist and the patient, and as an intermediary between the pharmacist and other health care professionals.

2 hours lecture.

HLT 132 Drug Therapy II/3 Units

Prerequisite: None.

Study of the relationship between anatomy and physiology, disease states and pharmaceutical therapy with emphasis on origins, dosage forms, indications, actions, routes of

administration and side effects of both prescription and non-prescription drugs.

3 hours lecture.

HLT 173 Introduction to Health Care/3 Units

Prerequisite: None.

An introduction to health science fundamentals and exploration of health care delivery concepts and applications presenting health as an individual, community and world service, relating concepts to health careers and delivery. Required by Allied Health Programs through SARAHELP.

3 hours lecture.

HLT 174 Emergency Medical Technician/6 -7 Units

Prerequisite: None.

Cochise College Basic Emergency Medical Technology course is a six unit course that prepares the student for vocational work as an ambulance attendant/.driver. The course covers the study of anatomy, physiology and the basics of legal liabilities. Skills are developed in recognizing symptoms of illness and injury and proper procedures of emergency care for the sick and injured person. Triage assessment and stabilization of the patient for transport to a medical facility are also covered. The course is also a requirement for an Associate of Arts Degree in Criminal Justice and Fire Science Technology. The course is offered each spring and fall semester throughout Cochise County. The class meets two nights a week with an occasional weekend or two.

HLT 176 Emergency Medical Training Refresher/2 Units

Prerequisite: HLT 174.

A refresher course required by the Arizona Corporation Commission every two years to maintain and update the handling of the sick and injured by first response personnel.

1 hour lecture; 1 hour laboratory

HLT 177 First Aid Instructor Training/3 Units

Prerequisite: HPE 189, EMT 174, 176, or permission of instructor.

An American National Red Cross course intended for persons certified in advanced first aid or emergency medical technology to prepare students to instruct all phases of American National Red Cross first aid.

3 hours lecture.

HLT 225 Medical Ethics/3 Units

Prerequisite: None.

An introduction to medical ethics with an emphasis on analysis and problem solving techniques within the medical/nursing arena. Medical ethical theories are explored. Ethical/legal case studies in a broad range of areas are considered.

3 hours lecture.

Hebrew

HEB 115 Biblical Hebrew/3 Units

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 Units

Prerequisite: None.

A study of development of American characteristics and nationality from colonial beginnings through the period of Reconstruction, emphasizing the factors and forces which

produced the Revolution, the Constitution, westward expansion, sectionalism and the Civil War.

3 hours lecture.

HIS 111 History of the United States Since 1877/3 Units

Prerequisite: None.

A study of the social, economic, and political forces that moved the United States through changing times from the post-Reconstruction era to the present, focusing on both domestic and foreign affairs in the country's last century of development.

3 hours lecture.

HIS 115 Survey of the American West/3 Units

Prerequisite: None.

A study of the methods of penetration and the patterns of westward expansion and settlement with 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 Units

Prerequisite: None.

The history of Arizona from the entrance of the Spaniards in 1539 to its emergence as a modern state in the Southwest.

3 hours lecture.

HIS 140 Survey of Western Civilization I (The Formation of Western Civilization to 1400)/3 Units

Prerequisite: None.

A study of the major historical trends from the emergence of Western Civilization through the High Middle Ages, with emphasis upon the cultural development of mankind and historical relationships.

3 hours lecture.

HIS 141 Survey of Western Civilization II (Early Modern Civilization from 1400 to 1800)/3 Units

Prerequisite: None.

A study of the major historical trends in Western Civilization from the High Middle Ages to the Age of Napoleon with emphasis upon the cultural development of mankind and historical relationships.

3 hours lecture.

HIS 142 Survey of Western Civilization III (Modern Civilization from 1800 to the Present)/3 Units

Prerequisite: None.

A study of the major historical trends in Western Civilization from 1800 to the present with emphasis upon the cultural development of mankind and historical relationships.

3 hours lecture.

HIS 160 An introduction to the History of the Soviet Union/3 Units

Prerequisite: None.

A survey of Russian history since 1916, emphasizing revolutionary movements leading to the Bolshevik triumph (the early Soviet triumph), the early Soviet governments, the Stalin Era, Russia in World War II, the Khrushchev Era, and the USSR in the contemporary world.

3 hours lecture.

HIS 193 Special Topics in History/1 Unit

Prerequisite: None.

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

1 hour lecture.

193A The History of Rodeo
193B Ghost Towns of Cochise County
193C History of Transportation in Arizona
193D Arizona Place Names
193E Women and the West
193F John H. (Doc) Holliday
193G History of Tombstone during Arizona's Territorial Period
193H History of Cochise County
193I Coronado and the Spanish Legacy in the West
193J History of the American West as seen through the Writings of John Myers
193K The Real West (the Good, Bad and the Ugly)
193L The History of Southwestern Ranching
193M Military History of Fort Huachuca, Arizona
193N Islamic Civilization in World History
193O Family History (Genealogy)
193P History and Art of Heraldry
193Q Conflict in the Middle East
193R The Border: From Heroic Past to Present-day Controversies

HIS 229 History of Mexico I/3 Units

Prerequisite: None.

A study of political, economic, social, and cultural developments from Pre-Columbian civilizations to the War for Independence.

3 hours lecture.

HIS 230 History of Mexico II/3 Units

Prerequisite: None.

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

3 hours lecture.

Hospitality Administration

HAD 100 Introduction to the Hospitality Industry/3 Units

Prerequisite: None.

An introductory course of the hospitality industry which includes the hotel-restaurant-resort career, a review of the industry's history, career opportunities, training and motivation, labor relations and management principles as they relate to the hospitality industry.

3 hours lecture.

HAD 120 Introduction to Property Management/3 Units

Prerequisite: None.

An introductory course to professional housekeeping and housekeeping administration, including maintenance and logistical supply, employee supervision and safety.

3 hours lecture.

HAD 210 Guest Services Management/3 Units

Prerequisite: HAD 100.

Front desk management and operations of a hotel, including bell service, clerking, cashier functions, guest reception, reservation systems, guest and building security, night audit and inter-organizational liaison.

3 hours lecture.

HAD 224 Field Experience in Hospitality

Administration/1-6 Units

Prerequisite: Sophomore standing in a declared major 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 Units

Prerequisite: HAD 100 and HAD 120.

Common law and its application to the hospitality industry, including basic contracts, administrative law and government regulations and legal concerns resulting from the innkeeper-guest relationship and the establishment and operation of a place of public accommodation. The impact of the legal environment and process on the day to day aspects of the hospitality industry, including preventative measures to limit or eliminate liability and litigation.

3 hours lecture.

HAD 240 Commercial Food Preparation Theory/3 Units

Prerequisite: None.

A course outlining the basic principles of food selection and purchase, storage, menu planning, preparation, service, kitchen organization and sanitation in commercial food preparation.

3 hours lecture.

HAD 241 Advanced Commercial Food Preparation and Lab/4 Units

Prerequisite: HAD 240.

Basic principles, procedures, operations and techniques in quantity commercial food preparation and service, including planning, storage, cooking equipment, sanitation and service.

2 hours lecture; 8 hours laboratory.

HAD 250 Hospitality Financial Management/3 Units

Prerequisite: BUS 201.

A study of financial statement analysis, management of assets, ratio analysis, analytical techniques and investment decision making as they apply to the hospitality industry.

3 hours lecture; 2 hours laboratory.

HAD 270 Hospitality Automation/3 Units

Prerequisite: HAD 210.

An exploration and application of computer technology to front desk operations, including reservations, guest accounting and manager's reports.

3 hours lecture.

Home Economics

HEC 100 The Growing Years/3 Units

Prerequisite: None.

A telecourse presentation of child growth and development from prenatal through adolescent years, with emphasis upon physical and intellectual growth and learning sequences including socialization, language and personality development. Cochise College elective credit only unless otherwise designated in degree programs (Identical with CPD 100).

3 hours lecture.

HEC 101 A Family Portrait/3 Units

Prerequisite: None.

A telecourse consisting of thirty one-half hour lessons that introduces students to objective, sociological and psychological views of marriage, families, and alternate life styles in contemporary America. Emphasis upon personal awareness, growth, and interpersonal relationships.

Cochise College elective credit only unless otherwise designated in degree programs. (Identical with SOC 100.)

3 hours lecture.

HEC 105 The Challenge of Parenting/3 Units

Prerequisite: None.

The application of principles and concepts of effective parenting to meet more effectively the challenges and problems of being a parent in modern American society. (Identical to CPD 105.)

3 hours lecture.

HEC 210 Marriage and the Family/3 Units

Prerequisite: None.

Courtship, mate selection, marital adjustment, parenthood, and family living from the sociological and psychological points of view. (Identical to SOC 210.)

3 hours lecture.

Horticulture

The horticulture courses are designed for the Arizona Department of Corrections in Douglas.

HRT 101 Basic Horticulture/3 Units

Prerequisite: High School diploma, GED or instructor approval.

An examination of the horticulture industry, including the study of safety measures, terminology and tools with an emphasis on available occupational opportunities.

2 hours lecture; 3 hours laboratory.

HRT 110 Landscape Plant Material/3 Units

Prerequisite: HRT 101.

Identification and utilization of plant materials used for landscaping purposes in the desert southwest with emphasis on cultural requirements, soils and water-plant relationships.

2 hours lecture; 3 hours laboratory.

HRT 111 Landscape Construction and Maintenance/3 Units

Prerequisite: HRT 110.

A study of landscape materials, the planting 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 Units

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 Units

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 Units

Prerequisite: HRT 111.

A practical analysis of plant pest identification and control methods. Environmental protection agency regulations and pertinent federal laws will be covered.

2 hours lecture; 3 hours laboratory.

HRT 130 Organic Gardening/3 Units

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 Units

Prerequisite: HRT 111 or permission of instructor.

The course will develop skills in designing, installing, operating and maintaining traditional irrigation systems, emphasis on current developments to include sprinklers, bubblers, drip emitters, manual and automated systems.

3 hours lecture.

HRT 201 Landscape Design/3 Units

Prerequisite: HRT 120.

The principles of landscape design focusing on the utilization of varied plant materials, environmental requirements, drawing and layout techniques and reading landscape blueprints.

3 hours lecture; 1 hour laboratory.

HRT 208 Greenhouse Management/3 Units

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 Units

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 Units

Prerequisite: None.

A review of technical practices and knowledge necessary in the nursery/landscape industry as specified by the Arizona Nursery Association. Emphasis is on preparation for the examination leading to certification as a nursery professional.

2 hours lecture; 4 hours laboratory and directed study.

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 Units

Prerequisite: Recommendation from testing.

Reading and discussion of material which has cultural content relevant to the United States with consequent enlarging of vocabulary and basic understanding of certain American cultural concepts.

3-4 hours lecture.

HUM 100 American Culture/3 Units

Prerequisite: Concurrent placement in ENG 100, or 106 or higher, or permission of instructor.

A course for students from non-English-speaking cultures 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 Units

Prerequisite: None.

A study of contemporary thought, literature, music and art as they occur in mass media, journalism, television, and motion pictures; written student critiques of required lectures, plays, motion pictures, concerts, and art exhibits.

3 hours lecture.

HUM 104 Heritage From Mexico/3 Units

Prerequisite: None.

A study of the various facets of culture and their historical settings which have contributed to the traditions, life style and uniqueness of Mexicans and Americans of Mexican heritage both past and present.

3 hours lecture.

HUM 110 Introduction to Film and Video/3 Units

Prerequisite: None.

A study of film and video as art forms and as medium for the expression of ideas and an introduction to the principles of film criticism.

3 hours lecture.

HUM 115 Cultural Heritage of the Southwest: Indian, Hispanic, North American/3 Units

Prerequisite: None.

A general survey of the cultural heritage in the Southwest: significant events, historical figures, customs, ways and institutions that have contributed to the unique cultural heritage in the Southwest.

3 hours lecture.

HUM 167 Cultural Values in the Borderlands Workplace/3 Units

Prerequisite: Completion of ENG 101 with a grade of "C" or better; concurrent enrollment in HUM 101 or HUM 104 preferred.

An overview of cultural patterns, values, beliefs and customs prevalent in business and industry on the United States/Mexico border, with emphasis on practical application.

3 hours lecture.

HUM 192 Special Topics in the Humanities/.5-1 Unit

Prerequisite: None.

A rotating forum/seminar emphasizing connections among literature, philosophy and the arts. Topics will vary in accordance with changes in student need and interest. Cochise College elective credit only unless otherwise designated in degree programs.

1/2 to 1 hour lecture.

HUM 205 Major Ancient Cultures/3 Units

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 Units

Prerequisite: ENG 101, 102 or permission of instructor.

Art, literature, music and philosophy from Renaissance to the Industrial Revolution with emphasis on the development of humanism and science.

3 hours lecture.

HUM 207 The Modern World/3 Units

Prerequisite: ENG 101, 102 or permission of instructor.

Art, literature, and ideas in the West from the Romantic Age through the twentieth century, with emphasis on the importance of science and technology on arts and ideas.

3 hours lecture.

HUM 299 Individual Studies/1-4 Units

Prerequisite: Approval of the division chair and instructor.

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

Intercultural Studies

ICS 193 Special Topics in Intercultural Studies/1 Unit

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 Mass Communication/3 Units

Prerequisite: Completion of ENG 101 or permission of instructor.

An introduction of mass communications media with emphasis on understanding the basic concepts of gathering, writing, and evaluating news and other kinds of communication in newspapers, magazines, radio, television, business publications, and house publications. Identical to MED 101.

3 hours lecture.

JRN 102 Basic Reporting/3 Units

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 Units

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 Units

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 Units

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 Units

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

A supervised Cooperative Education work experience involving the combined efforts of educators and employers to accomplish career objectives in communication and media technology.

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

JRN 299 Individual Studies/1-4 Units

Prerequisite: Approval of the division chair and instructor.

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

Latin

LAT 101 Elementary Latin/4 Units

Prerequisite: None.

A study of the grammar and vocabulary of Latin and of ancient authors with emphasis on the etymological indebtedness of English to Latin.

4 hours lecture.

LAT 102 Elementary Latin/4 Units

Prerequisite: LAT 101.

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

4 hours lecture.

Linguistics

LIN 101 Introduction to Linguistics/3 Units

Prerequisite: ENG 101 or 107. Previous foreign language experience or permission of instructor.

Survey of linguistic concepts and methods; communication among animals; physiology of human speech; elementary phonology, morphology, syntax and semantics; language variation, borrowing and language change; language and the brain; language and thought.

3 hours lecture.

LIN 180 Effective Messages/3 Units

Prerequisite: ENG 167 and SPA 267 or equivalent proficiency as determined by the instructor on the basis of prescribed placement tests.

Theory and practice of encoding and decoding electronically transmitted messages: telegraph or Telex, telephone or radio, television. Consideration of teleconferencing included. Communications strategies to reduce interference 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 Units

Prerequisite: ENG 167 and SPA 267 or permission of instructor based on prescribed proficiency tests; concurrent enrollment in LIN 180 preferred.

An introduction to translation and interpretation theory and practice. Emphasis on application; translation of representative texts chosen from general 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.

2 hours lecture; 3 hours laboratory.

Machine Technology

MAC 110* Machine Shop for Technicians I/4 Units

Prerequisite: MAC 130 or concurrent enrollment.

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

2 hours lecture; 6 hours laboratory.

MAC 120* Machine Shop for Technicians II/4 Units

Prerequisite: MAC 110, DFT 112, GTC 100.

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

2 hours lecture; 6 hours laboratory.

MAC 130* Basic Metallurgy/3 Units

Prerequisite: None.

The study of steel classifications, heat treatment procedures, properties of ferrous and non-ferrous metals, and non-destructive testing.

3 hours lecture.

MAC 210* Jig and Fixture Designing I/4 Units

Prerequisite: MAC 120.

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

2 hours lecture; 6 hours laboratory.

MAC 220* Jig and Fixture Designing II/4 Units

Prerequisite: MAC 210.

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

2 hours lecture; 6 hours laboratory.

MAC 224 Field Experience in Machine

Technology/1-6 Units

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

Mathematics

MAT 005* Developmental Math/3 Units

Prerequisite: Math placement test scores below requirements for successful completion of MAT 010.

MAT 005 is a self-paced course in basic mathematics. Math pre-test and student inventory responses are used to develop individual course plans. One-to-one or small group instruction is provided as needed. Laboratory assignments, homework and unit exam grades determine individual's progress and course completion rates. Acceptable course progress is indicated by a final grade of incomplete (I) until course work is completed with a final grade of C or better.

3 hours lecture.

MAT 010 Fundamental Mathematics/3 Units

Prerequisite: Indicated mathematics deficiency.

A study of basic arithmetic concepts with drill in skills and techniques of computation. 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 015 Preparatory Math for Nurses/2 Units

Prerequisite: For entering nursing students who receive less than 90 on the nursing placement test.

A course designed for nursing students to improve their mathematical accuracy in solving problems commonly encountered in nursing: fractions, decimals, percentages, proportions, conversions, units, Roman numerals and word problems. (Only offered during summer session.)

2 hours lecture.

MAT 020 Elementary Algebra /3 Units

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

An introduction to the basic algebra normally included in a first-year high school algebra course. Includes fundamental axioms and operations applied to rational numbers, laws of integral exponents, solution of equations, polynomials and factoring, system of equations, graphing equations and inequalities, rational expressions, radicals and quadratic equations.

3 hours lecture.

MAT 110 Intermediate Algebra/3 Units

Prerequisite: One year of high school algebra or MAT 020 with grade of 'C' or better.

A continuation of algebra concepts which parallels the content generally included in a second-year high school algebra course: real number system, linear equations, absolute value and inequalities, functions, basic analytical geometry, systems of

equations, polynomials, exponents, radicals and quadratic equations. May or may not transfer for credit to four-year universities.

3 hours lecture.

MAT 115 Mathematics for Elementary Education

Majors I/3 Units

Prerequisite: MAT 110 or equivalent.

The objective of this course is to provide an understanding of problem solving, sets and functions, numeration systems, whole numbers, integers, rational numbers, decimals, and number theory.

3 hours lecture.

MAT 116 Mathematics for Elementary Education

Majors II/3 Units

Prerequisite: MAT 115 or equivalent.

The objective of this course is to provide an understanding of probability, statistics, introductory geometrics, problem solving and LOGO turtle graphics (optional).

3 hours lecture.

MAT 117 College Algebra/3 Units

Prerequisite: Two years of high school algebra or MAT 110 with a grade of C or better.

A logical development of the real number system, field axioms as applied to algebra, sets 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; 2 hours laboratory.

MAT 120 College Algebra/3 Units

Prerequisite: Two years of high school algebra, or MAT 110 with a grade of C or better.

A logical development of the real number system, field axioms as applied to algebra, sets and set notation, inequalities and absolute value, polynomial functions and their graphs,

determinants and matrices, inverse functions, logarithmic and exponential functions, complex numbers, sequences, binomial theorem, and mathematical induction.

3 hours lecture.

MAT 124 Plane Trigonometry/3 Units

Prerequisite: MAT 120 or approval of instructor. May be taken concurrently with MAT 120 or MAT 261.

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

3 hours lecture.

MAT 155 Finite Mathematics/3 Units

Prerequisite: Satisfactory completion of a course in College Algebra MAT 120 or permission of instructor.

A nonrigorous, yet mathematically sound, introduction to finite mathematics, the branch of mathematics not involving infinite sets, limits, and continuity including linear equations with applications in two space to supply demand functions, systems of linear equations with applications to optimization and two-product supply and demand analysis, systems of linear inequalities with application, linear programming and the simplex method, 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 243 Discrete Math/3 Units

Prerequisite: MAT 120 or equivalent.

The objective of this course is to provide an understanding of elementary set theory, permutations and combination, discrete functions, generating functions, difference equations, relations, graphs, trees, circuits, cut-sets, and network flow problems.

3 hours lecture.

MAT 256 Calculus for Business/3 Units

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

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

3 hours lecture.

MAT 261 Calculus I/5 Units

Prerequisite: Four years of high school mathematics or MAT 120 and MAT 124 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 262 Calculus II/4 Units

Prerequisite: MAT 261 with a grade of C or better.

A continuation of MAT 261. 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 263 Calculus III/4 Units

Prerequisite: MAT 262 with grade of C or better.

A continuation of MAT 262 to conclude the three-semester calculus sequence. Topics include: Vectors, vector-valued functions, partial differentiating, and multiple integration.

4 hours lecture.

MAT 265 Introduction to Linear Algebra/3 Units

Prerequisite: MAT 262.

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 274 Differential Equations/3 Units

Prerequisite: MAT 262 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 Units

Prerequisite: Approval of the division chair and instructor.

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

Media

MED 101 Introduction to Mass Communications/3 Units

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, syndicated, books, movies, computer/digital, and other media. Identical to JRN 101.

3 hours lecture.

MED 102 Basic Reporting/3 Units

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 Units

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 Units

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 201 Student Newspaper/3 Units

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 Units

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 265* Beginning Commercial Design/3 Units

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.

2 hours lecture; 4 hours laboratory.

MED 285* Beginning Photography/3 Units

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.

2 hours lecture; 4 hours laboratory.

MED 286* Intermediate Photography/3 Units

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.

Motor Transportation Technology

MTT 101 Transport Basic/4 Units

Prerequisite: Satisfactory completion of physical examination and truck driver license applications, minimum age 21 years.

A beginning course preparing the student to understand the role of motor transportation industry and to prepare for the Arizona

State License and Department of Transportation's certification examinations. Initial development of basic skills and techniques required to control the tractor-trailer transport vehicle.

2 hours lecture; 4 hours laboratory.

MTT 102 Over the Road Operations/5 Units

Prerequisite: Satisfactory completion of MTT 101.

Students will study and operate in the highway traffic environment to develop vehicle handling skills, safe and efficient operating practices, perceptual skills necessary to recognize potential hazards, and manipulative skills needed to handle a vehicle in an emergency. A study and practice of defensive driving techniques, accident prevention in heavy vehicle operation, and the use of energy efficient driving techniques.

3 hours lecture; 5 hours laboratory.

MTT 103 Vehicle Maintenance and Inspection/1.5 Units

Prerequisite: MTT 101 or concurrent enrollment.

This course provides the student with knowledge and skills required to keep a tractor-trailer rig in safe and efficient operating condition.

1 hour lecture; .5 hour laboratory.

MTT 104 Freight and Truck Operations/5.5 Units

Prerequisite: MTT 101 or concurrent enrollment.

A course designed to cover non-driving activities which must be performed by tractor-trailer drivers. Students will perform these auxiliary activities to assure safety to the driver, the vehicle, cargo, 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 Units

Prerequisite: At least 21 years of age and eligible to apply for a Commercial Driver License (CDL) or at least 18 years of age and eligible for a restricted CDL for in-state driving.

Designed to train third party examiners in the conduct of CDL test administration procedures. Through implementation of the Arizona Department of Transportation (ADOT) Motor Vehicle Division (MVD) approved training program, the course will prepare the examiner in accordance with the guidelines and criteria established by the Arizona Association of Motor Vehicle Administrators (AAMVA).

1 hour lecture; 2 hours laboratory.

Music

Note: *Indicates lab fees

MUS 100 Fundamentals of Music Notation/3 Units

Prerequisite: None.

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

3 hours lecture.

MUS 101 Introduction to Music/3 Units

Prerequisite: None.

An introduction to the elements of form and design of music illustrated with recordings of important musical literature from various periods of music history with an emphasis on the Medieval and Renaissance periods of music history.

3 hours lecture.

MUS 102 Introduction to Music/ 3 Units

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

A continuation of MUS 101 with special emphasis on consideration of texture, tonality, kinds of musical ensembles and on the style characteristics of music from the 19th century

to the present, including the historical development of musical forms.

3 hours lecture.

MUS 103 Voice Class/1 Unit

Prerequisite: None.

Instruction in class in basic vocal techniques, voice control, development and vocal exercises including development of basic skills: breathing, diction, tone-rhythm, and sight singing with basic vocal literature memorized and performed.

1 hour per week.

MUS 104 Voice-Class Instruction/1 Unit

Prerequisite: MUS 103.

Instruction in class in basic vocal techniques, voice control, development and vocal exercises including development of basic vocal skills, breathing, diction, tone-rhythm, and sight singing. Basic vocal literature will be memorized and performed.

1 hour per week.

MUS 105 Theatre Dance/1 Unit

Prerequisite: None.

Study and practice in stage movement and choreography for theatrical production designed for students in musical theatre productions. Meets one day a week for three hours. (Not intended for transfer credit.)

MUS 109 Orchestra/1 Unit

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 Choir/1 Unit

Prerequisite: Audition.

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

MUS 111 Band/1 Unit

Prerequisite: Audition.

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

MUS 112 Instrumental Class Instruction/1 Unit

Prerequisite: None.

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

MUS01 112 Piano Class Instruction

MUS02 112 Brass Class Instruction

MUS03 112 Woodwind Class Instruction

MUS04 112 Percussion Class Instruction

MUS05 112 String Class Instruction

MUS06 112 Guitar Class Instruction

MUS 113, 114* Instrument-Individual Instruction/1-1 Unit

Prerequisite: Permission of instructor, frequently by audition.

A systematic study in technique and repertoire of an instrument of student's choice, providing instructor is available. May be repeated for credit for no more than a total of four units.

Weekly lesson.

MUS 115, 116* Voice-Individual Instruction/1-3 Units

Prerequisite: Permission of instructor.

Study of basic foundations of vocal techniques and preparation of recital literature for jury examination. May be repeated for credit for no more than a total of four hours.

One half hour lesson per week.

MUS 130 Keyboard Harmony/1 Unit

Prerequisite: Some experience in musical performance, either singing or playing a musical instrument and a knowledge of scales, key signatures, triads, and intervals.

Special work on the application of musical theory to the keyboard emphasizing exercises in scales, chords, and especially harmonic progression to provide the student with a functional knowledge of the keyboard for further study of music or as a vehicle of classroom demonstration.

MUS 132-133 Music Theory/3 Units

Prerequisite: Some experience in musical performance, either singing or playing a musical instrument and a knowledge of scales, key signatures, triads and intervals.

A systematic study of the rules of music encompassing terminology, notations, clefs, keys, scales, intervals, rhythmic notation, harmonization of a given melody, voice leading, part writing and form; emphasizing ear training, which includes interval and chord recognition and melodic and harmonic dictation and sight singing.

MUS 201-202 Ensemble/1 Unit

Prerequisite: Audition.

Trios, quartets, sextets, etc., performing and studying music written or arranged for the smaller ensemble with rehearsal groups occasionally performing in public either on campus or in the surrounding communities. Open to men and women.

3 hours rehearsal.

MUS 210 Music Theatre Workshop/1-3 Units

Prerequisite: Audition or permission of instructor.

Participation in a college musical or operatic production either in a performance capacity or as production crew.

MUS 230 Art Song Repertory I/1 Unit

Prerequisite: Two semesters of voice instruction 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 Unit

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 Units

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 guitar, recorder, autoharp, as well as singing. Previous musical experience NOT required. Fulfils the music education requirement for teacher certification.

Nursing

NUR 120 Transition NA/PN/2 Units

Prerequisite: Concurrent enrollment in NUR 123.

This course provides the challenging, transferring or re-entering Nursing student with an understanding of the philosophy, policies and procedures of the Nursing Program. The course emphasizes the theory base and use of patient care planning, nursing documentation of care, and therapeutic use of self.

2 hours lecture.

NUR 121 Medication Math/1 Unit

Prerequisite: Admission to Nursing Program.

A course which reviews basic math skills and gives the student experience in calculation of drug dosages: oral dosages, parenteral dosages, pediatric dosages, solutions, and intravenous flow rates.

1 hour lecture.

NUR 122* Nursing I/8 Units

Prerequisite: Admission to the Cochise College Nursing Program.

A course designed to help the student acquire nursing concepts and skills toward eventual functioning as an Associate Degree Nurse: The roles and interactions of nurses, health care systems and other health care professionals; the nursing process; communications; and development theories; all of which assist the beginning nursing student to recognize and meet the basic physiological and cultural needs of persons of all ages.

4 hours lecture; 12 hours laboratory.

NUR 123* Nursing II/10 Units

Prerequisite: Admission to the Cochise College Nursing Program. NUR 122 and concurrent courses.

A course designed to help the student utilize the knowledge of an individual's needs/problems throughout the lifespan focusing on the planning of nursing interventions with an increasing knowledge of nursing assessments and emphasizing acquisition of nursing concepts and skills toward practical nursing or eventual assumption of the role of the associate degree nurse.

6 hours lecture; 12 hours laboratory.

NUR 201* Gastric Intubation for L.P.N.s/1 Unit

Prerequisites:

- a. Current license to practice as a Licensed Practical Nurse in Arizona.

- b. The equivalent of one year work experience/practice within the last five years.
- c. Referral and/or recommendation by current employer-health care agency or facility.
- d. Health care agency and/or facility must submit a nursing policy which indicates:
 1. extended care role of the LPN to perform the procedure.
 2. persons to whom the LPN is responsible.

Classroom and clinical instruction in gastric intubation for the purpose of feeding and/or specimen collection in children and adults, leading to certification in these procedures.

NUR 202* Venipuncture for L.P.N.s/1 Unit

Prerequisites:

- a. Current license to practice as a Licensed Practical Nurse in Arizona.
- b. The equivalent of one year work experience/practice within the last five years.
- c. Referral and/or recommendation by current employer-health care agency or facility.
- d. Health care agency and/or facility must submit a nursing policy which indicates:
 1. extended care role of the LPN to perform the procedure.
 2. persons to whom the LPN is responsible.

Classroom and clinical instruction in venipuncture techniques designed to provide certification for the Licensed Practical Nurse in the skill of blood drawing for diagnostic testing.

NUR 203 Update on Pharmacology/3 Units

Prerequisite: License for administration of medications or one semester of nurses' (LPN/RN) training.

This course aimed at R.N.s, L.P.N.s and students in those fields, will review basic pharmacology by specific organ systems and body functions. Current medications will be presented and reviewed for actions, interactions, and reactions. Decision making and references in medication usage will be explored.

3 hours lecture.

NUR 220 Transition LPN/RN/1 Unit

Prerequisites: Acceptance into Nursing III - NUR 232, Concurrent class - NUR 232.

This course will provide the challenging, transferring or re-entering Nursing student with an understanding of the philosophy, policies and procedures of the Nursing Program. The emphasis will be on the theory base and use of patient care planning, nursing documentation of care, and therapeutic use of self.

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

Prerequisite: Admission to the Cochise College Nursing Program NUR 123 and concurrent courses. NUR 232 and concurrent courses.

These courses based on nursing practice at the Associated Degree Nurse level associated with common physical and psychosocial health needs/problems throughout the lifespan: the body's response to stressors, nursing interventions relative to common health needs/problems and alterations in growth and development within these areas, explored on the use of a framework which promotes effective communication, understanding of the nursing process with emphasis on intervention and evaluation.

5 hours lecture; 12 hours laboratory.

Office Administration

OAD 101* Computer Keyboarding/3 Units

Prerequisite: None.

Specifically designed for (but not limited to) students with no knowledge of touch typing or prior computer experience. Skill development on keyboarding and data entry techniques will be utilized to develop speed and accuracy. Same as CIS 113.

3 hours lecture.

OAD 102* Elementary Document Preparation/3 Units

Prerequisite: OAD 101 or permission of instructor.

Continued 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 Typing/3 Units

Prerequisite: OAD 102 with a grade of C or better or permission of instructor.

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 Math (Programmed)/3 Units

Prerequisite: MAT 010 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 Units

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 115 PC Sampler/3 Units

Prerequisite: None.

A course designed for the individual who has no previous computer experience and who desires exposure to what computers can accomplish. A variety of software and hardware will be presented in an hands-on approach.

3 hours lecture.

OAD 116 Learn to Use Microcomputers/3 Units

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 in the areas of database management and spreadsheet manipulation.

3 hours lecture.

OAD 146 Introduction to Accounting/3 Units

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 161 Writing Within Organizations/1 Unit

Prerequisite: None.

The study of organizational writing to include its purposes, strategies, and processes. Students will learn to produce clear, concise, and accurate communications ranging in form from simple to complex memos for technical writers, managers and supervisors, short reports, long reports, proposals, feasibility studies and evaluation reports.

1 hour lecture.

OAD 167 Business Communications/3 Units

Prerequisite: ENG 101, ENG 111, 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 Units

Prerequisite: BUS 101 or BUS 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 Computer Applications/1 Unit

Prerequisite: None.

One unit modules designed for personal/professional improvement. Principles and practice of various computer applications; each session directed toward skills mastery of a particular instance of microcomputer applications software, with emphasis on the effective use of the software under study.

OAD 193A Intro to Computers**OAD 193B Elementary Keyboarding****OAD 193C Intermediate Keyboarding****OAD 193D Advanced Keyboarding****OAD 193E Beginning Data Entry****OAD 193F Intermediate Data Entry****OAD 193G Advanced Data Entry****OAD 193H MS-DOS 1****OAD 193I MS-DOS 2****OAD 193J MS-DOS 3****OAD 193K Typing Review #1****OAD 193L Typing Review #2****OAD 193M Shorthand Review****OAD 193N WordPerfect 5.1 #1**

OAD 1930 WordPerfect 5.1 #2
OAD 193P WordPerfect 5.1 #3
OAD 193Q WordPerfect Applications
OAD 193R Printmaster
OAD 193S First Publisher
OAD 193T Beginning E Mail
OAD 193U Printers - Dot Matrix
OAD 193V Laser Printers
OAD 193W Ink Jet Printers
OAD 193X Multimate #1
OAD 193Y Multimate #2
OAD 193Z Multimate #3
OAD A193 Multimate Applications
OAD B193 Document Tools
OAD C193 Bookkeeping on Computers 1
OAD D193 Bookkeeping on Computers 2

1 hour lecture/laboratory.

OAD 201* Advanced Document Preparation/3 Units

Prerequisite: OAD 103 with a grade of C or permission of instructor.

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 Units

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 Units

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 Units

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 Units

Prerequisite: Open to qualified freshmen 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 Units

Prerequisite: None.

An analysis of functions of office departments, their organization and administration; management principles 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 Units

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 Units

Prerequisite: Concurrent enrollment or previously completed OAD 102, 103, 213 and ENG 111 or permission of instructor.

An introduction to the basic skills, responsibilities, and duties of office workers. This includes 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 Units

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 Units

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.

3 hours lecture.

OAD 213* Word Processing/3 Units

Prerequisite: OAD 113 or Keyboarding Skills.

A study of the major aspects of word processing, including concepts, systems and equipment with instruction in using text-editing equipment.

3 hours lecture.

OAD 214* Advanced Word Processing/3 Units

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 required skills for career usage and special entry/editing techniques.

3 hours lecture.

OAD 215 Advanced Medical Transcription/Terminology/3 Units

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 Units

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 224 Field Experience in Office Technology/1-6 Units

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

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

OAD 268 Technical Presentations/3 Units

Prerequisite: CIS 181 or permission of instructor.

A study of the principles of effective communication skills integrating the latest electronic technology in order to prepare and deliver state-of-the-art business and technical presentations.

3 hours lecture.

OAD 293 Advanced Current Office Applications/1 Unit

Prerequisite: Permission of Division Advisor.

One unit modules designed for personal/professional improvement. Principles and practice of various computer applications, each session directed toward skills mastery of a particular instance of microcomputer applications software with emphasis on the effective use of the software under study.

1 hour lecture/laboratory.

OAD 293A 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 Units

Prerequisite: General Electronic Technician Certificate.

A course designed to provide the student with proficiency in the repair and maintenance of the IBM Selectric typewriter. The student will learn the mechanical theory of operation of all components of the typewriter, and how to clean, service, relubricate and perform preventive maintenance inspections. The student will learn how to use hand tools, specialized gauges, materials, parts and supplies in performing service procedures; with emphasis on the cost effectiveness of preventive maintenance as opposed to unscheduled maintenance.

4 hours lecture plus individualized laboratory instruction.

OMR 102 Electronic Calculator Repair/3 Units

Prerequisite: OMR 100.

A course designed to make the student proficient in electronic calculator repair. The student will learn the electronic and mechanical theory of operation of all components of the calculator, and how to clean, service, relubricate and perform preventive maintenance inspections. Students will learn how to use hand tools, specialized gauges and test equipment, materials, parts and supplies in performing service procedures; and how to schedule maintenance and allot maintenance task hours, with emphasis on the cost effectiveness of preventive maintenance instead of unscheduled maintenance.

3 hours lecture plus individualized laboratory instruction.

OMR 104 Electronic Typewriter Repair/3 Units

Prerequisite: OMR 100.

A course designed to make the student proficient in electronic typewriter repair. The student will learn the electronic and mechanical theory of operation, and how to troubleshoot and repair by safely using maintenance tools, test equipment, special gauges, materials and supplies, and learn how to schedule maintenance and allot maintenance task hours, with emphasis on the cost effectiveness of preventive maintenance versus unscheduled maintenance.

3 hours lecture plus individualized laboratory instruction.

OMR 106 Dictating Machine Repair/3 Units

Prerequisite: OMR 100.

A course designed to make the student proficient in dictating machine repair. The student will learn the electronic and mechanical theory of operation, and how to troubleshoot and repair by safely using maintenance tools, gauges, materials, 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 Units**

Prerequisite: OMR 104.

A course designed to make the student proficient in electronic memory typewriter repair. The student will learn the electronic and mechanical theory of operation, and how to troubleshoot and repair by safely using maintenance tools, test equipment, specialized gauges, materials and supplies, 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 Units

Prerequisite: OMR 100.

A course designed to make the student proficient in basic photocopier repair. The student will learn the electronic and mechanical theory of operation, and how to troubleshoot 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 Units

Prerequisite: OMR 202.

A course designed to make the student proficient in advanced photocopier repair. The student will learn the electronic and mechanical theory of operation, and how to troubleshoot and repair by safely using maintenance tools, test equipment, gauges, materials 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 Units

Prerequisite: OMR 200.

A course designed to develop student proficiency in basic microcomputer repair. The student will learn to diagnose system defects using logical sequence of operation charts, 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 Units

Prerequisite: OMR 205.

A course designed to make the student proficient in advanced microcomputer repair. The student will learn the electronic theory of operation of each circuit board, and how to use specialized test equipment, diagnostic programs, and repair procedures to facilitate board level repairs, and how to safely use maintenance tools, gauges, materials, parts and supplies, with emphasis on how to schedule maintenance and allot maintenance hours in performing repairs of the microcomputer.

4 hours lecture plus individualized laboratory instruction.

OMR 207 Microcomputer Peripheral Equipment**Repair/4 Units**

Prerequisite: OMR 206.

A course designed to make the student proficient in 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 Units**

Prerequisite: OMR 204.

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 history 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 Units**

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 Units

Prerequisite: ENG 101 and sophomore standing.

A study of man's interpretation of the nature and meaning of reality, conduct, and of his own being.

3 hours lecture.

PHI 113 Introduction to Logic and Language/3 Units

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

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

3 hours lecture.

PHI 130 Ethics/3 Units

Prerequisite: ENG 101 or permission of instructor.

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

3 hours lecture.

PHI 140 Death, Dying, Loss and Survival/3 Units

Prerequisite: None.

This class introduces students to the experience of others on the topics of death, loss, and survival. It will offer new ways to think about death, in general, as well as 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 Units

Prerequisite: ENG 101 and sophomore standing.

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

3 hours lecture.

PHI 202 Philosophy of Religion/3 Units

Prerequisite: ENG 101 and sophomore standing.

Introduction to the nature of religion, nature and existence of God and major religious tenets of western thought.

3 hours lecture

PHI 299 Individual Studies/1-4 Units

Prerequisite: Approval of the division chair and instructor.

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

May be repeated for credit.

Physics

PHY 101 Introduction to Physics/4 Units

Prerequisite: None.

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

3 hours lecture; 3 hours laboratory.

PHY 111 General Physics I/4 Units

Prerequisite: MAT 110 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.

3 hours lecture; 3 hours laboratory.

PHY 112 General Physics II/4 Units

Prerequisite: PHY 111.

Introduction to the general principles of physics in the areas of waves, sound, light, electricity, magnetism, atomic structure, and radioactivity.

3 hours lecture; 3 hours laboratory.

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

Prerequisite: MAT 261. PHY 230 is a prerequisite for PHY 231.

Coverage of the same areas as PHY 111-112 but in greater depth by the use of calculus, for engineering students and others who require physics with calculus.

4 hours lecture; 3 hours laboratory.

PHY 299 Individual Studies/1-4 Units

Prerequisite: Approval of the division chair and instructor.

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

May be repeated for credit.

Political Science

POS 100 Introduction to Political Science/3 Units

Prerequisite: None.

A comprehensive introductory study of the nature and practice of politics, focusing mainly on significant political principles and institutions as they relate to American and foreign governments.

3 hours lecture.

POS 110 American National Government/3 Units

Prerequisite: None.

A study of the political system of the United States. 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 Units

Prerequisite: Sophomore standing.

A study of the governments of the United States and Arizona through the interpretation of the Constitution of each political entity. Approved for teacher certification. Teachers needing only Arizona Constitution should enroll in POS 221.

3 hours lecture.

POS 221 Arizona Constitution/1 Unit

Prerequisite: Sophomore standing.

A study of the government of Arizona through the interpretation of its Constitution. Approved for teacher certification. Taught concurrently with POS 220.

1 hour lecture.

POS 230 World Politics/3 Units

Prerequisite: POS 110 or permission of instructor.

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 Units

Prerequisite: POS 100 or 110 or permission of instructor.

Introduction to the study of comparative politics with emphasis on the comparison of political systems, movements, ideologies and economic development.

3 hours lecture.

POS 299 Individual Studies/1-4 Units

Prerequisite: Approval of the division chair and instructor.

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

Power Plant Operations

PPO 101 Power Plant Operation I/5 Units

Prerequisite: Current employment by an electrical power generating plant or permission of instructor. MAT 020 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 Units

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 Units

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 Units

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 Units

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 Units

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 Units

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 Units

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/5 Units

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 Units

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 Units

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 Units

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 Units

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 Units

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 Units

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 soot blowers.

4 hours lecture; 3 hours laboratory.

PPO 212 Maintenance & Mechanical V/5 Units

Prerequisite: PPO 211 or permission of instructor.

Advanced study of electrical-power generating plant maintenance procedures with emphasis on safety valves,

resurfacing techniques, are welding, basic metallurgy and gears.

4 hours lecture; 3 hours laboratory.

PPO 221 Electronics I/5 Units

Prerequisite: PPO 124 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 Units

Prerequisite: PPO 221 or permission of the 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 Units

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 Units

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

A supervised Cooperative Education work experience involving the combined efforts of educators and employers to accomplish career objectives in 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 Units

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 Units

Prerequisite: PPO 231 or permission of the 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 Units

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 Units

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 Units

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 Units

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 Units

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 101 Stage One Ground School/5 Units

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 Unit

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 Unit

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 Units

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 Units

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 Unit

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 Units

Prerequisite: None.

A comprehensive study of Aviation Meteorology.

5 hours lecture.

PFT 121 Stage Two Commercial Pilot Flight**Course/3 Units**

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/1 Unit

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 Units

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 Units**

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 200 Introduction to Aviation Operations**Management/3 Units**

Prerequisite: None.

An introduction to basic management principles as they apply to aviation-oriented businesses.

3 hours lecture.

PFT 204 Stage IV Commercial Pilot Ground**School/5 Units**

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 Units

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 Unit

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 Unit**

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/3.5 Units

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.

PFT 215 Instrument Flight Cross-Country Procedures and Practical Test Preparation/1.5 Units

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 Unit

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 Unit

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 Unit**

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 Unit

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 Unit

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 Units

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 Units

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 Units

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 Unit

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 Units

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 Units

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 Units

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 Units**

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 Unit

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 Units

Prerequisite: None.

A survey of the development and operation of the air transportation system, including air carrier regulation, deregulation, economics, and organization.

3 hours lecture.

PFT 247 Aviation Law/3 Units

Prerequisite: Sophomore standing or permission of instructor.

An introduction to the legal environment of aviation, including operation of the United States Constitution relating to aviation matters, the Warsaw Convention, legal definitions, worker's compensation, liability to others, and crimes as they relate to aviation and aircraft.

3 hours lecture.

PFT 250 Flight Instructor Instrument Airplane Ground School/3 Units

Prerequisite: Possession of an Airplane Flight Instructor Certificate and Instrument Rating.

A comprehensive course leading to completion of the requirements for FAA certification as a Flight Instructor Instrument Airplane.

3 hours lecture.

PFT 251 Flight Instructor Instrument Airplane Flight**Course/3 Units**

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.

PFT 260 Airline Transport Pilot Ground School/3 Units

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 Unit

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.

Psychology

PSY 010* Problem Solving Skills Development/3 Units

Prerequisite: Referral by Developmental Studies Department.

A self-paced individualized course designed to develop independent problem solving skills. Students are exposed to information needed for problem conceptualization and are

required to understand rules and their applications in problem solution. Students also develop attitudes needed for problem mastery such as perseverance and acceptance of negative feedback.

In completing this course students are interviewed and pre-tested to determine their special educational needs and provided with individualized study plans. Because it is self-paced, this course may be repeated and a grade of "I" will be assigned until course objectives are met with a grade of "C" or better.

3 hours lecture.

PSY 100 Understanding Human Behavior/3 Units

Prerequisite: None.

A survey of the major areas in psychology to include behavior, perception, sensation, motivation, learning and memory, maturity and development, personality, and social psychology. Cochise College elective credit unless otherwise designated in degree programs.

3 hours lecture.

PSY 101 Introduction to Psychology/3 Units

Prerequisite: None.

A survey of major topics in psychology to include: personality, cognition, motivation and emotion, conditioning and learning, mental abilities, human development, sensation and perception, social interaction, consideration of theories, research findings and their applications; and introduction of research methods, and assessment procedures.

3 hours lecture.

PSY 210 Social Psychology/3 Units

Prerequisite: PSY 101.

A study of basic concepts, theories and research pertaining to human interaction. 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 Units

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 Units

Prerequisite: PSY 101.

A topical study of human life-span development emphasizing theories and research in the following areas: biological maturation, perceptual and motor skills development, language development, cognitive development, emotional development, moral development, personality and social development.

3 hours lecture.

PSY 250 Introduction to Psychological Research, Measurements and Statistics/3 Units

Prerequisite: MAT 110, PSY 101 or equivalent.

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

3 hours lecture.

PSY 290 Experimental Psychology/4 Units

Prerequisite: PSY 101 and PSY 250.

Student involvement in the review and analysis of scientific literature, designing 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 Units

Prerequisite: Sponsorship by a governmental agency.

A practical study of public-sector management for the first-line supervisor. Topics include communication techniques, delegation of authority, management by objectives, performance evaluation, discipline, and employee orientation. Student grade assigned on a pass/fail basis.

2 hours lecture.

PAD 102 The Manager and System Relationships/2 Units

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 a grade of "C" or better.

2 hours lecture.

PAD 103 The Manager and the Work Group/2 Units

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 Units

Prerequisite: None.

A study of a variety of topics, such as the strategic planning process, leadership practices, policy analysis, program evaluation and budgeting including financial management, information management, organizational design, culture and productivity. May be repeated for credit.

.5 hour lecture.

PAD 201 Leadership and Management of Organizations in the Public Sector/4 Units

Prerequisite: Completion of the Arizona Department of Administration Certified Supervisory Management Program; or two years of post-secondary education including nine credit hours of management or related coursework and two years of supervisory experience which includes training in performance evaluation, affirmative action, and related topics.

A practical analysis of the public manager's role. Emphasis upon leadership influence, productivity, evaluation, strategic planning, organizational design and analysis, risk management, administrative liability, public sector budgeting, and quality circles. Includes an introduction to computer use and application. Initial course in the Management Development Program.

4 hours lecture.

PAD 202 Systems Approach to Public Management/3 Units

Prerequisite: PAD 201, two years in a supervisory position, and sponsorship by a governmental agency.

A practical analysis of the methodologies, techniques and applications of the systems approach to management. Additional topics include management by objectives as a systems approach and the use of micro-computers for systems analysis. Students may elect to take the course on a pass/fail basis. A "P" is assigned for a grade of "C" or better.

3 hours lecture.

PAD 203 The Decision-Making Process and Case Method Analysis/2 Units

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

RDG01 009 Adult Basic Reading I/3 Units

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 RDG02 009. This class may not be used for graduation credit.

RDG02 009 Adult Basic Reading II/3 Units

Prerequisite: Recommendation from placement testing.

An introduction to reading and writing English for native 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 RDG03 009. This class may not be used for graduation credit.

RDG03 009 Adult Basic Reading III/3 Units

Prerequisite: Recommendation from placement testing.

An introduction to reading and writing English for native 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 Units

Prerequisite: ESL 034 or placement test score.

A course designed for ESL students beginning regular college classes and for lower level readers of English. Emphasis on basic, literal comprehension, vocabulary building and reading rate improvement. Upon completion, the student will read at the 6.0 reading level or equivalent as measured by a standardized reading test. (Identical with ENG 019.)

3 hours lecture; 1-2 hours laboratory.

RDG01 020 Reading Fundamentals I/5 Units

Prerequisite: None.

A review of basic reading, spelling and study skills for college students placing below the 9.5 reading level on the standardized reading placement test. This class emphasizes literal comprehension, rate improvement, vocabulary development, review of phonetics and spelling rules applied to English, dictionary skills, basic study skills and library use. Students failing to progress beyond the 9.5 reading level and with the recommendation of the instructor will be allowed to enroll in RDG02 020.

5 hours lecture.

RDG02 020 Reading Fundamentals II/5 Units

Prerequisite: RDG01 020 or permission of instructor.

A review of basic reading, spelling and study skills for college students placing below the 9.5 reading level on the standardized reading placement test. This class emphasizes literal comprehension, rate improvement, vocabulary development, review of phonetics and spelling rules applied to English, dictionary skills, basic study skills and library use. Students failing to progress beyond the 9.5 reading level and with the recommendation of the instructor will be allowed to enroll in RDG03 020.

5 hours lecture.

RDG03 020 Reading Fundamentals III/5 Units

Prerequisite: RDG02 020 or permission of instructor.

A review of basic reading, spelling and study skills for college students placing below the 9.5 reading level on the standardized reading placement test. This class emphasizes literal comprehension, rate improvement, vocabulary development, review of phonetics and spelling rules applied to English, dictionary skills, basic study skills and library use.

5 hours lecture.

RDG 021 Power Reading/3 Units

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 Units

Prerequisite: None.

Analysis of motivation and goals. Emphasis on reading and listening skills, study skills and review strategies. Use of the library. Orientation to College resources.

3 hours lecture.

Russian**RUS 101 Elementary Russian/4 Units**

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 Units

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 Units

Prerequisite: None.

Essentials of Russian for conversational situations. Designed for students who wish to use Russian for business, pleasure, or travel. May be used for elective credit toward the 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 Units

Prerequisite: RUS 115.

Continuation of RUS 115 with emphasis on role playing and use of everyday vocabulary and conversational phrases. Additional practice in reading, writing, speaking and understanding the language with short stories to enrich the student's vocabulary. May be used for elective credit toward the AA degree, but is transferable to a four-year institution only upon satisfactory performance in a proficiency examination.

3 hours lecture.

Social Services

SV 103 Manual Communications I

Sign Language)/3 Units

Prerequisite: None.

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

3 hours lecture.

SV 104 Manual Communications II

Sign Language)/3 Units

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.

SV 193 Substance Abuse: Causes and

treatment/3 Units

Prerequisite: None.

Practical and theoretical introduction to psychological and socioculture aspects of substance abuse.

3 hours lecture.

SV 210 Loss, Grief and Dying/3 Units

Prerequisite: None.

An exploration of grief, dying and the loss of loved persons as universal human experiences, with focus upon coping skills of affected persons and helping skills of others and study of values, behaviors and intervention strategies in cultural, medical, social and legal contexts.

3 hours lecture.

SSV 224 Field Experience in Social Services/1-6 Units

Prerequisite: Sophomore standing in a declared major 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 Units

Prerequisite: Second year standing in AAS Program or COM 102 and permission of instructor.

A course to develop self-awareness and insight into interpersonal relationships with emphasis upon the development of communication skills and techniques for one-on-one professional communication. (Identical with COM 220.)

3 hours lecture.

SSV 271 Communications in Small Groups/3 Units

Prerequisite: SSV 270 or COM 270 or permission of instructor.

A continuation of SSV 270 refining skills and techniques learned first semester and adding analysis and presentation with emphasis on small-group communication processes. (Identical to COM 271.)

3 hours lecture.

SSV 272 Social Services Seminar/3 Units

Prerequisite: PSY 101 or SOC 101.

A survey course covering the processes of group work and community organization. Designed for the student enrolled in the AAS Social Services Program.

3 hours lecture.

SSV 273 Determinants of Human Behavior/3 Units

Prerequisite: Sophomore Standing Social Work AAS Program.

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

3 hours lecture.

Sociology

SOC 100 A Family Portrait/3 Units

Prerequisite: None.

A telecourse consisting of thirty one-half hour lessons that introduces students to objective, sociological and psychological views of marriage, families, and alternate life styles in contemporary America. Emphasis upon personal awareness, growth, and interpersonal relationships.

Cochise College elective credit only unless otherwise designated in degree programs. (Identical with HEC 101.)

Limited to students having access to Desert Cable.

3 hours lecture.

SOC 101 Introduction to Sociology/3 Units

Prerequisite: None.

A course presenting sociology as a science that explores its methods and studies various aspects of group behavior, social change, basic institutions and the existing social system and that develops a perspective on the individual's role in the formation of society.

3 hours lecture.

SOC 160 Ethnic Groups and Minorities/3 Units

Prerequisite: SOC 101 or permission of instructor.

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

3 hours lecture.

SOC 202 Social Problems/3 Units

Prerequisite: SOC 101 and ENG 101 recommended.

A course covering social inequalities affecting women, racial and ethnic minorities and the aged-socially, educationally and financially and problems of drug and alcohol use, physical and mental health care, crime and sexual deviance, designed to provide students with the ability to assess social problems and propose resolutions in a logical and scientific manner.

3 hours lecture.

SOC 207 Introduction to Social Welfare/3 Units

Prerequisite: None.

An introduction to social welfare and social insurance systems, designed to acquaint the student to the various programs available to the general public through legislation and private means.

3 hours lecture.

SOC 210 Marriage and the Family/3 Units

Prerequisite: None.

Courtship, mate selection, marital adjustment, parenthood and family living from sociological and psychological points of view. (Identical to HEC 210.)

3 hours lecture.

SOC 299 Individual Studies/1-4 Units

Prerequisite: Approval of the division chair and instructor.

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

Spanish

SPA 011 Spanish Orthography/1 Unit

Prerequisite: None.

A concentrated course on Spanish spelling with emphasis on a step-by-step procedure from the simplest to the most complex in Spanish. Special attention given to the accent mark, colloquial and common errors and to areas of special spelling problems.

1 hour lecture.

SPA 025 Spanish for Teachers/3 Units

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 101 Elementary Spanish/4 Units

Prerequisites: None.

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

4 hours lecture; 1 hour laboratory.

SPA 102 Elementary Spanish/4 Units

Prerequisite: SPA 101.

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

4 hours lecture; 1 hour laboratory.

SPA 115 Conversational Spanish/3 Units

Prerequisite: None.

Essentials of Spanish for conversational situations designed for students who wish to use Spanish for business, pleasure or travel. SPA 115, 116, 215, may be transferable to a four-year institution only upon satisfactory performance of a proficiency examination.

3 hours lecture.

SPA 116 Conversational Spanish/3 Units

Prerequisite: SPA 115 or permission of instructor.

Continuation of SPA 115 with emphasis on role playing and use of everyday vocabulary and conversational phrases. For credit and transfer requirements see course description for SPA 115.

3 hours lecture.

SPA 192 Special Topics in Language, Literature & Culture/.5-1 Unit

Prerequisite: None.

A rotating forum/seminar emphasizing linguistic development and change, regional literature, literary styles, folklore and related topics. Topics will vary in accordance with changes in student need and interest. 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 Units

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 Units

Prerequisite: SPA 201 or three years of high school Spanish with a grade of 'C' or competency based on travel and experience demonstrated to the satisfaction of the instructor.

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

4 hours lecture.

SPA 203 Spanish for Native Speakers 1/4 Units

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 Units

Prerequisite: SPA 116 or permission of instructor.

Continuation of SPA 116 with drill patterns to reinforce vocabulary and use of verb tense, with a minimum of formal grammar study, with emphasis on practice in the spoken language. For credit and transfer requirements see course description for SPA 116.

3 hours lecture.

SPA 216 Conversational Spanish/3 Units

Prerequisite: SPA 215 or permission of instructor.

A continuation of SPA 115, 116, 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 of a proficiency examination. May be repeated for credit.

3 hours lecture.

SPA 220 Introduction to Spanish Literature/3 Units

Prerequisite: SPA 202 or completion of equivalent course with permission of instructor.

A survey of the development of Spanish literature emphasizing the development of the literary genres with relation to the historical and social backgrounds of Spain. The beginnings of Spanish literature to 1700.

3 hours lecture.

SPA 221 Introduction to Spanish Literature/3 Units

Prerequisite: SPA 202 or completion of equivalent course with permission of instructor.

A survey of the development of Spanish literature emphasizing the development of the literary genres with relation to the historical 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 Units

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 Units

Prerequisite: SPA 202 or completion of equivalent course with permission of instructor.

An introduction to the works of representative Mexican authors whose genius reflects a historical and literary perspective during times of national stress after Mexico's independence from Spain and its revolution of 1910.

3 hours lecture.

SPA 267 Spanish Business Communications/3 Units

Prerequisite: SPA 202 or equivalent placement.

A study of business compositions prepared in a business organization-typical internal and external communications (letters, memos, 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 Units

Prerequisite: SPA 202 or completion of equivalent course with permission of instructor.

A study of short excerpts from Hispanic literature to promote topic-centered discussions and compositions in Spanish, conducted principally in Spanish. Review and application of Spanish grammar rules and building of Spanish vocabulary.

3 hours lecture.

SPA 276 Intermediate Composition and Conversation/3 Units

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

Continuation of SPA 275; conducted in Spanish. Further readings and discussions of short stories, articles and other pertinent materials to provide continued exposure to new vocabulary and enhance usage of the Spanish language.

3 hours lecture.

SPA 290 Fundamentals of Translation and Interpretation/3 Units

Prerequisite: ENG 167 and SPA 267 or permission of instructor based on prescribed proficiency tests; concurrent enrollment in LIN 180 preferred.

An introduction to translation and interpretation theory and practice. Emphasis on application; translation of representative texts chosen from general 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 299 Individual Studies/1-4 Units

Prerequisite: Approval of the division chair and instructor.

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

Spanish Immersion Program

Intensive day-long instruction in Spanish for seven weeks for non-native speakers, designed to provide a basic speaking-understanding facility in Spanish language. Eight units of college credit is available in this summer program which is equivalent to Spanish 101 and 102.

Theatre Arts (Drama)

THE 101 Acting/3 Units

Prerequisite: None.

Introduction to theories of dramatic art and practice in acting.

3 hours lecture.

THE 102 Acting/3 Units

Prerequisite: None.

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

3 hours lecture.

THE 103 Introduction to Theatre/3 Units

Prerequisite: None.

History and tradition of western theatre with analysis and discussion of representative drama, classical to contemporary. Introduction to Theatre fulfills three units of the humanities and fine arts requirements for the A.A. and A.S. degrees.

3 hours lecture.

THE 104 Principles and Techniques of Play Production/3 Units

Prerequisite: None.

Introduction to the theory and practice of directing, set design, costuming, stage lighting, make-up and production organization.

3 hours lecture.

THE 105 Theatre Dance/1 Unit

Prerequisite: None.

Study and practice in stage movement and choreography for theatrical production for students in musical theatre productions, one day a week for three hours. (Not intended for transfer credit.)

THE 110 Theatre Workshop/1-3 Units

Prerequisite: permission of instructor/audition.

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

THE 299 Individual Studies/1-4 Units

Prerequisite: Approval of the division chair and instructor.

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

Welding Technology**WLD 105* Oxyacetylene Welding/3 Units**

Prerequisite: None.

Safety practices, set-up and operation of oxyacetylene welding equipment; welding in flat, horizontal and overhead positions of standard alloys of steel; brazing and soldering of ferrous and nonferrous metals.

1 hour lecture; 4 hours laboratory.

WLD 106* Arc Welding/3 Units

Prerequisite: WLD 105 or permission of instructor.

Safety practices, set-up and operation of arc welding equipment including techniques of joining metals in all positions by electric arcs with the use of the electrode.

1 hour lecture; 4 hours laboratory.

WLD 207* MIG and TIG Welding/3 Units

Prerequisite: WLD 105 and 106.

Safety practices, set-up and operation of metal inert gas (MIG) and tungsten inert gas (TIG) welding equipment, using both consumable and non-consumable electrodes.

2 hours lecture; 3 hours laboratory.

WLD 208* Gas Metal Arc Welding (GMAW)/3 Units

Prerequisite: WLD 105 and 106.

Safety practices, set-up and operation of Gas Metal Arc Welding (GMAW) equipment, using solid and core wire on ferrous and nonferrous metals.

2 hours lecture; 3 hour laboratory.

WLD 209* Gas Tungsten Arc Welding (GTAW)/3 Units

Prerequisite: WLD 105 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 Units

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 Welding/3 Units

Prerequisite: WLD 105, 106, 210.

Continuation of WLD 210 Pipe and Plate Welding to include methods of layout and fit-up of pipe of various sizes and types, also welding of pipe by use of electric arc and oxyacetylene.

2 hours lecture; 3 hours laboratory.

WLD 215* Welding Design and Fabrication/3 Units

Prerequisite: WLD 105, 106, 210.

A course designed for students with demonstrated welding skills, to learn proper methods of design, layout and fabrication for welding with student completion of a specific project selected by the student or assigned by the instructor by use of electric arc, oxyacetylene, TIG or MIG welding.

2 hours lecture; 3 hours laboratory.

WLD 217* Pipe Layout and Fitting/3 Units

Prerequisite: WLD 211.

Continuation of WLD 211 Pipe Welding, to include methods of layout-fittings and welding of pipe of various sizes and types.

2 hours lecture; 3 hours laboratory.

WLD 224 Field Experience in Welding**Technology/1-6 Units**

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

A supervised Cooperative Education work experience involving the combined efforts of educators and employers to accomplish career objectives in 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.

Myron (Mike) Jaworsky; Chief of Staff to the President
Rutgers University, B.A.
Harvard University, M.A.
Georgetown University, M.S., C.P.A. (Washington, D.C.)

District Administrators

Mr. Robert J. Mena; Vice President for Student Services
Northern Arizona University, B.S., M.A.

Dr. Charles H. La Clair; Vice President for Instruction
Indian River Community College, A.A.
University of Florida, B.S., B.A.
University of South Florida, M.B.A.
University of Arizona, Ph.D.

Mr. David A. Montgomery; Vice President for Administration
University of Kansas, B.S.
University of Kansas School of Law, J.D.

Mr. David M. Pettes; Dean of Instruction
Douglas Campus
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Index

Academic Probation, 32
Academic Regulations, 31
Academic Skills, 41
Academic Standards, 40
Academic Suspension or Dismissal, 32
Acceptance/Nursing Program, 17
Accreditation & Affiliation, 5
Administration of Justice, 53, 99-105
Administration, 213
Admissions, 16
Admission/Aviation Program, 17
Admission/Nursing Program, 17
Admission/Veterans, 17
Admission/International Students, 17
Advisement Program, 19
Agriculture, 56-57, 105-108
Andrea Cracchiolo Library, 11
Anthropology, 57, 108-110
Apartment & Room Deposits, 26
Apartment Housing, 30
Art, 58, 110-113
Associate Faculty, 221
Associate of Science, 43
Associate of Applied Science, 43
Associate of General Studies, 43
Astronomy, 113
Athletics, 30
Attendance Policy, 37
Aviation Maintenance Technology, 58, 113
Aviation Program Deposits, 17
Aviation Technology, 61, 116
Aviation-Yuma Program, 58-59, 114
Avionics Technology, 61, 116
Biological Sciences, 118
Board, 26
Botany, 119
Business Administration, 62, 120-125
Career Action Center, 9, 11, 19
Catalog Listing of Degree, 44-48
Catalog Requirements, 37
Certificate of Completion, 44
Certified Public Manager, 94
Change of Grade, 35
Change of Program, 35
Charles DiPeso Library, 8
Chemistry, 125
Civil Engineering Technology, 126
Classification/Students, 19
Cochise College Calendar 94/95, 14
Cochise College Foundation, 6
College & Housing Regulations, 30
College Level Exam Program (CLEP), 33
College Work Study, 28
Communications, 127
Community Campus, 12
Community Services, 6
Computer Information Systems, 67-68, 127-132
Computer Literacy, 41
Computer Science, 68
Consumer Electronics Repair, 132
Consumerism, 134
Cooperative Education, 19, 41, 134
Correctional Officer Training Program, 55
Correctional Practices, 54
Corrections Management, 55
Corrections Training Academy, 135
Counseling & Personal Development, 135
Counseling, 19
Course Descriptions, 93
Courses Numbered Below 100, 41
Credit by Exam, 33
Credit Courses, 12
Credit/Transfer Students, 32
D.O.C./Building Maintenance, 96
D.O.C./Business Machine Repair, 97
D.O.C./Business, 97
D.O.C./Horticulture, 97
D.O.C./Masonry, 98
Degrees & Certificates, 42
Degrees & Programs, 40
Dining Program, 30
Disclosure/Social Security Account Number, 17
Douglas Campus, 8
Drafting Technology, 71-72, 136-138
Drop, 36
Economics, 138

Education, 138	Graduation Fees, 25	Manufacturing Technology, 82
Electronics Technology, 73-74, 139	Graduation Requirements, 37	Mathematics, 178-180
Emergency Medical Technology, 141	Guaranteed Student Loan (GSL), 28	Media Arts, 83-84, 181
English, 74, 142-147	Health Physical Education, 161-168	Media Communications, 84 . . . 180
English Immersion Program, 42	Health Services, 29	Microcomputer Practitioner, 69
Environmental Studies, 150	Health Technology, 168-169	Middle Management, 65
ESL as a Second Language, 147-150	Hebrew, 169	Mission, 5
Equine Science and Management, 57	History, 77, 169	Motor Transport Technology, 85, 182
Faculty & Professional Staff, 214	Home Economics, 172	Music, 183-184
Federal Aid Programs, 27	Horticulture, 173	Non-Credit Classes, 12
Fee Information 93/94 Fiscal Year, 24	Hospitality Administration, 77, 171	Nursing, 86-87, 184
Final Exams, 35	Housing & Dining, 30	Occupational-Vocational Programs, 41
Financial Aid, Scholarships & Grants, 27	Humanities, 174-175	Office Administration, 186-190
Fire Science Technology, 75, 151-152	Independent Study, 34	Office Assistant, 66
Flight Training Fees, 25	Index, 224	Office Machine Repair, 190-192
Food & Nutrition, 152	Intercultural Studies, 175	Organizations, 29
Food Service Committee, 30	International Communications, 78	Parole Officer, 55
French, 153	International Student Language Requirements, 18	Payment/Fee Schedule, 24
Friday/Saturday College, 10	International Students, 18	Pell Grants, 27
General Technology, 154-159	International Studies, 78-79	Philosophy, 192
General Electronics Technician, 153-154	IVEP, 19	Physical Education, 87
General Information, 5	Job Placement, 9, 11, 19	Physics, 193
Geography, 159-160	Journalism, 79, 176	Placement Testing, 18
Geology, 160	Laboratory Fees, 25	Political Science, 89, 193
German, 161	Latin, 177	Power Plant Operations, 89, 194
Goals, 5	Liberal Arts, 80	Pre-Dentistry, 70
Governance, 6	Life Sciences, 80-82	Pre-Education, 72
Grade Report, 35	Linguistics, 177	Pre-Engineering, 74-75
Grading System, 31	Machine Technology, 177	Pre-Forestry, 76
Graduation Application, 38		Pre-Law, 80

Pre-Med, 85	Single Parent Program, 27	University Parallel Programs, 40
Pre-Pharmacy, 87	Small Business Development Center, 13	USAF/DANTES & Military Schools, 34
Pre-Physical Therapy, 88	Social Services, 91-93, 206	Veterans Satisfactory Progress, 37
Pre-Veterinary, 95	Sociology, 207	Welding Technology, 95-96, 211
Prison Education Program, 13	Spanish, 93, 208-210	Withdrawal, 36
Professional Administrative Assistant, 63	Spanish Immersion Program, 42, 210	Women's Re-entry Program, 8, 10
Professional Development Program, 13	Special Admission/ Under Age Eighteen, 22	Zoology, 212
Professional Flight Technology, 197-201	Special Student Admission, 16	
Professional Pilot Program, 59-60	Student Activities, 29	
Program Guides, 53	Student Classification, 19	
Proof of Residency/In-state, 22	Student Development Center, 29	
Psychology, 90, 201-202	Student Job Placement, 19	
Public Administration, 203-204	Student Life Committee, 29	
Re-Admission, 18	Student Publications, 30	
Reading, 204	Student Responsibilities/ Code Conduct, 30	
Refunds, 25	Student Services, 8, 10, 29	
Registration Information, 18	Student Union, 29	
Registration/Physical Education, 37	Supervisory Management, 94	
Repeating Courses, 35	Supplemental Education Opportunity Grants (SEOG), 27	
Residence Hall Fees, 24	Teacher Aide, 73	
Residency Regulations, 20	Tech Prep Program, 41	
Rodeo Team, 30	Theatre Arts (Drama), 210	
Room, 26	Transcripts, 36	
Russian, 205	Transfer of Credit, 36	
Scholarships, 28	Transfer Students/University Bachelor Degree, 49-51	
Scholastic Honors, 32	Tuition & Fees, 24	
Second Associate Degree, 37	Unit Load Limitations, 32	
Serviceman's Opportunity College (SOC), 10		
Sierra Vista Campus, 10		

Sociology, 207
Spanish, 93, 208-210
Spanish Immersion Program, 42, 210
Special Admission/
Under Age Eighteen, 22
Special Student Admission, 16
Student Activities, 29
Student Classification, 19
Student Development Center, 29
Student Job Placement, 19
Student Life Committee, 29
Student Publications, 30
Student Responsibilities/
Code Conduct, 30
Student Services, 8, 10, 29
Student Union, 29
Supervisory Management, 94
Supplemental Education Opportunity
Grants (SEOG), 27
Teacher Aide, 73
Tech Prep Program, 41
Theatre Arts (Drama), 210
Transcripts, 36
Transfer of Credit, 36
Transfer Students/University Bachelor
Degree, 49-51
Tuition & Fees, 24
Unit Load Limitations, 32
University Parallel Programs, 40
USAF/DANTES & Military Schools, 34
Veterans Satisfactory Progress, 37
Welding Technology, 95-96, 211
Withdrawal, 36
Women's Re-entry Program, 8, 10
Zoology, 212

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