COCHISE COLLEGE CATALOG
1995/1996

COCHISE COLLEGE
DISTRICT OFFICES
4190 West Highway 80
Douglas, Arizona 85607-9724
(520) 364-7943

SIERRA VISTA CAMPUS
901 North Colombo
Sierra Vista, Arizona 85635
(520) 458-7110

WILLCOX CENTER
1110 West Fremont
Willcox, Arizona 85645
(520) 384-4502
Toll Free 1-800-966-7943
(Hours 8:00 a.m. to 4:00 p.m.)

GOVERNING BOARD
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Mrs. Frances Miller, Secretary
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Mrs. Jan Guy, Member

ARIZONA STATE COMMUNITY COLLEGE BOARD
Mr. Ted Fichtl, Cochise County Representative

PRESIDENT
Dr. Walter S. Patton

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

Published: April 1995
Cochise College is an equal opportunity, affirmative action employer and educational institution committed to excellence through diversity. Please turn to page 178 for further information.
# ACADEMIC CALENDAR 1995-96

## FALL SEMESTER 1995

<table>
<thead>
<tr>
<th>Event/Deadline</th>
<th>Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>AMT, Phase I, III, V begins</td>
<td>July 10</td>
</tr>
<tr>
<td>Avionics begins</td>
<td>July 10</td>
</tr>
<tr>
<td>Professional Pilot begins</td>
<td>July 24</td>
</tr>
<tr>
<td>Faculty return</td>
<td>August 14</td>
</tr>
<tr>
<td>Fall registration</td>
<td>August 16-22</td>
</tr>
<tr>
<td>Residence Halls Open</td>
<td>August 20, 1 p.m.</td>
</tr>
<tr>
<td>Classes begin (Wednesday)</td>
<td>August 23</td>
</tr>
<tr>
<td>Last day for adding classes</td>
<td>August 30</td>
</tr>
<tr>
<td>Last day to change subject level</td>
<td>September 1</td>
</tr>
<tr>
<td>Labor Day Holiday</td>
<td>September 4</td>
</tr>
<tr>
<td>Friday/Saturday classes will meet</td>
<td>September 1 &amp; 2</td>
</tr>
<tr>
<td>AMT, Phase I, III, V ends</td>
<td>September 28</td>
</tr>
<tr>
<td>Avionics ends</td>
<td>September 28</td>
</tr>
<tr>
<td>AMT, Phase II, IV begins</td>
<td>October 2</td>
</tr>
<tr>
<td>Avionics begins</td>
<td>October 2</td>
</tr>
<tr>
<td>Columbus Day Holiday</td>
<td>October 9</td>
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<tr>
<td>Friday/Saturday classes will meet</td>
<td>October 6 &amp; 7</td>
</tr>
<tr>
<td>Mid-semester exams</td>
<td>October 10-16</td>
</tr>
<tr>
<td>Graduation filing deadline for diplomas &amp; certificates (Dec. grads)</td>
<td>October 20</td>
</tr>
<tr>
<td>Last day to drop classes without academic penalty</td>
<td>October 24</td>
</tr>
<tr>
<td>Last day to change to audit status</td>
<td>October 24</td>
</tr>
<tr>
<td>Last day transcripts will be accepted for transfer credit toward current semester graduation candidacy</td>
<td>November 1</td>
</tr>
<tr>
<td>Veterans' Day Holiday</td>
<td>November 10</td>
</tr>
<tr>
<td>Thanksgiving recess</td>
<td>November 23-25</td>
</tr>
<tr>
<td>Final exams (once a week only classes)</td>
<td>December 12-18</td>
</tr>
<tr>
<td>(all other classes)</td>
<td>December 13-18 SVC</td>
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<tr>
<td>Professional Pilot ends</td>
<td>December 14-18 DC</td>
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<tr>
<td>AMT Phase II, IV ends</td>
<td>December 15</td>
</tr>
<tr>
<td>Avionics ends</td>
<td>December 21</td>
</tr>
<tr>
<td>Christmas recess (all staff)</td>
<td>December 21</td>
</tr>
<tr>
<td>Christmas recess (all staff)</td>
<td>Dec 21 - Jan 3</td>
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### Fall Eight-Week Sessions

<table>
<thead>
<tr>
<th>Session</th>
<th>Dates</th>
</tr>
</thead>
<tbody>
<tr>
<td>First Session</td>
<td>Aug 23 - Oct 18</td>
</tr>
<tr>
<td>Last day to drop classes without academic penalty</td>
<td>September 14</td>
</tr>
<tr>
<td>Second Session</td>
<td>Oct 19 - Dec 11</td>
</tr>
<tr>
<td>Last day to drop classes without academic penalty</td>
<td>November 18</td>
</tr>
</tbody>
</table>

### SPRING SEMESTER 1996

<table>
<thead>
<tr>
<th>Event/Deadline</th>
<th>Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Faculty return</td>
<td>January 8</td>
</tr>
<tr>
<td>AMT Phase I, III, V begins</td>
<td>January 8</td>
</tr>
<tr>
<td>Avionics begins</td>
<td>January 8</td>
</tr>
<tr>
<td>Spring registration</td>
<td>January 10-16</td>
</tr>
<tr>
<td>Residence Halls Open</td>
<td>January 14, 1 p.m.</td>
</tr>
<tr>
<td>Martin Luther King Holiday</td>
<td>January 15</td>
</tr>
<tr>
<td>Professional Pilot begins</td>
<td>January 16</td>
</tr>
<tr>
<td>Classes begin (Wednesday)</td>
<td>January 17</td>
</tr>
<tr>
<td>Friday/Saturday classes will meet</td>
<td>January 20 &amp; 21</td>
</tr>
<tr>
<td>Last day for adding classes</td>
<td>January 24</td>
</tr>
<tr>
<td>Last day to change subject level</td>
<td>February 12</td>
</tr>
<tr>
<td>Graduation filing deadline for diplomas &amp; certificates (May graduates)</td>
<td>February 16</td>
</tr>
<tr>
<td>Presidents' Day Holiday</td>
<td>February 19</td>
</tr>
<tr>
<td>NAU priority financial aid application deadline</td>
<td>March 1</td>
</tr>
<tr>
<td>UA/ASU priority financial aid application deadline</td>
<td>March 12</td>
</tr>
<tr>
<td>Last day transcripts will be accepted for transfer credit toward current semester graduation candidacy</td>
<td>March 14</td>
</tr>
<tr>
<td>Last day to drop classes without academic penalty</td>
<td>March 15</td>
</tr>
<tr>
<td>Last day to change to audit status</td>
<td>March 22</td>
</tr>
<tr>
<td>Spring recess</td>
<td>March 28</td>
</tr>
<tr>
<td>AMT Phase I, III, V ends</td>
<td>April 1</td>
</tr>
<tr>
<td>Avionics ends</td>
<td>April 1</td>
</tr>
<tr>
<td>Cochise College priority financial aid application deadline</td>
<td>April 12</td>
</tr>
<tr>
<td>Annual Awards Ceremony</td>
<td>April 30</td>
</tr>
<tr>
<td>Sierra Vista campus</td>
<td>April 30</td>
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<tr>
<td>Douglas campus</td>
<td>May 1</td>
</tr>
<tr>
<td>Final exams (once a week only classes)</td>
<td>May 7-13</td>
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<tr>
<td>(all other classes)</td>
<td>May 8-13 SVC</td>
</tr>
<tr>
<td>Commencement (Friday)</td>
<td>May 17</td>
</tr>
<tr>
<td>Memorial Day Holiday</td>
<td>May 27</td>
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<tr>
<td>Professional Pilot ends</td>
<td>June 14</td>
</tr>
<tr>
<td>AMT Phase II, IV ends</td>
<td>June 20</td>
</tr>
<tr>
<td>Avionics ends</td>
<td>June 20</td>
</tr>
</tbody>
</table>
| SPRING EIGHT-WEEK SESSIONS

<table>
<thead>
<tr>
<th>Session</th>
<th>Dates</th>
</tr>
</thead>
<tbody>
<tr>
<td>First Session</td>
<td>Jan 17 - March 11</td>
</tr>
<tr>
<td>Last day to drop classes without academic penalty</td>
<td>February 7</td>
</tr>
<tr>
<td>Second Session</td>
<td>March 12 - May 9</td>
</tr>
<tr>
<td>Last day to drop classes without academic penalty</td>
<td>April 3</td>
</tr>
</tbody>
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### SUMMER SESSIONS 1996

<table>
<thead>
<tr>
<th>Session</th>
<th>Dates</th>
</tr>
</thead>
<tbody>
<tr>
<td>First Session</td>
<td>May 28 - June 28</td>
</tr>
<tr>
<td>Second Session</td>
<td>July 1 - August 2</td>
</tr>
<tr>
<td>Eight-Week Session</td>
<td>May 28 - July 16</td>
</tr>
<tr>
<td>English and Spanish Immersion Program</td>
<td>To be announced in</td>
</tr>
<tr>
<td>Winter Immersion Program</td>
<td>Spring Schedule '96</td>
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</table>
Cochise College was established in 1961 as the second community college in Arizona. The College is located in an area rich in history and cultural diversity. The original 540-acre Douglas campus is unique in its architecture and provides panoramic views of the Mule and Chiricahua Mountains as well as neighboring Sonora, Mexico.

Cochise has come a long way from its humble beginnings when classes were held at the Gadsden Hotel in Douglas. The opening of Cochise College's doors to students in September 1964 can be attributed to a dedicated effort on the part of the citizens of Cochise County. During the first decade the College's enrollments increased steadily as new and innovative programs were developed.

Interest in higher education, combined with growth in the Sierra Vista area, created a need for class offerings throughout the county. A proposal for a second campus was approved, and the Sierra Vista campus opened to classes in 1978. Like the Douglas campus, vistas of the Huachuca and Mule Mountains surround the Sierra Vista campus, which is northeast of Sierra Vista just off Charleston Road.

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

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

Under the current leadership of Dr. Walter S. Patton, Cochise College continues to provide quality educational opportunities to the people of Cochise County, Arizona and specific populations in the southwestern United States.
GOALS
To offer a course of study that will enable students pursuing baccalaureate degrees to transfer to the institutions of their 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, which 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, upgraded employment, credit classes, vocational retraining and personal growth courses.

To cooperate with elementary and secondary schools, colleges, civic groups, educational foundations, individuals, businesses 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 academic knowledge.
- Acquire and/or enhance 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 seventeen-member Arizona State Board of Directors for Community Colleges and by a five-member Governing Board elected from precincts in Cochise County. The College is financed by legislative appropriation, a county-wide tax levy and student tuition.
COCHISE COLLEGE

DOUGLAS CAMPUS
The seventeen-building Douglas campus serves approximately 1,400 students each semester with a reverse curriculum of general education, liberal arts, and occupational programs including Administration of Justice, Agriculture, Aviation Maintenance, Pro-pilot, Avionics, Business, Computer Science, Media Arts, Motor Transportation, Nursing, and Off-Road Education. The campus includes a student union, residence halls for men and women, apartments for married students, a rodeo arena, and a physical education facility including an Olympic-sized swimming pool, wellness center and weight room. In addition, the campus has an on-campus airport, a new Macintosh lab to complement the existing computer lab, a theater and classrooms and laboratories for both occupational and liberal arts programs.

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

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

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

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

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

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

The Center, serving approximately 200 students with day and night classes, has five classrooms, a computer lab and a library. Full-time staff are available to assist students with admissions, registration, placement testing and financial aid.

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

CREDIT CLASSES
College classes taught in the Community Campus are equal in content and requirements to those taught at the Cochise College campuses. Classes are taught by both full-time College faculty and associate faculty from business, industry and the public-sector sectors. All faculty are certified to teach by the College and the Arizona Community College Board. Credit classes are offered primarily in the evening throughout Cochise County.
NON-CREDIT CLASSES
Non-credit classes cover a variety of subjects and offer opportunities to individuals seeking non-traditional educational experiences. The Community Campus provides weekend and evening seminars, workshops, films, and lectures on topics ranging from local history and culture to arts and crafts, such as weaving, silversmithing, and gourmet cooking, for personal growth and development.

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

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

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

NON-TRADITIONAL PROGRAMS
ADULT EDUCATION
English as a Second Language (ESL), General Education Development (GED), and Adult Basic Education (ABE) offer free non-credit classes throughout Cochise County. Classes are designed to enable adults wishing to obtain their GED (high school equivalency) certificate to improve their English, or to improve other basic skills such as math or reading.

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

PRISON EDUCATION PROGRAM
This program offers a wide range of developmental, academic, personal development and vocational courses and programs to meet the diverse needs of inmate students. All credit courses are selected from the college catalog and taught by faculty certified by the Arizona Community College Board. Business skills, masonry, general electronics, building maintenance, and horticulture programs are unique to the Prison Education Program, as are classes in pre-release and life success skills.
LIBRARIES
Moving into the 21st century, the Cochise College Libraries combine traditional library services with new technologies which include CD-ROM references, faculty/student access to Internet, a computerized catalog on CD-ROM and laserdisc technology.

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

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

DOUGLAS CAMPUS
A Runway
B Taxiway
C 1800-Technology Center
D 1900-Art, Welding, Agriculture
E Maintenance
F 1000-1700-Chiricahua Hall
G 1100-Science & Math
H 1200-Huachuca Hall
I 1000-Student Services
J 600-Student Development Center & Liberal Arts
K 700-Music & Bookstore
L 500-Little Theatre
M 900-Apache Stronghold
N Pool
O Track
P Baseball
Q 500-Student Union
R 300-Charles Dipeso Library
S 200-Business Education
T 100-Administration & Business Office

SIERRA VISTA CAMPUS
A P-4-Administration
B P-3-Faculty Offices
C P-2-Classrooms
D P-1-Classrooms
E Science
F S-1-Security
G 100-Technology & Classrooms
H Andrea Cracchiolo Library
I 300-Classrooms
J 400-Classrooms
K P-5-Student Development Center
L 600-Student Services & Business Office
M 700-Classrooms
N 800-Classrooms, Bookstore, Art, Warehouse
O 500-Renovation of Proposed Student Services
ADMISSION POLICIES

ADMISSION AS A REGULAR STUDENT
Admission to Cochise College may be granted to any person who meets one of the following criteria:

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

ADMISSION OF STUDENTS UNDER 18 YEARS OF AGE
Applicants under 18 years of age should contact the Admissions Office at the Sierra Vista or Douglas campus for details on eligibility for admission.

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

PROCEDURES

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

1. Application for Admission
2. $5 application fee for out-of-state students.
3. High School Transcripts — All applicants under the age of 18 are required to submit either an official high school transcript or GED certificate with test scores before registration will be permitted. Final high school transcripts or GED certificate is required of all students who apply for any Financial Aid Program offered through Cochise College. High school transcripts must be sent directly by the sending institution to the Transcript Office. Transcripts carried by the applicant will not be accepted.
4. College Transcripts — Applicants who have attended college elsewhere must submit an official transcript of college work in order for coursework to be considered by Cochise College for graduation purposes. College transcripts must be mailed directly by the sending institution to the Transcript Office. Transcripts carried by the applicant will not be accepted.
5. Student Health Record Part I — This self appraisal form must be completed by all applicants applying for admission to the Aviation or Nursing programs or who wish to live in the residence halls at the Douglas Campus. The College reserves the right to require a physical examination or immunizations when deemed necessary by the College Nurse or by a particular college instructional program.
6. Out-of-County Affidavits — Residents of Apache, Gila, Greenlee and Santa Cruz counties must submit affidavits of residency before registration each semester. Out-of-county tuition will be paid by the county of residence. The in-state tuition is the responsibility of the student. Forms are available at the Admissions Office.

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

Disclosure of Social Security account numbers to Cochise College is voluntary and not required by either statute or regulation.
ADMISSION TO THE AVIATION PROGRAM
Students seeking admission to the Aviation Maintenance Technology, Avionics or the Professional Pilot programs should contact the Aviation Division Office to arrange for a pre-entry conference and placement test well in advance of their planned entrance date.

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

A student must formally apply for admission to the nursing program and take the Nursing Entrance Test (NET), usually given in February of each year, prior to the fall semester of expected admission to nursing courses.

Contact the Nursing Division for information regarding admission criteria for regular admission, for those who wish to enter the second-semester freshman class or for current LPN's and LVN's.

ADMISSION OF INTERNATIONAL STUDENTS
All international students must have a high school equivalency or be at least 18 years of age at the time of registration for classes (at least 16 years of age for summer English Immersion program only). All full-time international students must attend on an F-1 Visa. Part-time enrollment will be permitted only for students who cross daily on a Border Crossing Card.

The Admissions Office will issue a letter of admission and an Immigration Form I-20 only after receiving and approving the following documents:
1. Application for Admission
2. $5 Application Fee
3. Student Health Record - Part I
4. Student Health Record - Part II (including required laboratory reports)
5. Official High School Transcripts
6. Official College Transcripts (if applicable)
7. Statement of Financial Guarantee
8. Housing Application and deposit (if College housing is desired)

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

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

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

STUDENTS WITH SPECIAL NEEDS
All students with a documented physical, emotional, or learning disability who would like information about accommodations provided by the College should contact the ADA Coordinator.

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

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

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

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

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

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

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

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

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

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

IN-STATE STUDENT STATUS

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

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

1. His/her parent’s domicile is in this state, for no less than one year, and his/her parent is entitled to claim him as an exemption for state and federal tax purposes.
2. He/she is an employee of an employer which transferred him/her to this state for employment purposes or he/she is the spouse of such employee.
3. The domicile of an emancipated person is that of such person’s parent. Any emancipated 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 a member of an Indian tribe recognized by the United States Department of the Interior, whose reservation land lies in this state and extends into another state and who is a resident of the reservation, is entitled to classification as an in-state student.

**STUDENT STATUS REGULATIONS**

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

**CONCURRENT ENROLLMENT:**

**NONRESIDENT TUITION**

A. It is unlawful for any 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.

B. Any nonresident student desiring to enroll concurrently in two or more public institutions of higher education in this state, including any university or community college, for a combined total of more than six semester hours and who is not subject to nonresident tuition at any of such institutions shall pay the nonresident tuition at the institution of his/her choice. The amount will be equivalent to nonresident tuition at such institution for the combined total of semester hours for which the nonresident student is concurrently enrolled. (ARS 15-1807)

**PROOF OF RESIDENCY: IN-STATE**

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

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

1. Filing of state income tax report for the previous year
2. Current registration of motor vehicle in Arizona
3. Current registration as a voter in the state.
4. Arizona driver’s license issuance date.

5. Graduation from Arizona high school.
6. Bank Statement (checking or savings) from an Arizona Banking institution
7. Source of support (Employer)
8. Dependency as indicated on federal income tax declaration (for dependents)
9. Notarized statements of landlord and/or employer

**PLACEMENT TESTING**

Success in college depends upon placement in courses best suited to a student's educational experiences. Placement information is useful in planning the academic program. Applicants must complete placement testing before registering for any mathematics, reading, or composition courses. Students reading below grade level 12.0 must register for a reading course before the completion of fifteen 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 and part-time students, upon the completion of twelve units, must take placement tests in reading, English and mathematics. Part-time students who take English and math must take placement tests prior to registering for those classes. Students who fail to demonstrate the ability to benefit from college-level instruction following one semester of skills review may be placed on academic probation by the Vice President for Student Services.

**REGISTRATION INFORMATION**

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

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

PAYMENT OF FEES SCHEDULE
All students must have sufficient funds to defray their immediate expenses at the time of registration. All fees are payable as the final step in the registration process. Cochise College accepts checks for the total amount due for tuition and fees. Past due accounts may be turned over to a collection agency, and the student will be liable for collection/attorney fees incurred.

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

MISCELLANEOUS FEES
Credit by Examination
(non-refundable) (per unit) ......................... $8
(may require additional special lab fee)
Senior "Golden Apache" Tuition Fee (60 years or older)
One-time application fee .................................. $5
Regular credit courses only (per unit) ........... $13
CLEP General and Subject Examination
per test ..................................................... $45
General Education Diploma ................................ $25
Placement Testing Fee .................................. $10
Transcript fee - Official or Unofficial ............. $3
Official/Unofficial same day ....................... $6
Returned check fee 
(for each returned) ..................................... $20
Nursing insurance (subject to change) ........... $12
ID cards .................................................. $3
Replacement of ID card or meal card ............... $5
Drop-Add Courses ..................................... $750
Graduation fee ........................................ $20
Out-of-state application fee ......................... $10

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 1995/96 FISCAL YEAR
I. Tuition - Regular, Summer, AMT*, Avionics and Professional Pilot.
Registration Fee (Non-refundable)
(per student) ............................................. $ 19
A. Regular/Summer/AMT*/Avionics
In-State (per unit) ...................................... $ 26
Out-of-State 1-6 unit (per unit) ....................... $ 39
over 6 units, (per unit) ............................... $153
(retroactive to 1 unit)
B. Professional Pilot
In-State Flight Courses (per unit) .................... $127
Out-of-State Flight Courses (per unit) ............. $153

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. Residence Hall Fees (Douglas Campus)
A. Regular Student - 17 weeks

<table>
<thead>
<tr>
<th></th>
<th>Semester</th>
<th>Single Room Add'l</th>
</tr>
</thead>
<tbody>
<tr>
<td>Room</td>
<td>$ 545</td>
<td>$ 250</td>
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<tr>
<td>Board</td>
<td>$ 953</td>
<td></td>
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<tr>
<td>Total</td>
<td>$1,503</td>
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</table>

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

19
B. Professional Pilot - 21 weeks

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<thead>
<tr>
<th></th>
<th>Semester</th>
<th>Single Room Add'l</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Room</strong></td>
<td>$673</td>
<td>$309</td>
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<tr>
<td><strong>Board</strong></td>
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<td><strong>Total</strong></td>
<td>$1,857</td>
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Apartments are $285 per month, payable monthly in advance.

C. *Aviation Maintenance Technology - 12 weeks

<table>
<thead>
<tr>
<th></th>
<th>Semester</th>
<th>Single Room Add'l</th>
</tr>
</thead>
<tbody>
<tr>
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<td>$385</td>
<td>$177</td>
</tr>
<tr>
<td><strong>Board</strong></td>
<td>$675</td>
<td></td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>$1,061</td>
<td></td>
</tr>
</tbody>
</table>

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

*For out-of-state Aviation Maintenance Technology students living on campus, the District offers the following price structure which includes room, board, tuition, and all fees: Phase I, $3,595; Phase II, $3,253; Phase III, $3,253; Phase IV, $3,253; Phase V, $3,253. Private room - add $152 per phase.

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

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

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

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

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

NEW MEXICO TUITION WAIVER PROGRAM

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

GOLDEN APACHE TUITION WAIVER PROGRAM

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

The requirements are:

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

For more information contact the Admissions Office.

GRADUATION FEES

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

FLIGHT TRAINING FEES

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

LABORATORY FEES

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

All student lab fees are due at registration.

**REFUNDS**

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

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

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

Students whose class or classes are canceled by the college will receive a full refund of all fees for the canceled class(es). Checks will be issued for canceled classes within three weeks after the end of registration. These fees may be applied to other courses.

**BOARD**

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

**ROOM**

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

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

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

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

**APARTMENT AND ROOM DEPOSITS**

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

PLEASE NOTE: All refunds of deposits due students for any reason will be forfeited unless written application is submitted on or before June 15th of the academic year in which they are due.
Cochise College provides to its students access to a full range of federal, state, and privately donated financial aid funds through the Financial Aid Office (FAO). Assistance is available to students based on financial need, academic merit, and program of study. The application process for financial aid begins with the completion of a Free Application for Federal Student Aid (FAFSA).

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

**FEDERAL AID PROGRAMS**

**SUPPLEMENTAL EDUCATION OPPORTUNITY GRANTS**

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

**PELL GRANTS**

The Pell Grant Program is funded by the federal government as a primary financial resource for students seeking degrees. Eligibility is established by the federal government and students are funded at the level appropriate to their dependency status, living accommodations, and enrollment level. The base of funding begins with the Pell Grant Program.
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 the current rate as long as the student is enrolled in school. Repayment begins six months after the borrower leaves school. Applications are available from the Financial Aid Office.

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

COLLEGE WORK-STUDY

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

Various departments on campus employ students in work-study positions to perform a variety of functions. The employing department decides on the selection of the student. Student financial aid recipients must be aware that institutional earnings from all sources are required to be reported to the Financial Aid Office. Under certain 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 six units

SCHOLARSHIPS

Academic scholarships are offered on the basis of financial need, grade point average, leadership qualities, and community service. Funds are provided by private donors to Cochise College. 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 will be considered for all of the scholarships available. Students also should contact their individual departments regarding funds which may be available through those sources.

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

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

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

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

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

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

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

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

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

Dining services provided by the Student Union include the Que Pas snack bar, a private dining room and a large well-equipped cafeteria capable of seating 250. The cafeteria offers well-balanced menus as well as seasonal buffets, specials, and unique monotony-breakers designed to create a "second-home" atmosphere in the Student Union.
ATHLETICS, DOUGLAS CAMPUS
Cochise College competes with other community colleges in men's and women's basketball, men's and women's rodeo, and men's baseball. The Apache Stronghold Gymnasium is the center for intercollegiate sports, concerts, and a variety of intramural activities.

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

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

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

HOUSING, DOUGLAS CAMPUS

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

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

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

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

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

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

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

CLASSIFICATION OF STUDENTS
Freshman: Student with fewer than 28 passing units of college credit.
Sophomore: Student with 28 or more passing units of college credit.
Full-Time Student: Student carrying 12 or more units during the semester.
Part-Time Student: Student carrying 1-11 units during a semester.

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

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

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

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

Incomplete (I) — Indicates that for a justifiable reason, such as a serious illness, the student failed to complete all requirements for the course. When this happens, the instructor submits an Incomplete Grade Contract to the Registration Office with the final grade roster. Failure to make up an incomplete during the succeeding semester will result in change from the grade of I to an F on the
permanent record unless there is a contract on file in the
Director of Admissions and Records Office stating other-
wise. 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 se-
semester. A student registering for credit may change to au-
dit up through the Friday of the ninth week of the semester.
The drop-add procedure is used to effect such changes.

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

GRADE POINT AVERAGE
Semester grades are assigned grade points as follows:

<table>
<thead>
<tr>
<th>Grade</th>
<th>Grade Points per Unit Earned</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>4</td>
</tr>
<tr>
<td>B</td>
<td>3</td>
</tr>
<tr>
<td>C</td>
<td>2</td>
</tr>
<tr>
<td>D</td>
<td>1</td>
</tr>
<tr>
<td>F</td>
<td>0</td>
</tr>
<tr>
<td>WF</td>
<td>0</td>
</tr>
</tbody>
</table>

Thus, a three-unit course with a grade of A would earn
(3x4) 12 grade points. The total grade points accumu-
lated by a student are divided by the total of units attempted
(excluding W, I, and AU grades) and the result is known as
the student's cumulative grade point average (GPA).

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

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

UNIT LOAD LIMITATIONS
Student class load maximums shall be established ac-
cording 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 and Pro-
fessional Pilot Technology Programs, students enrolled in
the program shall be exempted from the 19-unit maxi-
mum. 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 de-
velop a plan to make up deficiencies. Students on finan-
cial aid must contact the Financial Aid Office.

Questions concerning academic status should be di-
rected to the Director of Admissions and Records.

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

<table>
<thead>
<tr>
<th>Number of Units</th>
<th>GPA</th>
</tr>
</thead>
<tbody>
<tr>
<td>0 - 12 (or first-semester freshman)</td>
<td>1.50</td>
</tr>
<tr>
<td>13 - 24</td>
<td>1.75</td>
</tr>
<tr>
<td>25 +</td>
<td>2.00</td>
</tr>
</tbody>
</table>
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.

GRADE REPORT

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

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

CHANGE OF GRADE

A grade reported to the Registrar may be changed only upon authorization of the faculty member issuing the grade, the appropriate division chair and the Vice President for Student Services.
REPEATING COURSES

A course may be repeated according to the following guidelines:

<table>
<thead>
<tr>
<th>Type of Course</th>
<th>Number of Repeats</th>
</tr>
</thead>
<tbody>
<tr>
<td>University Parallel</td>
<td>One time only**</td>
</tr>
<tr>
<td>Vocational Skill Courses</td>
<td>Two times only**</td>
</tr>
<tr>
<td>Fundamental Skills Courses</td>
<td>As required to gain skill level</td>
</tr>
</tbody>
</table>

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, provided an official withdrawal has been made.

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

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

ADD

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

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

DROP

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

WITHDRAWAL FROM COLLEGE

A student who wishes to withdraw from the College must obtain a college withdrawal form from the Admissions and Records Office. Upon obtaining the appropriate signatures, the form is returned to the Admissions and Records Office.

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

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 45th day, and paying the appropriate fees. Fees are non-refundable.

COLLEGE LEVEL EXAMINATION PROGRAM (CLEP)

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

Students must complete at least one Cochise College course before credit may be granted for CLEP. Credit earned under CLEP may not be used toward the sixteen resident hours required for a degree. Three to sixteen units of credit, depending upon the examination, may be earned by scores of fifty or better on the Subject examinations. For a list of tests available and corresponding number of credit hours, please contact the Testing Center.

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

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

USA/NI/DANTES AND MILITARY SERVICE SCHOOLS

Cochise College follows the credit recommendation of the American Council on Education for Military Service Schools. Credit for USA/NI/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 USA/NI/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 USA/NI/DANTES or Military Service courses. Credit earned on any of these may not be used toward the sixteen resident hours required for an associate's degree. A maximum of thirty units will be allowed for credit for non-traditional learning.
INDEPENDENT STUDY

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

The College provides independent study opportunities for students who:

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

The student and instructor will meet to discuss the nature of the study. All requirements for successful completion of the study, including periodic meeting times, will be clearly established on an Independent Study Contract (Form VPI-7). Course credit is determined by the instructor and appropriate division chair, and will be compatible with published academic standards and procedures. Units assigned to an independent study contract may not be increased or reduced after commencement of the study. Contracts must be completed within the semester in which study begins. Independent study may take place only during the academic year, excluding summer sessions.
After signing the contract, the student shall complete a drop/add form and submit both documents to the Office of the Director of Admissions and Records. Independent studies are subject to drop fees. Contracts are subject to the same grading stipulations and other procedures as set forth by the Office of the Director of Admissions and Records.

**FINAL EXAMINATIONS**

Final examinations serve an important purpose in the academic process. Failure to include a substantive final examination in the process reflects negatively not only on the validity of the course, but also on the credibility of the institution. Giving final exams earlier than provided for by College procedure reduces the amount of teaching time called for by academic standards.

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

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

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

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

**TRANSCRIPTS**

A transcript is a copy of the student's permanent academic record. Transcripts are forwarded by the Director of Admissions and Records Office to educational institutions or prospective employers at the written request of the student. Transcripts to educational institutions will be sent directly by mail. Transcripts given directly to students are marked "issued to student." The first transcript is issued without charge. Charges for additional transcripts are listed in the fees section.

**TRANSFER TO COCHISE COLLEGE**

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

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

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

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

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

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

1. Universities may accept up to 72 units of community college coursework.
2. Courses carrying a numerical designation of 0 through 99 are not designed to transfer.
3. Courses in which a student earns less than a C rarely are accepted for transfer at the receiving institution.
4. Students intending to transfer to a four-year institution should discuss transfer with a College instructor, advisor, or counselor.
5. The grade point average earned at Cochise College generally will not be calculated with the GPA earned at the receiving institution.

ATTENDANCE POLICY

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

VETERANS POLICIES

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

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

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

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

GPA REQUIREMENTS
Graduation requires a cumulative grade point average of 2.00 or better for all college credit coursework undertaken and for any work satisfied through credit by examination. Where applicable, a grade point average of 2.00 or better for all college credit work undertaken in the area of emphasis is required for graduation.

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

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

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

A student twenty-four years of age or older at the time of graduation shall be exempt from physical education courses.

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

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

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

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

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

Applications must be filed by the dates listed in the applicable schedule of classes. Dates also apply to certificate applications. If an application is late, a diploma will not be ordered until the following order date. Diplomas will be mailed after final grades are received and records evaluated. See your counselor regarding specific degree information.
DEGREES AND PROGRAMS

UNIVERSITY PARALLEL PROGRAMS
Cochise College offers the first two years of a four-year program for students who wish to earn a bachelor’s degree. In addition, the student may remove any high school grade or subject deficiencies.

Students who plan to transfer to Arizona universities, or to other colleges and universities, should review the appropriate catalog to determine lower-division requirements.

Catalogs of major universities and colleges are available in the Student Development Center in the Division of Student Services. The counseling staff, in cooperation with various schools and colleges within the three Arizona universities, has developed a Transfer Curriculum Guide. This publication provides curriculum transfer plans for most bachelor’s degree programs.

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

1. Clear up any entrance deficiencies in grades or subject matter if the college or university to which he or she expects to transfer so requires.
2. Fulfill the general requirements of Cochise College and the college or university which are prescribed for all students.
3. Fulfill the lower-division requirements for an upper-division major.
4. Earn a cumulative grade point average of 2.00 or better.

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

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

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

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

ACADEMIC SKILLS
Reading, English, and math placement is mandatory for all entering full-time students (twelve-plus units) and all part-time students upon the completion of twelve units. Students are placed in appropriate courses according to placement tests given to all freshmen during registration.
COURSES NUMBERED BELOW 100
Courses numbered below 100 are not transferable and will not fulfill associate degree requirements.

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

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

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

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

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

ENGLISH IMMERSION PROGRAM (DOUGLAS CAMPUS)
The English Immersion Program offers a student whose first language is not English the basic language proficiency needed to enter regular college classes. Classes are offered six hours daily in grammar, reading, writing, conversation, and culture at beginning, intermediate and advanced levels. Classroom instruction is complemented by extensive use of audio-visual materials, field trips and cultural activities.
SERVICEMAN'S OPPORTUNITY COLLEGE FOR ACTIVE DUTY (SOCAD)

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

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

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

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

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

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

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

GENERAL EDUCATION CORE CURRICULUM

<table>
<thead>
<tr>
<th>Minimum Requirements</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>English Composition</td>
<td>ENG 101</td>
</tr>
<tr>
<td>English Composition</td>
<td>ENG 102</td>
</tr>
<tr>
<td>Mathematics</td>
<td>MAT 151 and above</td>
</tr>
<tr>
<td>Laboratory Science**</td>
<td></td>
</tr>
<tr>
<td>Arts &amp; Humanities**</td>
<td></td>
</tr>
<tr>
<td>Social &amp; Behavioral Science**</td>
<td>9</td>
</tr>
<tr>
<td>Intensive Writing/Critical inquiry**</td>
<td>3</td>
</tr>
<tr>
<td>Electives**</td>
<td></td>
</tr>
<tr>
<td>TOTAL</td>
<td></td>
</tr>
</tbody>
</table>

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

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

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

Cochise College awards AA degrees in a variety of programs of study, including:
- Administration of Justice
- Anthropology
- Art
- Pre-Education
- English
- Foreign Languages
- History
- Journalism
- International Studies
- Liberal Arts
- Life Sciences
- Media Arts
- Physical Education
- Political Science
- Psychology
- Social Services

General Education
Minimum Requirements Credit Hours
English Composition ENG 101* 3
English Composition ENG 102* 3
Mathematics MAT 151 and above 4
Laboratory Science** 8
Arts & Humanities** 9
Social & Behavioral Science** 9
Foreign Language**
(Second semester proficiency) 8
Intensive Writing/Critical Inquiry 3
Physical Education 2
Computer Literacy
Reading Competency
Program Curriculum and/or Electives 15-23
TOTAL 64-72

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

** Transferability of specific courses within a discipline will be determined by use of current Transfer Curriculum and Course Equivalency Guides
ASSOCIATE OF SCIENCE DEGREE (AS)
The Associate of Science degree is designed to prepare
the student for transfer to a four-year college or university.
The AS curriculum is centered around general education
courses, with selected areas of emphasis.
The AS degree requires a minimum of 64 credit hours at
the 100 level and above.
Cochise College awards AS degrees in a variety of pro­
grams of study, including:
- Business Administration
- Computer Information Systems
- Computer Science
- Chemistry
- Electronics Technology
- Life Sciences
- Manufacturing Engineering
- Professional Pilot Technology
- Psychology

General Education
Minimum Requirements      Credit Hours
English Composition ENG 101*  3
English Composition ENG 102*  3
Mathematics MAT 151 and above 10-12
Laboratory Science** 8
Arts & Humanities and/or
Social & Behavioral Science** 12
Physical Education 2
Computer Literacy
Reading Competency
Program Curriculum and/or Electives 24-26
TOTAL 64-83

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

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

ASSOCIATE OF GENERAL STUDIES
DEGREE (AGS)
The Associate of General Studies degree meets the needs of
the student who wishes to be an active participant in
designing a program of study to meet his or her individual
needs. A comprehensive general education component
ensures that the AGS degree 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 acad­
emic advisor from the student's area of interest, the
career counselor, and a Career Action Center repre­
sentative. The student and team plan a program of
study incorporating the acquisition of skills best suited
to the student's desired employment.
2. Students seeking an AGS degree for transfer will de­
velop the program of study in cooperation with an acad­
emic 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 acad­
emic advisor and an instructor of their choice.
The AGS degree requires a minimum of 64 units of
coursework at the 100 level and above.
Cochise College awards AGS degrees in a variety of pro­
grams of study, including:
- Agriculture
- Social Services

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

*International students may substitute ENG 107 and ENG 108 for ENG 101 and ENG 102
** See matrix for acceptable courses
ASSOCIATE OF APPLIED SCIENCE DEGREE (AAS)
The Associate of Applied Science degree is designed to prepare graduates for employment in a specific career while providing the general education necessary to develop the knowledge, skills and attitudes essential to lifelong learning and personal growth. The student should seek the assistance of an academic advisor in developing a program of study. The AAS degree requires a minimum of 64 credit hours at the 100 level and above.

Cochise College awards AAS degrees in a variety of programs of study, including:
- Administration of Justice
- Agriculture
- Aviation Maintenance Technology
- Avionics Technology
- Computer Information Systems
- Drafting and Design
- Electronics Technology
- Fire Science Technology
- Hospitality Administration
- Media Communications
- Middle Management
- Nursing
- Power Plant Operations
- Professional Administrative Assistant
- Professional Pilot Technology
- Social Services
- Welding Technology

**General Education**

<table>
<thead>
<tr>
<th>Minimum Requirements</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>English</td>
<td>ENG 100 and above*</td>
</tr>
<tr>
<td>Mathematics</td>
<td>MAT 122 and above*</td>
</tr>
<tr>
<td>Arts &amp; Humanities or Social &amp; Behavioral Science**</td>
<td>3</td>
</tr>
<tr>
<td>General Education Electives**</td>
<td>6</td>
</tr>
<tr>
<td>Career Courses (see program guides)</td>
<td>26-43</td>
</tr>
<tr>
<td>Electives</td>
<td>3-20</td>
</tr>
<tr>
<td>TOTAL</td>
<td>64</td>
</tr>
</tbody>
</table>

* 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 matrix of Degree Requirements and Qualifying Courses with a minimum of three units in Arts & Humanities or Social & Behavioral Science.
# 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 a university general education requirement will meet the same requirement at Cochise College.

### REQUIREMENT

<table>
<thead>
<tr>
<th>REQUIREMENT MATHEMATICS</th>
<th>DEGREE MATHEMATICS</th>
</tr>
</thead>
<tbody>
<tr>
<td>MAT 122 Intermediate Algebra</td>
<td>AA AS AGS AAS</td>
</tr>
<tr>
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<td>AA AS AGS AAS</td>
</tr>
<tr>
<td>CIS 130 Algorithms</td>
<td>X</td>
</tr>
<tr>
<td>PHI 130 Ethics</td>
<td>X</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>*COMMUNICATIONS</th>
<th>AA AS AGS AAS</th>
</tr>
</thead>
<tbody>
<tr>
<td>COM 102 Fundamentals of Speech</td>
<td>X</td>
</tr>
<tr>
<td>OAD 209 Business Speech Communications</td>
<td>X</td>
</tr>
<tr>
<td>OAD 268 Technical Presentations</td>
<td>X</td>
</tr>
</tbody>
</table>

* See your advisor for other possible courses.
PROGRAMS OF STUDY

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

PRE-PROFESSIONAL PROGRAMS OF STUDY

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

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

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

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

Examples of suggested majors for pre-professional programs

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

Pre-law: There is no prescribed major for students planning to enter law school. However, majors that emphasize critical reading, extensive writing, and careful analysis of thought such as history, English, philosophy, political science, or economics are excellent pre-law majors. A business administration major in accounting may also provide a good preparation for the law school admission requirements.

ASSOCIATE OF ARTS DEGREES

ADMINISTRATION OF JUSTICE
Associate of Arts

General Education Requirements
See AA degree General Education minimum requirements in the Degrees and Programs section. Must include PHI 150, SOC 101, CIS 181 of 129

Minimum General Education Credit Hours 52

Core Curriculum Units

<table>
<thead>
<tr>
<th>Course Title</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>Introduction to Administration of Justice</td>
<td>AJS 101</td>
</tr>
<tr>
<td>Crime &amp; Delinquency</td>
<td>AJS 125</td>
</tr>
<tr>
<td>Substantive Criminal Law</td>
<td>AJS 290</td>
</tr>
<tr>
<td>Procedural Criminal Law</td>
<td>AJS 400</td>
</tr>
<tr>
<td>Total core units</td>
<td></td>
</tr>
<tr>
<td>Cooperative Education</td>
<td>AJS 204</td>
</tr>
<tr>
<td>TOTAL</td>
<td></td>
</tr>
</tbody>
</table>

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

49
ANTHROPOLOGY
Associate of Arts

General Education Requirements
See AA degree General Education minimum requirements in the
Degrees and Programs section

Minimum General Education Credit Hours 49

Core Curriculum
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
TOTAL 18

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

ART
Associate of Arts

General Education Requirements
See AA degree General Education minimum requirements in the
Degrees and Programs section
Must include ART 107, ART 108, HIS 140, HIS 141, and one of
the following: HUM 205, HUM 206 and HUM 207

Minimum General Education Credit Hours 49

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

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

CATEGORY I: Two-Dimensional Emphasis

Computer Art and Design ART 209 3
Drawing II ART 216 3
Figure Drawing ART 245 3
Beginning Commercial Design ART 265 3
Painting I ART 280 3
Painting II ART 281 3
Beginning Photography ART 285 3
Intermediate Photography ART 286 3
Computerized Photography ART 287 3

CATEGORY II: Three-Dimensional Emphasis

Beginning Jewelry ART 250 3
Beginning Metal Work ART 255 3
Ceramics I ART 270 3
Ceramics II ART 275 3
Sculpture ART 290 3
TOTAL 70

PRE-EDUCATION
Associate of Arts

General Education Requirements
See AA degree General Education minimum requirements in the
Degrees and Programs section
Must include PHI 130, POS 220 & PSY 101

Minimum General Education Credit Hours 49

Core Curriculum
Units
Introduction to Education EDU 201 3
Computer Literacy or equivalent CIS 181 3
Field Experience in Education EDU 224 1-3
Recommended Electives
History of the U.S. HIS 110/111 3
School and Community Health HPE 186 3
Ethnic/Gender Awareness SOC 160 3
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

ENGLISH
Associate of Arts

General Education Requirements
See AA degree General Education minimum requirements in the
Degrees and Programs section

Minimum General Education Credit Hours 49

Core Curriculum (6 units)
Units
Advanced Composition ENG 203 3
Introduction to Literature ENG 104 3
British Literature I ENG 220 3
British Literature II ENG 221 3
Introduction to Shakespeare ENG 222 3
American Literature I ENG 224 3
American Literature II ENG 225 3
World Literature ENG 226 3
World Literature ENG 227 3
Recommended electives: (10-15 units)
Survey of World Art: Prehistoric Gothic
Survey of World Art: Renaissance-Twentieth Century
Society and Culture
History of the U.S., 1607-1877
History of the U.S., Since 1877
Survey of Western Civilization I
Survey of Western Civilization II
Mass Communication
Basic Reporting
Fundamentals of Speech
Introduction to Theatre
Theatre Workshop
Introduction to Music
Introduction to Philosophy
Ethics
Philosophy of Religion
Introduction to Sociology
Humanities in Contemporary Life
Introduction to Film & Video

Minimum General Education Credit Hours: 49

Core Curriculum
Introduction to International Relations
Arts & Humanities
Arts & Humanities
Principles of Macroeconomics
Principles of Microeconomics
Electives in accordance with university transfer guidelines should be selected to complete 64 units and meet AA General Education requirements. Substitutions among the three areas of emphasis are permitted with advisor's approval.

Business Emphasis
Financial Accounting
Managerial Accounting
COBOL Programming
Foreign Language
English

European Emphasis:
Foreign Language
French

Latin American Emphasis
Foreign Language
Spanish

JOURNALISM
Associate of Arts

INTERNATIONAL STUDIES
Associate of Arts
(For transfer to NAU or UA)

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

Minimum General Education Credit Hours: 49

Core Curriculum
Mass Communications
Basic Reporting
Intermediate Reporting
Critical Reading & Writing
Creation Writing
Elective or Foreign Language

TOTAL: 51
LIBERAL ARTS
Associate of Arts

General Education Requirements
See AA degree General Education minimum requirements in the
Degrees and Programs section

Minimum General Education Credit Hours 49
Recommended Electives* 15
TOTAL 64
*See the major area advisor for specific transfer curriculum to U of A, ASU or NAU
Students interested in obtaining a Bachelor of Arts Degree at the
University of Arizona may take up to 72 units at Cochise College
and then complete their programs at the U of A Sierra Vista Center

LIFE SCIENCES
(Biology, Botany, Ecology, Genetics, Zoology)
Associate of Arts
(Also see Associate of Science)

General Education Requirements
See AA degree General Education minimum requirements in the
Degrees and Programs section

Minimum General Education Credit Hours 49

Core Curriculum

<table>
<thead>
<tr>
<th>Unit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Animal Biology</td>
</tr>
<tr>
<td>Plant Biology</td>
</tr>
<tr>
<td>General Chemistry I</td>
</tr>
<tr>
<td>General Chemistry II</td>
</tr>
<tr>
<td>16 units from the following controlled electives</td>
</tr>
<tr>
<td>General Organic Chemistry I</td>
</tr>
<tr>
<td>General Organic Chemistry II</td>
</tr>
<tr>
<td>General Physics I</td>
</tr>
<tr>
<td>General Physics II</td>
</tr>
<tr>
<td>Microbiology</td>
</tr>
<tr>
<td>Introduction to Data Processing</td>
</tr>
<tr>
<td>Physical Geography</td>
</tr>
<tr>
<td>Any other science department approved course</td>
</tr>
</tbody>
</table>

Selection of Controlled Electives depends on University
See Area Advisor

TOTAL 73

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
See AA degree General Education minimum requirements in the
Degrees and Programs section
Must include ENG 206

Minimum General Education Credit Hours 49

Core Curriculum

<table>
<thead>
<tr>
<th>Unit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Public Speaking</td>
</tr>
<tr>
<td>Mass Communications</td>
</tr>
<tr>
<td>Writing for Publications</td>
</tr>
<tr>
<td>Desktop Publishing</td>
</tr>
</tbody>
</table>

(or equivalent proficiency)

ART/MED (Visual Arts Elective)

TOTAL 64

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

PHYSICAL EDUCATION
Associate of Arts

General Education Requirements
See AA degree General Education minimum requirements in the
Degrees and Programs section

Minimum General Education Credit Hours 49

Core Curriculum

<table>
<thead>
<tr>
<th>Unit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physical Education Activity Courses</td>
</tr>
<tr>
<td>Orientation to Physical Education</td>
</tr>
<tr>
<td>First Aid &amp; Safety</td>
</tr>
<tr>
<td>Personal Health</td>
</tr>
<tr>
<td>Care &amp; Prevention of Athletic Injuries</td>
</tr>
<tr>
<td>Coaching Theory</td>
</tr>
<tr>
<td>(HPE 192, 193, 194, or 195)</td>
</tr>
</tbody>
</table>

Recommended Electives

Orientation to Recreation
Elementary School Physical Education
Sports Officiating
Theory of Coaching Baseball
Theory of Coaching Basketball
Theory of Coaching Volleyball
Individual Studies
School and Community Health

TOTAL 67-69

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

52
### POLITICAL SCIENCE

**Associate of Arts**

**General Education Requirements**
See AA degree General Education minimum requirements in the Degrees and Programs section.

**Minimum General Education Credit Hours**  **49**

**Core Curriculum**

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>Introduction to Political Science</td>
<td>POS 100  3</td>
</tr>
<tr>
<td>American National Government</td>
<td>POS 110  3</td>
</tr>
<tr>
<td>World Politics</td>
<td>POS 220  3</td>
</tr>
<tr>
<td>Comparative Politics</td>
<td>POS 240  3</td>
</tr>
<tr>
<td>Arizona Constitution</td>
<td>POS 221  1</td>
</tr>
<tr>
<td>(fulfill teaching certification requirements)</td>
<td></td>
</tr>
<tr>
<td>Electives</td>
<td>2-3</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td><strong>64</strong></td>
</tr>
</tbody>
</table>

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

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

### PSYCHOLOGY

**Associate of Arts**

(Also see Associate of Science)

**General Education Requirements**
See AA degree General Education minimum requirements in the Degrees and Programs section.

**Minimum General Education Credit Hours**  **49**

**Core Curriculum**

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>Introduction to Psychology</td>
<td>PSY 101  3</td>
</tr>
<tr>
<td>Introduction to Psychological Research,</td>
<td>PSY 250  3</td>
</tr>
<tr>
<td>Measurement and Statistics</td>
<td>PSY 290  3</td>
</tr>
<tr>
<td>Experimental Psychology</td>
<td>PSY 290  3</td>
</tr>
<tr>
<td>Required Electives (Two of the Following)</td>
<td></td>
</tr>
<tr>
<td>Social Psychology</td>
<td>PSY 210  3</td>
</tr>
<tr>
<td>Personality Theory &amp; Research</td>
<td>PSY 230  4</td>
</tr>
<tr>
<td>Developmental Psychology</td>
<td>PSY 240  3</td>
</tr>
<tr>
<td>Electives</td>
<td>2-12</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td><strong>64-65</strong></td>
</tr>
</tbody>
</table>

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

### SOCIAL SERVICES

**Associate of Arts**

**General Education Requirements**
See AA degree General Education minimum requirements in the Degrees and Programs section.

Must include: PSY 101, SOC 101, POS 110 or 220, Spanish for a Foreign Language.

Minimum General Education Credit Hours  **49**

**Major Emphasis: Arizona State University:**

**Social Work**

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>Survey of the American West</td>
<td>HIS 115  3</td>
</tr>
<tr>
<td>Ethnic Groups &amp; Minorities</td>
<td>SOC 160  3</td>
</tr>
<tr>
<td>Social Problems</td>
<td>SOC 202  3</td>
</tr>
<tr>
<td>Introduction to Social Welfare</td>
<td>SOC 207  3</td>
</tr>
<tr>
<td>Recommended Electives</td>
<td></td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td><strong>21</strong></td>
</tr>
</tbody>
</table>

**Major Emphasis: University of Arizona:**

**Criminal Justice Administration**

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>Introduction to Administration of Justice</td>
<td>AJS 101  3</td>
</tr>
<tr>
<td>Finite Math</td>
<td>MAT 172  3</td>
</tr>
<tr>
<td>Calculus for Business</td>
<td>MAT 212  3</td>
</tr>
<tr>
<td>Business</td>
<td>BUS 201  3</td>
</tr>
<tr>
<td>Introduction to Data Processing</td>
<td>CIS 120  3</td>
</tr>
<tr>
<td>Business Statistics</td>
<td>BUS 219  3</td>
</tr>
<tr>
<td>Public Speaking</td>
<td>COM 110  3</td>
</tr>
<tr>
<td>or Fundamentals of Speech</td>
<td>COM 102  3</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td><strong>21</strong></td>
</tr>
</tbody>
</table>

**Major Emphasis: University of Arizona:**

**Child Development and Family Relations**

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>Public Speaking</td>
<td>COM 110  3</td>
</tr>
<tr>
<td>or Fundamentals of Speech</td>
<td>COM 102  3</td>
</tr>
<tr>
<td><strong>Recommended Electives</strong></td>
<td></td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td><strong>18</strong></td>
</tr>
</tbody>
</table>

**Major Emphasis: University of Arizona:**

**Rehabilitation**

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>Human Anatomy &amp; Physiology I</td>
<td>BIO 201  4</td>
</tr>
<tr>
<td>Human Anatomy &amp; Physiology II</td>
<td>BIO 202  4</td>
</tr>
<tr>
<td><strong>Recommended Electives</strong></td>
<td></td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td><strong>12</strong></td>
</tr>
</tbody>
</table>

**Major Emphasis: Northern Arizona University:**

**Gerontology**

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>Human Anatomy &amp; Physiology I</td>
<td>BIO 201  4</td>
</tr>
<tr>
<td>Human Anatomy &amp; Physiology II</td>
<td>BIO 202  4</td>
</tr>
<tr>
<td><strong>Recommended Electives</strong></td>
<td></td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td><strong>12</strong></td>
</tr>
</tbody>
</table>

**Ethnic Groups & Minorities**

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>Social Problems</td>
<td>SOC 202  3</td>
</tr>
<tr>
<td>Introduction to Social Welfare</td>
<td>SOC 207  3</td>
</tr>
<tr>
<td>Principles of Macroeconomics</td>
<td>ECO 201  3</td>
</tr>
<tr>
<td>Principles of Microeconomics</td>
<td>ECO 202  3</td>
</tr>
<tr>
<td>Society &amp; Culture</td>
<td>ANT 102  3</td>
</tr>
<tr>
<td>Substance Abuse Causes and Treatment</td>
<td>SSV 193  3</td>
</tr>
<tr>
<td>Determinants of Human Behavior</td>
<td>SSV 273  3</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td><strong>69-70</strong></td>
</tr>
</tbody>
</table>
SPANISH

Associate of Arts

General Education Requirements
See AA degree General Education minimum requirements in the Degrees and Programs section.
Must include: SPA 101 & 102

Minimum General Education Credit Hours 49

Core Curriculum Units

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>Elementary Spanish</td>
<td>SPA 201</td>
</tr>
<tr>
<td>Elementary Spanish</td>
<td>SPA 202</td>
</tr>
<tr>
<td>Electives (12 units):</td>
<td></td>
</tr>
<tr>
<td>Survey of World Art, Prehistoric-Gothic</td>
<td>ART 107</td>
</tr>
<tr>
<td>Survey of World Art: Renaissance-</td>
<td>ART 108</td>
</tr>
<tr>
<td>Twentieth Century</td>
<td></td>
</tr>
<tr>
<td>History of the U.S., 1607-1877</td>
<td>HIS 110</td>
</tr>
<tr>
<td>Survey of Western Civilization I</td>
<td>HIS 140</td>
</tr>
<tr>
<td>Survey of Western Civilization II</td>
<td>HIS 141</td>
</tr>
<tr>
<td>Mass Communication</td>
<td></td>
</tr>
<tr>
<td>Society &amp; Culture</td>
<td>ANT 102</td>
</tr>
<tr>
<td>History of the U.S., 1607-1877</td>
<td>HIS 110</td>
</tr>
<tr>
<td>Survey of Western Civilization I</td>
<td>HIS 140</td>
</tr>
<tr>
<td>Survey of Western Civilization II</td>
<td>HIS 141</td>
</tr>
<tr>
<td>Mass Communication</td>
<td></td>
</tr>
<tr>
<td>Basic Reporting</td>
<td>JRN 101</td>
</tr>
<tr>
<td>Fundamentals of Speech</td>
<td>COM 102</td>
</tr>
<tr>
<td>Introduction to Theatre</td>
<td>THE 103</td>
</tr>
<tr>
<td>Theatre Workshop</td>
<td>THE 110</td>
</tr>
<tr>
<td>Introduction to Music</td>
<td>MUS 101</td>
</tr>
<tr>
<td>Introduction to Music</td>
<td>MUS 102</td>
</tr>
<tr>
<td>Introduction to Literature</td>
<td>ENG 104</td>
</tr>
<tr>
<td>Introduction to Philosophy</td>
<td>PHI 111</td>
</tr>
<tr>
<td>Ethics</td>
<td>PHI 130</td>
</tr>
<tr>
<td>Introduction to Sociology</td>
<td>SOC 101</td>
</tr>
<tr>
<td>Social Problems</td>
<td>SOC 202</td>
</tr>
<tr>
<td>TOTAL</td>
<td></td>
</tr>
</tbody>
</table>

ASSOCIATE OF SCIENCE DEGREES

BUSINESS ADMINISTRATION

Associate of Science

General Education Requirements
See AS degree General Education minimum requirements in the Degrees and Programs section.
Must include: MAT 172 & MAT 212

Minimum General Education Credit Hours 38-40

Core Curriculum Units

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>Survey of American Business or Business Ethics</td>
<td>BUS 109</td>
</tr>
<tr>
<td>Business Communications</td>
<td>BUS 150</td>
</tr>
<tr>
<td>Business Statistics</td>
<td>BUS 167</td>
</tr>
<tr>
<td>Business Statistics</td>
<td>BUS 219</td>
</tr>
<tr>
<td>Introduction to Data Processing</td>
<td>CIS 120</td>
</tr>
<tr>
<td>Financial Accounting</td>
<td>BUS 201</td>
</tr>
</tbody>
</table>

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 |

TOTAL 68-70

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

COMPUTER INFORMATION SYSTEMS

Associate of Science

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

Prerequisites: Demonstrated proficiency in math, reading and writing.

General Education Requirements
See AS degree General Education minimum requirements in the Degrees and Programs section.
Must include: MAT 172 & MAT 212

Minimum General Education Credit Hours 38-40

Core Curriculum Units

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>Financial Accounting</td>
<td>BUS 201</td>
</tr>
<tr>
<td>Managerial Accounting</td>
<td>BUS 202</td>
</tr>
<tr>
<td>Introduction to Data Processing</td>
<td>CIS 120</td>
</tr>
<tr>
<td>Algorithms</td>
<td>CIS 130</td>
</tr>
<tr>
<td>Programming (Select One):</td>
<td></td>
</tr>
<tr>
<td>PASCAL Programming</td>
<td>CIS 201</td>
</tr>
<tr>
<td>COBOL Programming</td>
<td>CIS 202</td>
</tr>
<tr>
<td>FORTRAN Programming</td>
<td>CIS 203</td>
</tr>
<tr>
<td>C Programming</td>
<td>CIS 204</td>
</tr>
<tr>
<td>ADA Programming</td>
<td>CIS 205</td>
</tr>
<tr>
<td>Systems Analysis</td>
<td>CIS 270</td>
</tr>
<tr>
<td>Principles of Macroeconomics</td>
<td>ECN 201</td>
</tr>
<tr>
<td>Principles of Microeconomics</td>
<td>ECN 202</td>
</tr>
<tr>
<td>Information Management Division</td>
<td></td>
</tr>
<tr>
<td>Approved Electives</td>
<td></td>
</tr>
<tr>
<td>TOTAL</td>
<td></td>
</tr>
</tbody>
</table>

See Information Management Division Advisor
### COMPUTER SCIENCE
**Associate of Science**

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

**Prerequisites:** Demonstrated proficiency in math, reading and writing.

**General Education Requirements**
See AS degree General Education minimum requirements in the Degrees and Programs section.

**Minimum General Education Credit Hours** 38-40

<table>
<thead>
<tr>
<th>Core Curriculum</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>Algorithms</td>
<td>CIS 130 3</td>
</tr>
<tr>
<td>Programming (Select One)</td>
<td></td>
</tr>
<tr>
<td>PASCAL Programming</td>
<td>CIS 201 4</td>
</tr>
<tr>
<td>FORTRAN Programming</td>
<td>CIS 203 4</td>
</tr>
<tr>
<td>C Programming</td>
<td>CIS 204 4</td>
</tr>
<tr>
<td>ADA Programming</td>
<td>CIS 205 4</td>
</tr>
<tr>
<td>Assembly Programming</td>
<td>CIS 206 4</td>
</tr>
<tr>
<td>Data Structures</td>
<td>CIS 220 4</td>
</tr>
<tr>
<td>Computer Architecture</td>
<td>CIS 222 3</td>
</tr>
<tr>
<td>Discrete Math</td>
<td>MAT 243 3</td>
</tr>
<tr>
<td>Calculus III</td>
<td>MAT 241 4</td>
</tr>
<tr>
<td>Information Management Division</td>
<td></td>
</tr>
</tbody>
</table>

Algorithms
- CIS 130 3
- CIS 201 4
- CIS 203 4
- CIS 204 4
- CIS 205 4
- CIS 206 4
- CIS 220 4
- CIS 222 3
- MAT 243 3
- MAT 241 4

**TOTAL** 65-67

See Information Management Division Advisor

### ELECTRONICS TECHNOLOGY
**Associate of Science**

**General Education Requirements**
See AS degree General Education minimum requirements in the Degrees and Programs section.

**Minimum General Education Credit Hours** 40

<table>
<thead>
<tr>
<th>Core Curriculum</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>General Physics</td>
<td>PHY 111 4</td>
</tr>
<tr>
<td>Introduction to D.C. Circuits</td>
<td>ELT 105 3</td>
</tr>
<tr>
<td>Introduction to A.C. Circuits</td>
<td>ELT 106 4</td>
</tr>
<tr>
<td>General Physics</td>
<td>PHY 112 4</td>
</tr>
<tr>
<td>Semiconductors &amp; Transistors</td>
<td>ELT 122 4</td>
</tr>
<tr>
<td>Electronic Circuits &amp; Systems</td>
<td>ELT 125 4</td>
</tr>
<tr>
<td>Pulse Circuits</td>
<td>ELT 231 4</td>
</tr>
<tr>
<td>Digital Circuits</td>
<td>ELT 233 4</td>
</tr>
<tr>
<td>Modern Electrical Devices</td>
<td>ELT 243 4</td>
</tr>
<tr>
<td>Microprocessors &amp; Microcomputers</td>
<td>ELT 265 4</td>
</tr>
</tbody>
</table>

**TOTAL** 71

### LIFE SCIENCES
**Associate of Science**

(Also see Associate of Arts)

**General Education Requirements**
See AS degree General Education minimum requirements in the Degrees and Programs section.

**Minimum General Education Credit Hours** 40

<table>
<thead>
<tr>
<th>Core Curriculum</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>Plant Biology</td>
<td>BIO 184 4</td>
</tr>
<tr>
<td>Animal Biology</td>
<td>BIO 190 4</td>
</tr>
<tr>
<td>General Chemistry I</td>
<td>CHM 151 4</td>
</tr>
<tr>
<td>General Chemistry II</td>
<td>CHM 152 4</td>
</tr>
<tr>
<td>Plane Trigonometry</td>
<td>MAT 151 or above 3</td>
</tr>
<tr>
<td>Calculus I</td>
<td>MAT 220 or above 5</td>
</tr>
<tr>
<td>Controlled Electives</td>
<td>20</td>
</tr>
</tbody>
</table>

**TOTAL** 68

*Controlled Electives may be selected from the following:
- General Organic Chemistry I | CHM 235 4
- General Organic Chemistry II | CHM 236 4
- Ecology | BIO 226 4
- Introduction to Data Processing | CIS 120 3
- Physical Geography | GEO 101 4
- Microbiology | BIO 205 4
- General Physics I | PHY 111 4
- General Physics II | PHY 112 4
- Physics with Calculus | PHY 230 4
- Physics with Calculus | PHY 231 4

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

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

---

55
MANUFACTURING ENGINEERING
Associate of Science

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

Minimum General Education Credit Hours 49

Core Curriculum

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
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<tbody>
<tr>
<td>Computer-Aided Drafting</td>
<td>DFT 150 3</td>
</tr>
<tr>
<td>Manufacturing Processes</td>
<td>MAC 231 4</td>
</tr>
<tr>
<td>Engineering Materials</td>
<td>GTC 206 4</td>
</tr>
<tr>
<td>Welding Survey</td>
<td>WLD 202 4</td>
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<tr>
<td>Elective</td>
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<td>TOTAL</td>
<td>67</td>
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</table>

PROFESSIONAL PILOT TECHNOLOGY
Associate of Science

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

Minimum General Education Credit Hours 38-40

Core Curriculum

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stage One - Commercial Pilot Ground School</td>
<td>PFT 101 5</td>
</tr>
<tr>
<td>Solo Flight Preparation</td>
<td>PFT 111 3.5</td>
</tr>
<tr>
<td>Cross Country Navigation</td>
<td>PFT 112 1.5</td>
</tr>
<tr>
<td>Private Pilot Certification</td>
<td>PFT 113 1</td>
</tr>
<tr>
<td>Stage Two - Commercial Pilot Ground School</td>
<td>PFT 120 5</td>
</tr>
<tr>
<td>Stage Two - Commercial Pilot Flight Lab</td>
<td>PFT 121 3</td>
</tr>
<tr>
<td>Stage Three - Commercial Pilot Ground School</td>
<td>PFT 130 5</td>
</tr>
<tr>
<td>Stage Three - Commercial Pilot Flight Lab</td>
<td>PFT 131 3</td>
</tr>
<tr>
<td>Stage Four - Commercial Pilot Ground School</td>
<td>PFT 204 5</td>
</tr>
<tr>
<td>Instrument Flight Navigation and Air Traffic Control Procedures</td>
<td>PFT 214 3.5</td>
</tr>
<tr>
<td>Commercial Pilot Completion Course</td>
<td>PFT 218 1</td>
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<tr>
<td>Electives</td>
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</table>

Optional Courses

<table>
<thead>
<tr>
<th>Course</th>
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<tbody>
<tr>
<td>Private Pilot Practicum</td>
<td>PFT 102 1</td>
</tr>
<tr>
<td>Private Pilot Review</td>
<td>PFT 103 1</td>
</tr>
<tr>
<td>Commercial Pilot Practicum</td>
<td>PFT 219 1</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
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</thead>
<tbody>
<tr>
<td>Commercial Pilot Review</td>
<td>PFT 220 1</td>
</tr>
<tr>
<td>Multi-Engine Class Rating</td>
<td>PFT 230 3</td>
</tr>
<tr>
<td>Ground School</td>
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</tr>
<tr>
<td>Multi-Engine Class Rating Flight</td>
<td>PFT 231 5</td>
</tr>
<tr>
<td>Instrument Pilot Practicum</td>
<td>PFT 232 3</td>
</tr>
<tr>
<td>Instrument Pilot Review</td>
<td>PFT 233 1</td>
</tr>
<tr>
<td>Commercial Pilot Practicum</td>
<td>PFT 234 2.5</td>
</tr>
<tr>
<td>Flight Instructor Fundamentals of Instruction</td>
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<tr>
<td>Flight Instructor Airplane Ground School</td>
<td></td>
</tr>
<tr>
<td>Flight Instructor Airplane Flight</td>
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<tr>
<td>Flight Instructor Review</td>
<td></td>
</tr>
<tr>
<td>Flight Instructor Practicum</td>
<td></td>
</tr>
<tr>
<td>Multi-Engine Airplane - Instructor Ground School</td>
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</tr>
<tr>
<td>Multi-Engine Airplane Instructor Flight</td>
<td></td>
</tr>
<tr>
<td>Instrument Flight Instructor Ground School</td>
<td>PFT 241 2</td>
</tr>
<tr>
<td>Instrument Flight Instructor Flight Ground School</td>
<td></td>
</tr>
<tr>
<td>Instrument Flight Instructor Flight Airline Transport Pilot</td>
<td>PFT 250 3</td>
</tr>
<tr>
<td>Airline Transport Pilot Ground School</td>
<td>PFT 251 3</td>
</tr>
<tr>
<td>Airline Transport Pilot Flight</td>
<td>PFT 260 3</td>
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<tr>
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</tbody>
</table>

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.

PSYCHOLOGY
Associate of Science
(Also see Associate of Arts)

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

Must include 11 units of MAT 151 or above

Minimum General Education Credit Hours 38-40

Core Curriculum

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
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</thead>
<tbody>
<tr>
<td>Introduction to Psychology</td>
<td>PSY 101 3</td>
</tr>
<tr>
<td>Introduction to Psychological Research, Measurement and Statistics</td>
<td>PSY 250 3</td>
</tr>
<tr>
<td>Experimental Psychology</td>
<td>PSY 250 3</td>
</tr>
<tr>
<td>Required Electives (Two of the Following)</td>
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</tr>
<tr>
<td>Social Psychology</td>
<td>PSY 210 3</td>
</tr>
<tr>
<td>Personality Theory &amp; Research</td>
<td>PSY 230 4</td>
</tr>
<tr>
<td>Developmental Psychology</td>
<td>PSY 240 3</td>
</tr>
<tr>
<td>Electives</td>
<td></td>
</tr>
<tr>
<td>TOTAL</td>
<td>64-65</td>
</tr>
</tbody>
</table>

See Psychology Advisor for specific transfer requirements to U of A, ASU, and NAU.
ASSOCIATE OF GENERAL STUDIES DEGREES

AGRICULTURE
Associate of General Studies

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

General Education Requirements
See AGS degree General Education minimum requirements in the Degrees and Programs section. Must include: CHM 151 & CHM 152

Minimum General Education Credit Hours 36-47

Core Curriculum Units
From the following courses and other electives:

- Principles of Veterinary Science AGR 101 3
- Introduction to Agriculture AGR 102 3
- Range Management AGR 105 3
- Farrier Science AGR 107 3
- Team Roping AGR 138 3
- Western Horsemanship AGR 139 3
- Rodeo Skills AGR 140 3
- English Equitation AGR 141 3
- Range Plants AGR 207 3
- Animal Industry AGR 208 3
- Auxiliary Engine Operation and Repair AGR 209 3
- General Welding AGR 210 3
- Advanced Agriculture Welding AGR 212 3
- Agriculture Alloy and Repair Welding AGR 213 3
- Animal Feeding AGR 250 3
- Horse Science and Management AGR 237 3
- Livestock Production and Management AGR 243 3
- Project Welding AGR 250 3
- Individual Studies AGR 299 1-4
- Recommended Business Electives
  Writing Communications and Reports ENG 109 3
  Principles of Management BUS 143 3
  Business Communications QAD 167 3
  Financial Accounting BUS 201 3
  Introduction to Data Processing CIS 120 3

TOTAL 66

SOCIAL SERVICES
Associate of General Studies

General Education Requirements
See AGS degree General Education minimum requirements in the Degrees and Programs section. Must include: CIS 181

Minimum General Education Credit Hours 36-47

Core Curriculum Units
- Principles of Economics ECN 201/202 3
- American National Government POS 110 3
- Ethnic Groups & Minorities SOC 160 3
- Social Problems SOC 202 3
- Introduction to Social Welfare SOC 207 3
- Marriage & the Family SOC 210 3
- Developmental Psychology PSY 240 3
- Introduction to Psychological Research Measurement and Statistics PSY 250 3

TOTAL 64

ASSOCIATE OF APPLIED SCIENCE DEGREES

ADMINISTRATION OF JUSTICE
Associate of Applied Science

General Education Requirements
See AAS degree General Education minimum requirements in the Degrees and Programs section. Must include: ENG 101, ENG 102, ENG 109, MAT 122, PSY 101, SOC 101, POS 110 or POS 220 and HPE (2 units)

Minimum General Education Credit Hours 23

Core Curriculum Units
- Introduction to Administration of Justice AJS 101 3
- The Police Function AJS 230 3
- Corrections COH 112 3
- Juvenile Justice Procedures AJS 212 3
- Substantive Criminal Law I AJS 200 3
- Procedural Criminal Law II AJS 260 3
- Fundamentals of Speech COM 102 3

Major Emphasis: Law Enforcement
- Police Patrol Function AJS 122 3
- Criminal Investigations AJS 275 3
- Community Relations AJS 279 3
- Psychology in Law Enforcement AJS 254 3
- Electives* 8

Major Emphasis: Corrections
- Crime & Delinquency AJS 225 3
- Community Corrections AJS 205 3
- Penology AJS 215 3
- Social Psychology PSY 210 3
- Electives* 8

TOTAL 64

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

**Associate of Applied Science**

**General Education Requirements**

See AAS degree General Education minimum requirements in the Degrees and Programs section. Must include: ENG 101, ENG 100 or above, BIO 101, BIO 102, MAT 122 or above, CHM 100 or CHM 151, COM 102.

**Minimum General Education Credit Hours**

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

**Recommended Business Electives**

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>Written Communications and Reports</td>
<td>ENG 109</td>
</tr>
<tr>
<td>Principles of Management</td>
<td>BUS 143</td>
</tr>
<tr>
<td>Business Communications</td>
<td>OAD 7</td>
</tr>
<tr>
<td>Financial Accounting</td>
<td>BUS 201</td>
</tr>
<tr>
<td>Introduction to Data Processing</td>
<td>CIS 120</td>
</tr>
</tbody>
</table>

**Total**

18

### AVIATION MAINTENANCE TECHNOLOGY

**Associate of Applied Science**

**General Education Requirements**

See AAS degree General Education minimum requirements in the Degrees and Programs section. Minimum General Education Credit Hours: 18

**Core Curriculum**

| 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 |

**Total**

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.

### AVIONICS TECHNOLOGY

**Associate of Applied Science**

**General Education Requirements**

See AAS degree General Education minimum requirements in the Degrees and Programs section. Minimum General Education Credit Hours: 18

**Core Curriculum**

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>Introduction to DC Circuits</td>
<td>ELT 105</td>
</tr>
<tr>
<td>Introduction to AC Circuits</td>
<td>ELT 106</td>
</tr>
<tr>
<td>Mathematics for Electronics</td>
<td>ELT 110/MAT 122</td>
</tr>
<tr>
<td>Arts &amp; Humanities/Social &amp; Behavioral Science</td>
<td>ELT 120</td>
</tr>
<tr>
<td>Advanced Math for Electrons or MAT 151</td>
<td>ELT 122</td>
</tr>
<tr>
<td>Semiconductors &amp; Transistors</td>
<td>ELT 233</td>
</tr>
<tr>
<td>Avionics Fundamentals*</td>
<td>AVT 127</td>
</tr>
<tr>
<td>General Education Elective</td>
<td>ELT 245</td>
</tr>
<tr>
<td>Communication Electronics</td>
<td>ELT 231</td>
</tr>
<tr>
<td>Pulse Circuits</td>
<td>ELT 243</td>
</tr>
<tr>
<td>Modern Electronic Devices</td>
<td>ELT 265</td>
</tr>
<tr>
<td>Microprocessors &amp; Microcomputers</td>
<td>ELT 250</td>
</tr>
<tr>
<td>General Education Elective</td>
<td>AVT 253</td>
</tr>
<tr>
<td>Navigation Systems*</td>
<td>AVT 257</td>
</tr>
<tr>
<td>Flight Control Systems*</td>
<td>ELT 270</td>
</tr>
</tbody>
</table>

**Total**

68-69

*Avionics courses are offered only on the Douglas Campus
### COMPUTER INFORMATION SYSTEMS

**Associate of Applied Science**

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

**Prerequisites:** Demonstrated proficiency in math, reading, and writing.

**General Education Requirements**

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

Must include: CIS/ENG 179, CIS/ENG 279, MAT 122 or above, CIS 110 and OAD 268.

**Minimum General Education Credit Hours** 21

<table>
<thead>
<tr>
<th>Core Curriculum</th>
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</thead>
<tbody>
<tr>
<td>Financial Accounting</td>
<td>BUS 201</td>
</tr>
<tr>
<td>Managerial Accounting</td>
<td>BUS 202</td>
</tr>
<tr>
<td>Introduction to Data Processing</td>
<td>CIS 120</td>
</tr>
<tr>
<td>Algorithms</td>
<td>CIS 130</td>
</tr>
<tr>
<td>Introduction to Operating Systems</td>
<td>CIS 140</td>
</tr>
<tr>
<td>PC Connectivity</td>
<td>CIS 129</td>
</tr>
</tbody>
</table>

**Programming (Select One):**

- Pascal Programming | CIS 201 | 4 |
- COBOL Programming | CIS 202 | 4 |
- Fortran Programming | CIS 203 | 4 |
- C Programming | CIS 204 | 4 |
- ADA Programming | CIS 205 | 4 |

| 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 |

**TOTAL** 64

See Information Management Division Advisor

### ELECTRONICS TECHNOLOGY

**Associate of Applied Science**

**General Education Requirements**

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

Must include: ENG 101, ELT 105, ELT 106, or MAT 122, ELT 120 or MAT 151.

**Minimum General Education Credit Hours** 19

<table>
<thead>
<tr>
<th>Core Curriculum</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>Introduction to DC Circuits</td>
<td>ELT 105</td>
</tr>
<tr>
<td>Introduction to AC Circuits</td>
<td>ELT 106</td>
</tr>
<tr>
<td>Basic Computer Programming</td>
<td>ELT 107</td>
</tr>
<tr>
<td>Semiconductors &amp; Transistor</td>
<td>ELT 122</td>
</tr>
<tr>
<td>Electronic Circuits &amp; Systems</td>
<td>ELT 125</td>
</tr>
<tr>
<td>Pulse Circuits</td>
<td>ELT 231</td>
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<tr>
<td>Digital Circuits</td>
<td>ELT 233</td>
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<tr>
<td>Modern Electrical Devices</td>
<td>ELT 243</td>
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<td>Communications Electronics</td>
<td>ELT 245</td>
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<tr>
<td>Communications Elect II</td>
<td>ELT 247</td>
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<td>Avionics</td>
<td>ELT 260</td>
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<tr>
<td>Microprocessors &amp; Microcomputers</td>
<td>ELT 265</td>
</tr>
<tr>
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</tr>
</tbody>
</table>

**TOTAL** 65

### FIRE SCIENCE TECHNOLOGY

**Associate of Applied Science**

**General Education Requirements**

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

Must include: ENG 101, ENG 102, ENG 109, MAT 122, CIS 181, COM 102, CPD 107, and HPE (2 units).

**Minimum General Education Credit Hours** 25

<table>
<thead>
<tr>
<th>Core Curriculum</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fundamentals of Fire Prevention</td>
<td>FST 106</td>
</tr>
<tr>
<td>Fire Fighter I</td>
<td>FST 110</td>
</tr>
<tr>
<td>Fire Fighter II</td>
<td>FST 111</td>
</tr>
<tr>
<td>Fire Service Hydraulics</td>
<td>FST 120</td>
</tr>
<tr>
<td>Fire Apparatus &amp; Equipment</td>
<td>FST 200</td>
</tr>
<tr>
<td>Rescue Practices</td>
<td>FST 220</td>
</tr>
<tr>
<td>Fire Fighting Tactics &amp; Strategies</td>
<td>FST 240</td>
</tr>
<tr>
<td>Supervisory Training for Firefighters</td>
<td>FST 265</td>
</tr>
<tr>
<td>Hazardous Material Incident (First Responder)</td>
<td>AJT 266</td>
</tr>
<tr>
<td>Emergency Medical Technology</td>
<td>EMT 174</td>
</tr>
<tr>
<td>Field Experience in Fire Science Technology</td>
<td>FST 224</td>
</tr>
</tbody>
</table>

**TOTAL** 68

---

59
HOSPITALITY ADMINISTRATION
Associate of Applied Science

General Education Requirements
See AAS degree General Education minimum requirements in the Degrees and Programs section.
Must include: ENG 101, ENG 102, MAT 151, Foreign Language (101 or higher, 8 units), Laboratory Science (8 units), GEO 102, 104 or 105, HUM 205 or 206, or JRN 101 or ART 101, HPE (2 units)
Minimum General Education Credit Hours 33

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

TOTAL 66
Recommended Electives:
Commercial Food Preparation Theory HAD 240 3
Advanced Commercial Preparation & Lab HAD 241 4
Field Experience in Hospitality Administration HAD 224 1-6

MEDIA COMMUNICATIONS
Associate of Applied Science

General Education Requirements
See AAS degree General Education minimum requirements in the Degrees and Programs section.
Must include: BUS 104, ENG 101, ENG 102, MAT 151, Foreign Language (101 or higher, 8 units), Laboratory Science (8 units), GEO 102, 104 or 105, HUM 205 or 206, or JRN 101 or ART 101, HPE (2 units)
Minimum General Education Credit Hours 34

Core Curriculum Units
Introduction to Mass Communications MND/JRN 101 3
Basic Reporting MND/JRN 102 3
Student Newspaper MND/JRN 201 3
Introduction to Desktop Publishing MND/JRN 207 3
or CIS 285 3
Advanced Desktop Publishing MND/JRN 208 3
or CIS 286 3
Field Experience in Communication/ Media Technology JRN 224 3
Mirage: Production of Literary Magazine MED 299 3

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

MIDDLE MANAGEMENT
Associate of Applied Science

General Education Requirements
See AAS degree General Education minimum requirements in the Degrees and Programs section.
Must include: ENG 101, ENG 102, BUS 104
Minimum General Education Credit Hours 18

Core Curriculum Units
Survey of American Business BUS 109 3
Principles of Management BUS 143 3
Principles of Marketing BUS 145 3
Starting a Business BUS 183 3
Business Communications BUS 167 3
Computerized Accounting BUS 180 3
Computer Applications CIS 181 3
or equivalent
Introduction to Accounting BUS 146 3
or Financial Accounting BUS 201 3
Managerial Accounting BUS 202 3
Business Law I BUS 231 3
or Legal Environment of Business BUS 233 3
Principles of Microeconomics ECN 202 3
Small Business Management BUS 283 3
Division Approved Electives 12

TOTAL 66
Students must complete twelve additional units (with approval of Business Department Advisor) in the Business Administration, Economics, Hospitality Administration, or Computer Information Systems areas. Cooperative Education credit may be substituted for elective coursework.
The Management program of study is not designed to transfer into a four-year degree program. Specific courses may transfer.
NETWORK MANAGEMENT
Associate of Applied Science Degree

General Education Requirements
See AAS degree General Education minimum requirements in the Degrees and Programs section.
Must include CIS 179, CIS 279, MAT 122, and CIS 110

Minimum General Education Credit Hours 18

Core Curriculum

| Operating Systems | CIS 140 | 3 |
| PC & Printer Support | CIS 142 | 3 |
| PC Connectivity | CIS 150 | 3 |
| Computer Applications | CIS 181 | 3 |
| Introduction to Networks | CIS 234 | 4 |
| Novell Network Management | CIS 235 | 3 |
| Network Operating Systems | CIS 236 | 3 |
| Service & Maintenance of Personal Computers | CIS 260 | 3 |
| Network Support | CIS 262 | 3 |
| Advanced Computer Applications | CIS 261 | 3 |
| Field Experience in Computer Information Systems | CIS 294 | 3 |
| Technical Presentations | OAD 268 | 3 |
| Information Management Division | Approved Electives | 9 |

TOTAL 64

NURSING
Associate Degree Nurse –
Associate of Applied Sciences

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

Minimum General Education Credit Hours 18

Also offered:
Nursing Assistant – Certificate
Practical Nurse – Certificate

Cochise College offers a program which is accredited by the National League of Nursing and approved by the Arizona State Board of Nursing. The program is based on the ladder concept which permits students to enter or exit from the program based upon their specific needs, 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 critically 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
English Composition  ENG 101 3
Nursing I  NUR 122 8
Medication Math  NUR 121 1

TOTAL 16

Second Semester

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

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

Sophomore Third Semester

Microbiology  BIO 205 4
Society & Culture  ANT 102 3
or Introduction to Sociology  SOC 101 3
Controlled Elective  3
Nursing III  NUR 232 9

TOTAL 19

Fourth Semester

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

TOTAL 16

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

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

POWER PLANT OPERATIONS
Associate of Applied Science
(For AEPCO Employees only)

General Education Requirements
See AAS degree General Education minimum requirements in the Degrees and Programs section. Must include: ENG 101, ENG 102, MAT 122, BUS 125 or BUS 127 and 6 units elective (Laboratory Science and/or MAT 151 and above).

Minimum General Education Credit Hours 18

Core Curriculum
Units

General Education
PP0 224 12

Electrical Maintenance

Power Plant Operations

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

Mechanical Maintenance
Units

Maintenance & Mechanical I
PP0 111 5

Maintenance & Mechanical II
PP0 112 5

Maintenance & Mechanical III
PP0 113 5

Maintenance & Mechanical IV
PP0 211 5

Maintenance & Mechanical V
PP0 212 5

Safety
PP0 290 5

Basic Electricity
PP0 114 2

Instrumentation & Controls
Units

Instrumentation & Control I
PP0 121 5

Instrumentation & Control II
PP0 122 5

Instrumentation & Control III
PP0 123 5

Electronics I
PP0 221 5

Electronics II
PP0 222 5

Electronics III
PP0 223 5

Power Control
Units

Principles of Power Generation I
PP0 141 5

Principles of Power Generation II
PP0 142 5

Principles of Power Generation III
PP0 143 5

Principles of Power Generation IV
PP0 241 5

Principles of Power Generation V
PP0 242 5

Principles of Power Generation VI
PP0 243 5

Electrical Maintenance
Units

Electrical Maintenance I
PP0 131 5

Electrical Maintenance II
PP0 132 5

Electrical Maintenance III
PP0 133 5

Electrical Maintenance IV
PP0 231 5

Electrical Maintenance V
PP0 232 5

Electrical Maintenance VI
PP0 233 5

TOTAL 64-65

PROFESSIONAL ADMINISTRATIVE
ASSISTANT
Associate of Applied Science

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

Minimum General Education Credit Hours 18

AREAS OF SPECIALIZATION: Consult with a division advisor before starting this program or selecting a specialization. Executive Secretarial, Microcomputer Specialist, Accounting Assistant, Management Support, and General 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 division advisor for further information.

Applied Academic Requirements
Units

Business Communications
OAD 167 3

Business Speech Communications
OAD 209 3

Applied Technical Writing
CIS/ENG 179 3

Business English
OAD 111 3

Business Math
OAD 104 3

Introduction to Accounting
OAD 146 3

Principles of Office Administration
OAD 207 3

Management Elective (Select One):

Leadership & Supervision
BUS 127 3

Introduction to Business Ethics
BUS 150 3

Special Problems in Management
BUS 128 3

Exploring Your Potential as a Manager
BUS 126 3

Technical Presentations
OAD 268 3

TOTAL 24
Core Course Requirements

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>Learn to Use Microcomputers</td>
<td>OAD 116 3</td>
</tr>
<tr>
<td>Document Preparation Courses (Two)*</td>
<td>OAD 102 6</td>
</tr>
<tr>
<td>Elementary Document Preparation</td>
<td>OAD 103</td>
</tr>
<tr>
<td>Intermediate Document Preparation</td>
<td>OAD 201</td>
</tr>
<tr>
<td>Advanced Document Preparation</td>
<td>OAD 202</td>
</tr>
<tr>
<td>Professional Document Preparation</td>
<td></td>
</tr>
</tbody>
</table>

*Course level determined by division

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>Word Processing</td>
<td>OAD 213 3</td>
</tr>
<tr>
<td>Advanced Word Processing</td>
<td>OAD 214 3</td>
</tr>
<tr>
<td>Automated Office Procedures</td>
<td>OAD 210 3</td>
</tr>
<tr>
<td>Automated Office Practice</td>
<td>OAD 211 3</td>
</tr>
<tr>
<td>Records Management</td>
<td>OAD 206 3</td>
</tr>
<tr>
<td>Computerized Office Management</td>
<td>OAD 216 3</td>
</tr>
<tr>
<td>Terminology and Transcription</td>
<td>OAD 212 3</td>
</tr>
</tbody>
</table>

TOTAL 30

Professional Block (13-15 Units)*

Select one area of the following specializations

- Executive Secretarial
- Microcomputer Specialist
- Accounting Assistant
- Management Support
- General Administration

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

Options for Executive Secretarial*

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>Shorthand I (required)</td>
<td>OAD 204 3</td>
</tr>
<tr>
<td>Shorthand II (required)</td>
<td>OAD 205 3</td>
</tr>
<tr>
<td>Advanced Computer Applications</td>
<td>CIS 281 3</td>
</tr>
<tr>
<td>Business Ethics</td>
<td>BUS 150 3</td>
</tr>
<tr>
<td>Business Law</td>
<td>BUS 231 3</td>
</tr>
<tr>
<td>Current Computer Applications</td>
<td>OAD/CIS 193 1</td>
</tr>
<tr>
<td>Advanced Current Computer Applications</td>
<td>OAD 293 1</td>
</tr>
<tr>
<td>Desktop Publishing</td>
<td>CIS 285 3</td>
</tr>
<tr>
<td>Advanced Desktop Publishing</td>
<td>CIS 286 3</td>
</tr>
<tr>
<td>Field Experience in Office Technology</td>
<td>OAD 224 1-6</td>
</tr>
<tr>
<td>The Legal Environment of Business</td>
<td>BUS 233 3</td>
</tr>
<tr>
<td>Advanced Medical Transcription/terminology</td>
<td>OAD 215 3</td>
</tr>
<tr>
<td>PBL Experience</td>
<td>OAD 224 1-6</td>
</tr>
<tr>
<td>Other Approved Courses</td>
<td>OAD/CIS 1-6</td>
</tr>
</tbody>
</table>

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

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

Options for Microcomputer Specialist

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>Current Computer Applications</td>
<td>OAD/CIS 193 1</td>
</tr>
<tr>
<td>Advanced Current Computer Applications</td>
<td>OAD 293 1</td>
</tr>
<tr>
<td>Desktop Publishing</td>
<td>CIS 285 3</td>
</tr>
<tr>
<td>Advanced Desktop Publishing</td>
<td>CIS 286 3</td>
</tr>
<tr>
<td>Field Experience in Office Technology</td>
<td>OAD 224 1-6</td>
</tr>
<tr>
<td>Introduction to Data Processing</td>
<td>CIS 120 3</td>
</tr>
<tr>
<td>Other Approved CIS/OAD courses</td>
<td></td>
</tr>
</tbody>
</table>

Options for Accounting Assistant

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>Financial Accounting</td>
<td>BUS 201 3</td>
</tr>
<tr>
<td>Managerial Accounting</td>
<td>BUS 202 3</td>
</tr>
<tr>
<td>Advanced Computer Applications</td>
<td>CIS 281 3</td>
</tr>
<tr>
<td>Current Computer Applications</td>
<td>OAD/CIS 193 1</td>
</tr>
<tr>
<td>Advanced Current Computer Applications</td>
<td>OAD 293 1</td>
</tr>
<tr>
<td>Computerized Accounting</td>
<td>OAD 180 3</td>
</tr>
<tr>
<td>Advanced Computerized Accounting</td>
<td>CIS 280 3</td>
</tr>
<tr>
<td>Field Experience in Office Technology</td>
<td>OAD 224 1-6</td>
</tr>
<tr>
<td>PBL Experience</td>
<td>BUS 224 1-6</td>
</tr>
<tr>
<td>Other Approved Accounting Courses</td>
<td></td>
</tr>
</tbody>
</table>

Options for Management Support

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>Leadership and Supervision</td>
<td>BUS 127 3</td>
</tr>
<tr>
<td>Exploring Your Potential as a Manager</td>
<td>BUS 126 3</td>
</tr>
<tr>
<td>Special Problems in Management</td>
<td>BUS 128 3</td>
</tr>
<tr>
<td>Principles of Management</td>
<td>BUS 143 3</td>
</tr>
<tr>
<td>Human Resource Management</td>
<td>BUS 123 3</td>
</tr>
<tr>
<td>Current Computer Applications</td>
<td>OAD/CIS 193 1</td>
</tr>
<tr>
<td>Advanced Computer Applications</td>
<td>CIS 281 3</td>
</tr>
<tr>
<td>Small Business Management</td>
<td>BUS 283 3</td>
</tr>
<tr>
<td>Business Law</td>
<td>BUS 231 3</td>
</tr>
<tr>
<td>Field Experience in Business</td>
<td>BUS 224 1-6</td>
</tr>
<tr>
<td>PBL Experience</td>
<td>BUS 224 1-6</td>
</tr>
<tr>
<td>Other Approved Management Courses</td>
<td></td>
</tr>
</tbody>
</table>

Options for General Administration

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>Courses approved by divisional advisor to equal</td>
<td>13-15</td>
</tr>
<tr>
<td>Total Professional Block</td>
<td>13-15</td>
</tr>
<tr>
<td>TOTAL</td>
<td>67-70</td>
</tr>
</tbody>
</table>
### PROFESSIONAL PILOT TECHNOLOGY

**Associate of Applied Science**

**General Education Requirements**

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

Must include: ENG 101, ENG 102 or MAT 122, Laboratory Science (4 units) HPE (2 units) BUS 104, BUS 201, BUS 202, BUS 123, BUS 145, ECN 201, ECN 202, BUS 143 or PFT 200, BUS 233 or PFT 247, Suggested elective PFT 245

**Minimum General Education Credit Hours** 10

### Core Curriculum

<table>
<thead>
<tr>
<th>Unit</th>
<th>Course</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td>PFT 101</td>
<td>Private Pilot Ground School</td>
</tr>
<tr>
<td>3.5</td>
<td>PFT 111</td>
<td>Polo Flight Preparation Course</td>
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<tr>
<td>1.5</td>
<td>PFT 112</td>
<td>Cross Country Navigation</td>
</tr>
<tr>
<td>1</td>
<td>PFT 113</td>
<td>Private Pilot Certification Completion Course</td>
</tr>
<tr>
<td>5</td>
<td>PFT 120</td>
<td>Stage Two Commercial Ground School</td>
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<tr>
<td>3</td>
<td>PFT 121</td>
<td>Stage Two Commercial Flight Laboratory</td>
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<td>5</td>
<td>PFT 130</td>
<td>Stage Three Commercial Ground School</td>
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<tr>
<td>3</td>
<td>PFT 131</td>
<td>Stage Three Flight Lab</td>
</tr>
<tr>
<td>5</td>
<td>PFT 204</td>
<td>Stage Four Commercial Pilot Ground School</td>
</tr>
<tr>
<td>3.5</td>
<td>PFT 214</td>
<td>Instrument Flight Navigation and Air Traffic Control Procedures</td>
</tr>
<tr>
<td>1.5</td>
<td>PFT 215</td>
<td>Instrument Flight Cross Country Procedures and Practical Test Preparation</td>
</tr>
<tr>
<td>1</td>
<td>PFT 218</td>
<td>Commercial Pilot Completion Course</td>
</tr>
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</table>

**TOTAL** 80

### Optional Courses

<table>
<thead>
<tr>
<th>Unit</th>
<th>Course</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>PFT 102</td>
<td>Private Pilot Practicum</td>
</tr>
<tr>
<td>1</td>
<td>PFT 103</td>
<td>Private Pilot Review</td>
</tr>
</tbody>
</table>

### SOCIAL SERVICES

**Associate of Applied Science**

**General Education Requirements**

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

Must include: ENG 101, ENG 102

**Minimum General Education Credit Hours** 10

### Core Curriculum

<table>
<thead>
<tr>
<th>Unit</th>
<th>Course</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>3</td>
<td>SOC 150</td>
<td>Ethnic Groups &amp; Minorities</td>
</tr>
<tr>
<td>3</td>
<td>PHI 111</td>
<td>Introduction to Philosophy</td>
</tr>
<tr>
<td>3</td>
<td>PSY 101</td>
<td>Introduction to Psychology</td>
</tr>
<tr>
<td>3</td>
<td>SOC 207</td>
<td>Introduction to Social Welfare</td>
</tr>
<tr>
<td>3</td>
<td>POS 110</td>
<td>American National Government</td>
</tr>
<tr>
<td>3</td>
<td>SOC 101</td>
<td>Introduction to Sociology</td>
</tr>
<tr>
<td>3</td>
<td>SOC 202</td>
<td>Social Problems</td>
</tr>
<tr>
<td>3</td>
<td>ECN 201</td>
<td>Principles of Macroeconomics</td>
</tr>
<tr>
<td>3</td>
<td>ECN 202</td>
<td>Principles of Microeconomics</td>
</tr>
<tr>
<td>3</td>
<td>SSV 270</td>
<td>Interpersonal Communications</td>
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<tr>
<td>3</td>
<td>SSV 271</td>
<td>Communications in Small Groups</td>
</tr>
<tr>
<td>1-8</td>
<td>SSV 224</td>
<td>Field Experience in Social Services</td>
</tr>
</tbody>
</table>

**Major Emphasis**

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

### Social Services in Corrections

<table>
<thead>
<tr>
<th>Unit</th>
<th>Course</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>3</td>
<td>AJS 101</td>
<td>Introduction to Administration of Justice</td>
</tr>
<tr>
<td>3</td>
<td>AJS 111</td>
<td>Correctional Institutions</td>
</tr>
<tr>
<td>3</td>
<td>SSV 273</td>
<td>Determinants of Human Behavior</td>
</tr>
<tr>
<td>3</td>
<td>COM 110</td>
<td>Public Speaking</td>
</tr>
<tr>
<td>3</td>
<td>SSV 193</td>
<td>Substance Abuse</td>
</tr>
<tr>
<td>3</td>
<td>Electives</td>
<td></td>
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</table>

### Guidance and Counseling

<table>
<thead>
<tr>
<th>Unit</th>
<th>Course</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>3</td>
<td>CPD 103</td>
<td>Personality and Adjustment</td>
</tr>
<tr>
<td>3</td>
<td>CPD 105</td>
<td>The Challenge of Parenting in our Modern World</td>
</tr>
<tr>
<td>3</td>
<td>CPD 121</td>
<td>Career and Life Planning</td>
</tr>
<tr>
<td>3</td>
<td>SSV 273</td>
<td>Determinants of Human Behavior</td>
</tr>
<tr>
<td>3</td>
<td>Electives</td>
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</tr>
</tbody>
</table>

### Social Work

<table>
<thead>
<tr>
<th>Unit</th>
<th>Course</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>3</td>
<td>PSY 220</td>
<td>Personality Theories &amp; Research</td>
</tr>
<tr>
<td>3</td>
<td>SOC 210</td>
<td>Marriage and the Family</td>
</tr>
<tr>
<td>3</td>
<td>SSV 272</td>
<td>Social Work Seminar</td>
</tr>
<tr>
<td>3</td>
<td>SSV 273</td>
<td>Determinants of Human Behavior</td>
</tr>
<tr>
<td>3</td>
<td>Electives</td>
<td></td>
</tr>
</tbody>
</table>
Rehabilitation Units
Loss, Grief, and Dying SSV 190 3
Substance Abuse SSV 193 3
Determinants of Human Behavior SSV 273 3
Electives 5
TOTAL 64-71

WELDING TECHNOLOGY
Associate Of Applied Science

General Education Requirements
See AAS degree General Education minimum requirements in the Degrees and Programs section.
Most include ENG 179, ENG 279, CIS 179, CIS 279, MAT 122
Minimum General Education Credit Hours 18

Core Curriculum Units
Technical Graphics I DFT 112 3
Technical Graphics II DFT 113 3
Computer-Aided Drafting DFT 150 3
Manufacturing Materials & Processes GTC 105 3
Engineering Materials & Processes GTC 206 4
Oxyacetylene Welding WLD 105 3
Arc Welding WLD 106 3
Welding Survey WLD 202 4
Gas Metal Arc Welding WLD 208 3
Gas Tungsten Arc Welding WLD 209 3
Pipe and Plate Welding WLD 210 3
Pipe Fitting WLD 211 3
Welding Design WLD 215 3
Pipe Layout and Fitting WLD 217 3
Electives 2
TOTAL 65

AVIATION MAINTENANCE AIRFRAME
Certificate Program

YUMA ONLY Units
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 Units
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 Units
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

CERTIFICATE PROGRAMS

AVIATION MAINTENANCE TECHNOLOGY
S.O.C.A.D. Certificate
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.
### AVIONICS TECHNOLOGY

**Certificate Program**

<table>
<thead>
<tr>
<th>Month and Month</th>
<th>Course Description</th>
<th>Code</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>October and April</td>
<td>Math for Basic Electronics AVT 101</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Introduction to Electronics AVT 104</td>
<td>7</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Avionics Fundamentals AVT 107</td>
<td>6</td>
<td></td>
</tr>
<tr>
<td>January and July</td>
<td>Electronic Devices &amp; Circuits I AVT 112</td>
<td>6</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Digital and Logic Devices AVT 115</td>
<td>6</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Pulse and Logic Devices AVT 118</td>
<td>6</td>
<td></td>
</tr>
<tr>
<td>April and October</td>
<td>Electronic Communications AVT 202</td>
<td>6</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Electronic Devices &amp; Circuits II AVT 205</td>
<td>6</td>
<td></td>
</tr>
<tr>
<td></td>
<td>FCC/FAA Regulations AVT 208</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>July and January</td>
<td>Navigation Systems AVT 220</td>
<td>6</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Flight Management/Control Systems AVT 224</td>
<td>6</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Aircraft Radar and Pulse Systems AVT 228</td>
<td>6</td>
<td></td>
</tr>
<tr>
<td></td>
<td><strong>TOTAL</strong></td>
<td>68</td>
<td></td>
</tr>
</tbody>
</table>

### BUSINESS CERTIFICATES

#### CERTIFIED PUBLIC MANAGER

**Certificate**

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

<table>
<thead>
<tr>
<th>Core Courses</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>Leadership and Management \ PAD 201</td>
<td>4</td>
</tr>
<tr>
<td>Systems Approach to Public Management \ PAD 202</td>
<td>3</td>
</tr>
<tr>
<td>The Decision-Making Process and Case Method Analysis \ PAD 203</td>
<td>3</td>
</tr>
<tr>
<td>Composition or Written Reports* \ ENG 102</td>
<td>3</td>
</tr>
<tr>
<td>Recommended Electives*</td>
<td>2-3</td>
</tr>
</tbody>
</table>

**Recommended Electives**

<table>
<thead>
<tr>
<th>Course Description</th>
<th>Code</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>Introduction to Sociology</td>
<td>SOC 101</td>
<td>3</td>
</tr>
<tr>
<td>Social Problems</td>
<td>SOC 202</td>
<td>3</td>
</tr>
<tr>
<td>Introduction to Social Welfare</td>
<td>SOC 207</td>
<td>3</td>
</tr>
<tr>
<td>Introduction to Psychology</td>
<td>PSY 101</td>
<td>3</td>
</tr>
<tr>
<td>American National Government</td>
<td>POS 110</td>
<td>3</td>
</tr>
<tr>
<td>National and Arizona Constitution</td>
<td>POS 220</td>
<td>3</td>
</tr>
<tr>
<td>Any Administration of Justice course related to current or future job assignment</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Any Social Service course related to current or future job assignment</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Introduction to Data Processing</td>
<td>CIS 120</td>
<td>3</td>
</tr>
<tr>
<td>Computer Applications</td>
<td>CIS 181</td>
<td>3</td>
</tr>
<tr>
<td>Principles of Macroeconomics</td>
<td>ECN 201</td>
<td>2</td>
</tr>
<tr>
<td>Principles of Microeconomics</td>
<td>ECN 202</td>
<td>2</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td>61-62</td>
<td></td>
</tr>
</tbody>
</table>

#### MIDDLE MANAGEMENT

**Specialist Program (one year)**

<table>
<thead>
<tr>
<th>Course Description</th>
<th>Code</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>Principles of Marketing</td>
<td>BUS 145</td>
<td>3</td>
</tr>
<tr>
<td>Principles of Management</td>
<td>BUS 143</td>
<td>3</td>
</tr>
<tr>
<td>Human Resources Management</td>
<td>BUS 123</td>
<td>3</td>
</tr>
<tr>
<td>Salesmanship</td>
<td>BUS 144</td>
<td>3</td>
</tr>
<tr>
<td>Introduction to Accounting</td>
<td>BUS 146</td>
<td>3</td>
</tr>
<tr>
<td>Human Resources Management</td>
<td>BUS 123</td>
<td>3</td>
</tr>
<tr>
<td>Salesmanship</td>
<td>BUS 144</td>
<td>3</td>
</tr>
<tr>
<td>Principles of Finance</td>
<td>BUS 156</td>
<td>3</td>
</tr>
<tr>
<td>Small Business Management</td>
<td>BUS 283</td>
<td>3</td>
</tr>
<tr>
<td>Business Electives (May include up to 9 units in Cooperative Education)</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td>9</td>
<td></td>
</tr>
</tbody>
</table>

### WOMEN IN MANAGEMENT

**Certificate**

<table>
<thead>
<tr>
<th>Course Description</th>
<th>Code</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>Exploring Your Potential as a Manager</td>
<td>BUS 126</td>
<td>3</td>
</tr>
<tr>
<td>Principles of Management</td>
<td>BUS 143</td>
<td>3</td>
</tr>
<tr>
<td>Special Problems in Management</td>
<td>BUS 128</td>
<td>3</td>
</tr>
<tr>
<td>Human Resources Management</td>
<td>BUS 123</td>
<td>3</td>
</tr>
<tr>
<td>Principles of Finance</td>
<td>BUS 156</td>
<td>3</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td>15</td>
<td></td>
</tr>
</tbody>
</table>

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

### COMPUTER PROGRAMMER Certificate

<table>
<thead>
<tr>
<th>Core Courses</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>Computer Math</td>
<td>CIS 110 3</td>
</tr>
<tr>
<td>Introduction to Data Processing</td>
<td>CIS 120 3</td>
</tr>
<tr>
<td>Algorithms</td>
<td>CIS 130 3</td>
</tr>
<tr>
<td>COBOL Programming</td>
<td>CIS 202 4</td>
</tr>
<tr>
<td>C or ADA Programming</td>
<td>CIS 204/205 4</td>
</tr>
<tr>
<td>Assembler Programming</td>
<td>CIS 206 4</td>
</tr>
<tr>
<td>Data Structures</td>
<td>CIS 230 4</td>
</tr>
<tr>
<td>Systems Analysis</td>
<td>CIS 270 3</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td><strong>28</strong></td>
</tr>
</tbody>
</table>

See Information Management Division Advisor

### NETWORK SUPPORT Certificate

The course of study for the Network Support Certificate is shown below. The total credits necessary are 30 credits.

<table>
<thead>
<tr>
<th>Core Courses</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>Computer Math</td>
<td>CIS 110 3</td>
</tr>
<tr>
<td>Introduction to Operating Systems</td>
<td>CIS 140 3</td>
</tr>
<tr>
<td>PC and Printer Support</td>
<td>CIS 142 3</td>
</tr>
<tr>
<td>PC Connectivity</td>
<td>CIS 150 3</td>
</tr>
<tr>
<td>Introduction to Networks</td>
<td>CIS 234 4</td>
</tr>
<tr>
<td>Network Management</td>
<td>CIS 235 4</td>
</tr>
<tr>
<td>Network Operating Systems</td>
<td>CIS 236 3</td>
</tr>
<tr>
<td>Service &amp; Maintenance of PCs</td>
<td>CIS 260 3</td>
</tr>
<tr>
<td>Network Support and Troubleshooting</td>
<td>CIS 262 3</td>
</tr>
<tr>
<td>Field Experience</td>
<td>CIS 294 1</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td><strong>30</strong></td>
</tr>
</tbody>
</table>

### MICROCOMPUTER PRACTITIONER Certificate

<table>
<thead>
<tr>
<th>Core Courses</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>Introduction to Data Processing</td>
<td>CIS 120 3</td>
</tr>
<tr>
<td>Introduction to Operating Systems</td>
<td>CIS 140 3</td>
</tr>
<tr>
<td>PC and Printer Support</td>
<td>CIS 142 3</td>
</tr>
<tr>
<td>Computer Applications</td>
<td>CIS 181 3</td>
</tr>
<tr>
<td>Advanced Computer Applications</td>
<td>CIS 281 3</td>
</tr>
<tr>
<td>Applied Technical Writing</td>
<td>CIS 179 3</td>
</tr>
<tr>
<td>Technical Presentations</td>
<td>OAD 268 3</td>
</tr>
<tr>
<td>Information Management Division</td>
<td></td>
</tr>
<tr>
<td>Approved Electives</td>
<td></td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td><strong>27</strong></td>
</tr>
</tbody>
</table>

See Information Management Division Advisor

### UNIX SYSTEM ADMINISTRATOR Certificate

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

<table>
<thead>
<tr>
<th>Core Courses</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>UNIX Operating System</td>
<td>CIS 228 4</td>
</tr>
<tr>
<td>UNIX System Administration</td>
<td>CIS 229 4</td>
</tr>
<tr>
<td>Select two credits from the course below</td>
<td></td>
</tr>
<tr>
<td>UNIX Operations I</td>
<td>CIS 193H 1</td>
</tr>
<tr>
<td>UNIX Operations II</td>
<td>CIS 193J 1</td>
</tr>
<tr>
<td>UNIX Operations III</td>
<td>CIS 193J 1</td>
</tr>
<tr>
<td>Field Experience in Computer Systems</td>
<td>CIS 294 1</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td><strong>10</strong></td>
</tr>
</tbody>
</table>

### NETWORK ADMINISTRATOR Certificate

<table>
<thead>
<tr>
<th>Core Courses</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>Introduction to Operating Systems</td>
<td>CIS 140 3</td>
</tr>
<tr>
<td>PC and Printer Support</td>
<td>CIS 142 3</td>
</tr>
<tr>
<td>PC Connectivity</td>
<td>CIS 150 3</td>
</tr>
<tr>
<td>Computer Applications</td>
<td>CIS 181 3</td>
</tr>
<tr>
<td>Introduction to Networks</td>
<td>CIS 234 4</td>
</tr>
<tr>
<td>Novell Network Management</td>
<td>CIS 235 4</td>
</tr>
<tr>
<td>Technical Presentations</td>
<td>CIS 268 3</td>
</tr>
<tr>
<td>Field Experience</td>
<td>CIS 294 1</td>
</tr>
<tr>
<td>Advanced Computer Applications</td>
<td>CIS 281 3</td>
</tr>
<tr>
<td>Network Operating Systems</td>
<td>CIS 236 3</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td><strong>30</strong></td>
</tr>
</tbody>
</table>
**CORRECTIONAL PRACTICES**

**Certificates**

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

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

**CORRECTIONAL OFFICER TRAINING ACADEMY Certificate**

<table>
<thead>
<tr>
<th>Core Courses</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>Prisoner’s Rights</td>
<td>AJS 109</td>
</tr>
<tr>
<td>Correctional Institutions</td>
<td>AJS 111</td>
</tr>
<tr>
<td>Corrections</td>
<td>COR 112</td>
</tr>
<tr>
<td>Crisis Intervention</td>
<td>COR 113</td>
</tr>
<tr>
<td>Communications in Criminal Justice</td>
<td>COR 118</td>
</tr>
<tr>
<td>Firearms</td>
<td>COR 119</td>
</tr>
<tr>
<td>Firearms Certification</td>
<td>AJS 120</td>
</tr>
<tr>
<td>First Aid &amp; CPR</td>
<td>HPE 188</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td></td>
</tr>
</tbody>
</table>

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

**CORRECTIONAL PROGRAM OFFICER Certificate**

<table>
<thead>
<tr>
<th>Core Courses</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>Correctional Casework Techniques</td>
<td>COR 159</td>
</tr>
<tr>
<td>Identification of Gangs</td>
<td>COR 161</td>
</tr>
<tr>
<td>Organization and Impact of Gangs</td>
<td>COR 162</td>
</tr>
<tr>
<td>Special Populations I</td>
<td>COR 163</td>
</tr>
<tr>
<td>Special Populations II</td>
<td>COR 164</td>
</tr>
<tr>
<td>Basic Management Skills</td>
<td>COR 165</td>
</tr>
<tr>
<td>Management by Objectives</td>
<td>COR 167</td>
</tr>
<tr>
<td>Correctional Supervision I</td>
<td>COR 184</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td></td>
</tr>
</tbody>
</table>

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**

<table>
<thead>
<tr>
<th>Core Courses</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>Basic Management Skills</td>
<td>COR 165</td>
</tr>
<tr>
<td>Management by Objectives</td>
<td>COR 167</td>
</tr>
<tr>
<td>Correctional Supervision I</td>
<td>COR 184</td>
</tr>
<tr>
<td>Correctional Supervision II</td>
<td>COR 185</td>
</tr>
<tr>
<td>Correctional Administration</td>
<td>COR 186</td>
</tr>
<tr>
<td>Criminal Justice Management</td>
<td>AJS 187</td>
</tr>
<tr>
<td>Problems</td>
<td></td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td></td>
</tr>
</tbody>
</table>

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

**DRAFTING AND DESIGN Certificate**

<table>
<thead>
<tr>
<th>Core Courses</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>Technical Graphics I</td>
<td>DFT 112</td>
</tr>
<tr>
<td>Spatial Relationships</td>
<td>DFT 120</td>
</tr>
<tr>
<td>Intermediate Algebra</td>
<td>MAT 122</td>
</tr>
<tr>
<td>Applied Technical Writing</td>
<td>ENG 179</td>
</tr>
<tr>
<td>Manufacturing Materials</td>
<td>GTC 105</td>
</tr>
<tr>
<td>General Education Elective</td>
<td></td>
</tr>
<tr>
<td>Technical Graphics II</td>
<td>DFT 113</td>
</tr>
<tr>
<td>Computer-Aided Drafting</td>
<td>DFT 150</td>
</tr>
<tr>
<td>Illustration</td>
<td>DFT 170</td>
</tr>
<tr>
<td>College Algebra</td>
<td>MAT 151</td>
</tr>
<tr>
<td>Product Design</td>
<td>DFT 231</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td></td>
</tr>
</tbody>
</table>
SCIENCE AND ABILITY

AGEMENT

cate
Courses Units

<table>
<thead>
<tr>
<th>Courses</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fire Fighting Packs</td>
<td>3</td>
</tr>
<tr>
<td>Fire Service Hydraulics</td>
<td>3</td>
</tr>
<tr>
<td>Fire Apparatus &amp; Equipment</td>
<td>3</td>
</tr>
<tr>
<td>Rescue Practices</td>
<td>3</td>
</tr>
<tr>
<td>Fire Fighting Tactics and Strategy</td>
<td>3</td>
</tr>
<tr>
<td>Fire Investigation</td>
<td>3</td>
</tr>
<tr>
<td>Supervisory Training for Fire Fighters</td>
<td>3</td>
</tr>
<tr>
<td>Field Experience in Fire Science</td>
<td>3</td>
</tr>
<tr>
<td>Technology</td>
<td>3</td>
</tr>
<tr>
<td>Special Topics in Fire Science</td>
<td>3</td>
</tr>
<tr>
<td>(National Fire Academy/Field Courses)</td>
<td>3</td>
</tr>
</tbody>
</table>

TOTAL 30

Coursework from the Fire Science Technology AAS degree General Education Requirements

SCIENCE TECHNOLOGY

cate

INTER LEVEL I

Courses Units

<table>
<thead>
<tr>
<th>Courses</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>Science of Vet. Science</td>
<td>3</td>
</tr>
<tr>
<td>management</td>
<td>3</td>
</tr>
<tr>
<td>Animal Feeding</td>
<td>3</td>
</tr>
<tr>
<td>Science &amp; Management</td>
<td>3</td>
</tr>
<tr>
<td>Production &amp; Management</td>
<td>3</td>
</tr>
<tr>
<td>Science</td>
<td>3</td>
</tr>
<tr>
<td>equestrian</td>
<td>3</td>
</tr>
<tr>
<td>Agriculture Welding</td>
<td>3</td>
</tr>
</tbody>
</table>
| 10 Total 30 courses are required for the certificate. Two 3 unit courses may be substituted with departmental approval.

HOSPITALITY ADMINISTRATION

Certificate

Core Courses Units

<table>
<thead>
<tr>
<th>Courses</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>Introduction to the Hospitality Industry</td>
<td>3</td>
</tr>
<tr>
<td>Introduction to Property Management</td>
<td>3</td>
</tr>
<tr>
<td>Guest Services Management</td>
<td>3</td>
</tr>
<tr>
<td>Hospitality Automation</td>
<td>3</td>
</tr>
<tr>
<td>Field Experience in Hospitality</td>
<td>3</td>
</tr>
<tr>
<td>English Composition</td>
<td>3</td>
</tr>
<tr>
<td>Business Math</td>
<td>3</td>
</tr>
<tr>
<td>Financial Accounting</td>
<td>3</td>
</tr>
<tr>
<td>Principles of Microeconomics</td>
<td>3</td>
</tr>
<tr>
<td>Computer Applications</td>
<td>3</td>
</tr>
<tr>
<td>TOTAL 28-33</td>
<td></td>
</tr>
</tbody>
</table>

Recommended Electives

<table>
<thead>
<tr>
<th>Courses</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>Commercial Food Preparation Theory</td>
<td>3</td>
</tr>
<tr>
<td>Advanced Commercial Food Preparation and Lab</td>
<td>4</td>
</tr>
</tbody>
</table>

TOTAL 28-33
INTERNATIONAL COMMUNICATIONS

Certificate

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

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

Core Courses

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>Humanities in Contemporary Life</td>
<td>HUM 101 3</td>
</tr>
<tr>
<td>or The Modern World</td>
<td>HUM 207 3</td>
</tr>
<tr>
<td>Heritage from Mexico</td>
<td>HUM 104 3</td>
</tr>
<tr>
<td>Cultural Values in the Borderlands</td>
<td>HUM 167 3</td>
</tr>
<tr>
<td>Workplace</td>
<td>SPA 267 3</td>
</tr>
<tr>
<td>Spanish Business Communications</td>
<td>ENG/BUS/OAD 167 3</td>
</tr>
<tr>
<td>Business Communications</td>
<td>LIN 180 3</td>
</tr>
<tr>
<td>Effective Messages</td>
<td>SPA 290 3</td>
</tr>
<tr>
<td>or Fundamentals of Translation &amp; Interpretation</td>
<td>OAD 213 3</td>
</tr>
</tbody>
</table>

TOTAL: 21

MEDIA ARTS

Certificate

Prerequisite: Permission of Program Advisor

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

Core Courses

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>Introduction to Desktop Publishing</td>
<td>CIS 285 3</td>
</tr>
<tr>
<td>Advertising and Public Relations</td>
<td>MED/BUS 148 3</td>
</tr>
<tr>
<td>Basic Reporting</td>
<td>JRN 102 3</td>
</tr>
<tr>
<td>Media Technology</td>
<td>JRN 224 3</td>
</tr>
</tbody>
</table>

TOTAL: 33

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

MOTOR TRANSPORT TECHNOLOGY

Certificate

Core Courses

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>Motor Transport Basic</td>
<td>MTT 101 4</td>
</tr>
<tr>
<td>Over the Road Operations</td>
<td>MTT 102 5</td>
</tr>
<tr>
<td>Vehicle Maintenance &amp; Inspection</td>
<td>MTT 103 1.5</td>
</tr>
<tr>
<td>Freight &amp; Truck Operation</td>
<td>MTT 104 5.5</td>
</tr>
<tr>
<td>Field Experience in Motor Transportation</td>
<td>MTT 224 2.5</td>
</tr>
</tbody>
</table>

TOTAL: 10.22

NURSING

Nursing Assistant Certificate

Practical Nurse Certificate

(See Associate of Applied Science - Nursing)

OFFICE ADMINISTRATION

CERTIFICATES

COMPUTERIZED OFFICE APPLICATIONS

Certificate

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

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

Core Courses

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>Keyboarding</td>
<td>OAD 101 3</td>
</tr>
<tr>
<td>Learning to Use Microcomputers</td>
<td>CIS 116 3</td>
</tr>
<tr>
<td>or PC Sampler</td>
<td>OAD 115 3</td>
</tr>
<tr>
<td>Learning to Use Micronet Printers</td>
<td>OAD 116 3</td>
</tr>
<tr>
<td>Introduction to Operating Systems</td>
<td>CIS 140 3</td>
</tr>
<tr>
<td>Word Processing</td>
<td>OAD 213 3</td>
</tr>
<tr>
<td>Computerized Office Management</td>
<td>OAD 216 3</td>
</tr>
<tr>
<td>Technical Presentations</td>
<td>OAD 268 3</td>
</tr>
<tr>
<td>Advanced Word Processing</td>
<td>OAD 214 3</td>
</tr>
</tbody>
</table>

TOTAL: 30

DIVISION APPROVED ELECTIVES (6 units)

Advanced Computer Applications                         | CIS 193 3 |
| Current Computer Applications or Office Applications  | CIS 183/203 1.5 |
| Computer Applications                                  | CIS 181 3 |
| Advanced Computer Applications                        | CIS 281 3 |
| Records Management                                    | OAD 206 3 |
| Desktop Publishing                                    | CIS 285 3 |
| Advanced Desktop Publishing                           | CIS 286 3 |

TOTAL: 30
# MEDICAL TRANSCRIPTIONIST Certificate

<table>
<thead>
<tr>
<th>Core Courses:</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>Advanced or Professional Document Preparation</td>
<td>OAD 201 or 202</td>
</tr>
<tr>
<td>Applied Technical Writing</td>
<td>CIS/ENG 179</td>
</tr>
<tr>
<td>or Business English</td>
<td>OAD 111</td>
</tr>
<tr>
<td>Medical Transcription/Terminology</td>
<td>OAD 212</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Professional Courses:</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>Automated Office Practice (Medical)</td>
<td>OAD 211</td>
</tr>
<tr>
<td>Advanced Medical Transcription/Terminology</td>
<td>OAD 215</td>
</tr>
<tr>
<td>Field Experience in Office Technology</td>
<td>OAD 224</td>
</tr>
<tr>
<td>Division Approved Medical Electives</td>
<td></td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td><strong>21</strong></td>
</tr>
</tbody>
</table>

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

# OFFICE ASSISTANT Certificate

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

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

## Applied Academic Requirements

<table>
<thead>
<tr>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>Applied Technical Writing</td>
</tr>
<tr>
<td>or Business English</td>
</tr>
<tr>
<td>Business Communications</td>
</tr>
<tr>
<td>Business Speech Communications</td>
</tr>
<tr>
<td>Business Math</td>
</tr>
<tr>
<td>Introduction to Accounting</td>
</tr>
<tr>
<td><strong>Total Applied Academic Units</strong></td>
</tr>
</tbody>
</table>

## Core Course Requirements

<table>
<thead>
<tr>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>Learning to Use Microcomputers</td>
</tr>
<tr>
<td>Document Preparation Courses (Two):*</td>
</tr>
<tr>
<td>Elementary Document Preparation</td>
</tr>
<tr>
<td>Intermediate Document Preparation</td>
</tr>
<tr>
<td>Advanced Document Preparation</td>
</tr>
<tr>
<td>Professional Document Preparation</td>
</tr>
<tr>
<td>*Course level determined by division</td>
</tr>
<tr>
<td>Word Processing</td>
</tr>
<tr>
<td>or Advanced Word Processing</td>
</tr>
<tr>
<td><strong>Total Basic Core Curriculum</strong></td>
</tr>
</tbody>
</table>

## Professional Block

<table>
<thead>
<tr>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>Automated Office Procedures</td>
</tr>
<tr>
<td>Automated Office Practice</td>
</tr>
<tr>
<td>Records Management</td>
</tr>
<tr>
<td><strong>Total Professional Block</strong></td>
</tr>
</tbody>
</table>

## RECEPTIONIST Certificate

### Preparatory Block

<table>
<thead>
<tr>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reading, Writing, English, Math</td>
</tr>
<tr>
<td>Keyboarding or Document Preparation</td>
</tr>
<tr>
<td>PC Sampler</td>
</tr>
<tr>
<td>Learn to Use Microcomputers</td>
</tr>
<tr>
<td>and Other First Semester Courses</td>
</tr>
</tbody>
</table>

### Core Courses:

<table>
<thead>
<tr>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>Elementary, Intermediate</td>
</tr>
<tr>
<td>or Advanced Document Preparation</td>
</tr>
<tr>
<td>Applied Technical Writing</td>
</tr>
<tr>
<td>or Business English</td>
</tr>
<tr>
<td>Business Math</td>
</tr>
<tr>
<td>Learn to Use Microcomputers</td>
</tr>
<tr>
<td>Automated Office Procedures</td>
</tr>
<tr>
<td>Select one or more below - Determined by student background and desired learning outcomes</td>
</tr>
<tr>
<td>Word Processing</td>
</tr>
<tr>
<td>Advanced Word Processing</td>
</tr>
<tr>
<td>Records Management</td>
</tr>
<tr>
<td>Business Speech Communications</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
</tr>
</tbody>
</table>

---

71
### TEACHER AIDE Certification

**Core Courses**

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>English Composition</td>
<td>ENG 101</td>
</tr>
<tr>
<td>Mathematics</td>
<td>MAT 072</td>
</tr>
</tbody>
</table>

**Health**

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>(one of the following)</td>
<td></td>
</tr>
<tr>
<td>School &amp; Community Health</td>
<td>HPE 185</td>
</tr>
<tr>
<td>Personal Health</td>
<td>HPE 187</td>
</tr>
<tr>
<td>First Aid &amp; CPR</td>
<td>HPE 188</td>
</tr>
</tbody>
</table>

**Physical Education and/or Art**

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>(one of the following)</td>
<td></td>
</tr>
<tr>
<td>Orientation to Phys. Ed</td>
<td>HPE 180</td>
</tr>
<tr>
<td>Elem. School Physical Ed</td>
<td>HPE 185</td>
</tr>
<tr>
<td>Introduction to Art</td>
<td>ART 101</td>
</tr>
<tr>
<td>Basic Design</td>
<td>ART 103</td>
</tr>
<tr>
<td>Art in the Elementary Sch.</td>
<td>ART 105</td>
</tr>
<tr>
<td>Drawing I</td>
<td>ART 106</td>
</tr>
<tr>
<td>Survey of World Art</td>
<td>ART 107</td>
</tr>
<tr>
<td>Survey of World Art</td>
<td>ART 108</td>
</tr>
</tbody>
</table>

**Psychology and/or Counseling**

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>(one of the following)</td>
<td></td>
</tr>
<tr>
<td>Introduction to Psychology</td>
<td>PSY 101</td>
</tr>
<tr>
<td>The Growing Years (Telecourse)</td>
<td>CPD 100</td>
</tr>
<tr>
<td>The Challenge of Parenting</td>
<td>CPD 105</td>
</tr>
<tr>
<td>Personality &amp; Adjustment</td>
<td>CPD 103</td>
</tr>
</tbody>
</table>

**Sociology**

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>(one of the following)</td>
<td></td>
</tr>
<tr>
<td>Introduction to Sociology</td>
<td>SOC 101</td>
</tr>
<tr>
<td>Ethnic Groups &amp; Minorities</td>
<td>SOC 160</td>
</tr>
<tr>
<td>Social Problems</td>
<td>SOC 202</td>
</tr>
</tbody>
</table>

**Computers**

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>(one of the following)</td>
<td></td>
</tr>
<tr>
<td>Introduction to Data Processing</td>
<td>GIS 120</td>
</tr>
<tr>
<td>Computer Applications</td>
<td>GIS 181</td>
</tr>
</tbody>
</table>

**TOTAL** 19-21

### SOCIAL SERVICES Certification

**Core Courses**

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>Social Problems</td>
<td>SOC 202</td>
</tr>
<tr>
<td>or Ethnic Groups &amp; Minorities</td>
<td>SOC 160</td>
</tr>
<tr>
<td>or Society &amp; Culture</td>
<td>ANT 102</td>
</tr>
<tr>
<td>Introduction to Psychology</td>
<td>PSY 101</td>
</tr>
<tr>
<td>Introduction to Sociology</td>
<td>SOC 101</td>
</tr>
<tr>
<td>Introduction to Social Welfare</td>
<td>SOC 207</td>
</tr>
<tr>
<td>English Composition</td>
<td>ENG 101</td>
</tr>
</tbody>
</table>

15 units selected from one of the Social Services AAS Major Emphases

**TOTAL** 30

### SUPERVISORY MANAGEMENT Certification

**Core Courses**

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>Management Skills</td>
<td>PAD 101</td>
</tr>
<tr>
<td>The Manager &amp; System Relationships</td>
<td>PAD 102</td>
</tr>
<tr>
<td>The Manager &amp; the Work Group</td>
<td>PAD 103</td>
</tr>
<tr>
<td>English Composition</td>
<td>ENG 101</td>
</tr>
<tr>
<td>MA*</td>
<td>MAT 072</td>
</tr>
</tbody>
</table>

**TOTAL** 15

*Reading minimum of 15 grade or in accordance with standardized test scores.

*Requirement was the following: earning an A.A.S. degree or higher

### WELDING TECHNOLOGY Certification

**Core Courses**

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>Technical Graphics I</td>
<td>DFT 112</td>
</tr>
<tr>
<td>Intermediate Algebra</td>
<td>MAT 122</td>
</tr>
<tr>
<td>Oxygen/Acetylene Welding</td>
<td>WLD 105</td>
</tr>
<tr>
<td>Manufacturing Materials</td>
<td>GTC 105</td>
</tr>
<tr>
<td>Arc Welding</td>
<td>WLD 106</td>
</tr>
<tr>
<td>Applied Technical Writing</td>
<td>ENG/GIS 179</td>
</tr>
<tr>
<td>Computer-Aided Drafting</td>
<td>DFT 150</td>
</tr>
<tr>
<td>Gas Metal Arc Welding</td>
<td>WLD 206</td>
</tr>
<tr>
<td>Gas Tungsten Arc Welding</td>
<td>WLD 209</td>
</tr>
<tr>
<td>Pipe and Plate Welding</td>
<td>WLD 210</td>
</tr>
</tbody>
</table>

**TOTAL** 30

*Offered at Sierra Vista Campus only

### WORKPLACE ENGLISH Certification

**Core Courses**

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>Workplace English I</td>
<td>ESL 011</td>
</tr>
<tr>
<td>Workplace English II</td>
<td>ESL 012</td>
</tr>
<tr>
<td>Workplace English III</td>
<td>ESL 013</td>
</tr>
<tr>
<td>Workplace English IV</td>
<td>ESL 014</td>
</tr>
<tr>
<td>Cultural Values in the</td>
<td>HUM 167</td>
</tr>
<tr>
<td>Borderlands Workplace</td>
<td>HUM 167</td>
</tr>
<tr>
<td>Field Experience in Cooperation Education</td>
<td>CED 224</td>
</tr>
</tbody>
</table>

**TOTAL** 22

*Taught biligually in a cross-cultural setting
ARIZONA DEPARTMENT OF CORRECTIONS

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

BUILDING MAINTENANCE Certificate

<table>
<thead>
<tr>
<th>Core Courses</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>Painting-Exterior and Interior</td>
<td>GTC 121</td>
</tr>
<tr>
<td>Air Conditioning Maintenance</td>
<td>GTC 122</td>
</tr>
<tr>
<td>Electrical Maintenance and Repair</td>
<td>GTC 123</td>
</tr>
<tr>
<td>Carpentry Maintenance and Repair</td>
<td>GTC 124</td>
</tr>
<tr>
<td>Plumbing Maintenance and Repair</td>
<td>GTC 125</td>
</tr>
<tr>
<td>Blueprint Reading and Estimating</td>
<td>GTC 127</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td><strong>21</strong></td>
</tr>
</tbody>
</table>

BUSINESS Certificate

<table>
<thead>
<tr>
<th>Core Courses</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>Survey of American Business</td>
<td>BUS 109</td>
</tr>
<tr>
<td>Bookkeeping and Financial Mgmt</td>
<td>BUS 146</td>
</tr>
<tr>
<td>Computer Keyboarding</td>
<td>OAD 101</td>
</tr>
<tr>
<td>Business Math</td>
<td>BUS 104</td>
</tr>
<tr>
<td>Grammar, Usage and Punctuation</td>
<td>ENG 111</td>
</tr>
<tr>
<td>Report Writing</td>
<td>ENG 109</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td><strong>18</strong></td>
</tr>
</tbody>
</table>

Office Education Emphasis

<table>
<thead>
<tr>
<th>Core Courses</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>Word Processing</td>
<td>OAD 213</td>
</tr>
<tr>
<td>Records Management</td>
<td>OAD 206</td>
</tr>
<tr>
<td>General Office Procedures</td>
<td>OAD 106</td>
</tr>
<tr>
<td>Leadership and Supervision</td>
<td>BUS 127</td>
</tr>
<tr>
<td>Business Communications</td>
<td>OAD 167</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td><strong>15</strong></td>
</tr>
</tbody>
</table>

Business Management Emphasis

<table>
<thead>
<tr>
<th>Core Courses</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>Principles of Management</td>
<td>BUS 142</td>
</tr>
<tr>
<td>Small Business Management</td>
<td>BUS 283</td>
</tr>
<tr>
<td>Principles of Marketing</td>
<td>BUS 145</td>
</tr>
<tr>
<td>Computer Applications</td>
<td>CIS 181</td>
</tr>
<tr>
<td>Salesmanship</td>
<td>BUS 144</td>
</tr>
<tr>
<td>Human Resources Management</td>
<td>BUS 123</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td><strong>15</strong></td>
</tr>
</tbody>
</table>

General Interest Courses: Basic Drafting, Consumer Education, Real Estate, and Introduction to Data Processing.

BUSINESS MACHINES REPAIR Certificate

<table>
<thead>
<tr>
<th>Core Courses</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>IBM Selectric I &amp; II Repair</td>
<td>OMR 100</td>
</tr>
<tr>
<td>Electronic Calculator Repair</td>
<td>OMR 102</td>
</tr>
<tr>
<td>Electronic Typewriter Repair</td>
<td>OMR 104</td>
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<tr>
<td>Electronic Memory Typewriter Repair</td>
<td>OMR 200</td>
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<tr>
<td><strong>Part #2 - Office Machine and Photocopy Repair</strong></td>
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<tr>
<td>Dictating Machine Repair</td>
<td>OMR 106</td>
</tr>
<tr>
<td>Basic Photocopy Repair</td>
<td>OMR 202</td>
</tr>
<tr>
<td>Advanced Photocopy Repair</td>
<td>OMR 204</td>
</tr>
<tr>
<td>Advanced Troubleshooting &amp; Shop Operations</td>
<td>OMR 206</td>
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CONSUMER ELECTRONICS REPAIR Certificate

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<th>Core Courses</th>
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<tr>
<td>Radio Theory and Repair</td>
<td>GCR 100</td>
</tr>
<tr>
<td>Audio Tape Recorder Repair</td>
<td>GCR 102</td>
</tr>
<tr>
<td>Television Theory and Repair</td>
<td>GCR 104</td>
</tr>
<tr>
<td>Video Cassette Player Recorder Repair</td>
<td>GCR 200</td>
</tr>
<tr>
<td>Compact Disc Player Repair</td>
<td>GCR 202</td>
</tr>
<tr>
<td>Microwave Oven Theory &amp; Repair</td>
<td>GCR 204</td>
</tr>
<tr>
<td>Power Amplifiers</td>
<td>GCR 205</td>
</tr>
<tr>
<td>Advanced Television Repair</td>
<td>GCR 206</td>
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GENERAL ELECTRONICS TECHNICIAN Certificate

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<tr>
<td>Basic Electronic Circuits</td>
<td>GET 103</td>
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<tr>
<td>Direct Current Circuit Diag</td>
<td>GET 104</td>
</tr>
<tr>
<td>Alt Current Circuit Diag</td>
<td>GET 106</td>
</tr>
<tr>
<td>Mathematics for Electronics</td>
<td>GET 110</td>
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<tr>
<td>Semiconductor Device Diag &amp; Repair</td>
<td>GET 123</td>
</tr>
<tr>
<td>Elect Syst Diagnostics &amp; Repair</td>
<td>GET 240</td>
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## HORTICULTURE Certificate

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<tr>
<td>Basic Horticulture</td>
<td>HRT 101</td>
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<tr>
<td>Landscape Plant Material</td>
<td>HRT 110</td>
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<tr>
<td>Landscape Construction &amp; Maintenance</td>
<td>HRT 111</td>
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<tr>
<td>Pest Control</td>
<td>HRT 120</td>
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<tr>
<td>Landscape Design</td>
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## MASONRY Certificate

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<td>Blueprint Interpretation and Basic Drafting</td>
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<tr>
<td>Technical Mathematics I</td>
<td>GTC 100</td>
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<tr>
<td>Masonry I</td>
<td>GTC 110</td>
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<tr>
<td>Masonry II</td>
<td>GTC 111</td>
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<tr>
<td>Masonry III</td>
<td>GTC 112</td>
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<tr>
<td>Concrete Construction and Finish</td>
<td>GTC 120</td>
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<td>Estimating Construction</td>
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## PRINCIPLES OF TECHNOLOGY Certificate

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<tr>
<td>Technical Mathematics</td>
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<tr>
<td>Technical Mathematics</td>
<td>GTC 101</td>
</tr>
<tr>
<td>Principles of Technology I</td>
<td>GTC 131</td>
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<tr>
<td>Principles of Technology II</td>
<td>GTC 132</td>
</tr>
<tr>
<td>Principles of Technology III</td>
<td>GTC 133</td>
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</table>
ADMINISTRATION OF JUSTICE

AJS 101 INTRODUCTION TO ADMINISTRATION OF JUSTICE (3)
Prerequisite: None.
A study of organization and jurisdiction of local, state, and federal law enforcement, judicial, and correctional systems. Also included the history and philosophy, career opportunities and qualifying requirements, terminology and constitutional limitations of the system.
3 hours lecture.

AJS 108 PRISONERS' RIGHTS (1)
Prerequisite: None.
A practical overview of prisoners' procedural due process and substantive constitutional rights (Credit awarded for successful completion of the Arizona Correctional Officer Training Academy.)
1 hour lecture.

AJS 111 CORRECTIONAL INSTITUTIONS (3)
Prerequisite: None.
An examination of correctional institutions with an emphasis on personnel and security measures, care and treatment programs and institutional planning. Includes an overview of the criminal justice system, inmate subcultures and organized crime in correctional institutions. (Credit awarded for successful completion of the Arizona Correctional Officer Training Academy.)
3 hours lecture.

AJS 120 FIREARMS CERTIFICATION (1)
Prerequisite: None.
Training and practical application in the use of firearms. Qualification in the use of the .38 caliber revolver, .223 caliber rifle, and the 12 gauge shotgun. (Restricted to Law Enforcement Personnel.)
1 hour lecture.

AJS 122 POLICE PATROL FUNCTION (3)
Prerequisite: None.
A study of the history and theory of patrol, duties and responsibilities of the patrol division, communications, development of observational powers, care and use of protective weapons, patrol vehicles, other equipment. Handling of emergency requests for assistance, vehicle stops, burglary, robbery, sex offenses, the mentally ill, and other kinds of situations.
3 hours lecture.

AJS 125 PRIVATE SECURITY, PRINCIPLES AND PRACTICES (3)
Prerequisite: None.
Designed to present the history, nature and scope of private security in modern society, the basic principles of physical security, internal loss prevention, defensive systems, fire prevention and safety, the security function in the corporate structure, operations and career opportunities exemplified in such specific areas as retail, hospital, cargo and computer security, and security services, contract and proprietary.
3 hours lecture.

AJS 140 ARIZONA DETENTION OFFICERS BASIC TRAINING ACADEMY (8)
Prerequisite: Student employment as a detention officer by a recognized Arizona law enforcement agency.
An academy for law enforcement detention officers. Successful course completion awards certification as an Arizona Detention Officer.
6 hours lecture.

AJS 150 UNITED STATES PENOLOGY (3)
Prerequisite: None.
An examination of punishment from primitive times to the modern correctional era, emphasizing the influence of historical events on the philosophy of punishment and the methods of prison discipline.
3 hours lecture.

AJS 171 VICTIM ASSISTANCE (1)
Prerequisite: None.
An overview of victims' issues emphasizing strategies used to reduce the trauma associated with crime. Includes methods of counseling, referral, and intervention.
1 hour lecture.
AJS 187 CRIMINAL JUSTICE MANAGEMENT PROBLEMS (1)
Prerequisite None
A review of the common management problems in criminal justice agencies including conflict management, employee relations, fiscal affairs and time management. Includes a discussion of the process of organizational change and development.
3 hours lecture

AJS 190 POLICE RESERVE ACADEMY I (10)
Prerequisite: Student employment as a reserve officer by a recognized law enforcement agency.
A limited police academy for reserve officers. Successful course completion awards certification as a limited authority police reserve.
9 hours lecture, 3 hours laboratory

AJS 193 HAZARD COMMUNICATIONS (RIGHT-TO-KNOW) (.5)
Prerequisite None
A study of the 29 codes of Federal Regulations (CFR), Section 1910 1200 and the Hazard Communications (Right-to-Know) Regulation. The course focuses on the impacts these regulations have on the occupational workforce. Requirements for implementation and monitoring of the regulations are examined.
1/2 hour lecture

AJS 194 HAZARD COMMUNICATIONS (COMMUNITY RIGHT-TO-KNOW) (.5)
Prerequisite None
A study of the Federal Regulations cited in Section 301, Title III, Superfund Amendments and Reauthorization Act (SARA) of 1986, also referred to as the Emergency Planning and Community Right-to-Know Act of 1986.
1/2 hour lecture

AJS 200 CRIMINAL LAW I (SUBSTANTIVE) (3)
Prerequisite AJS 101, ENG 101. Reading 11.5 grade level or higher
A general overview of substantive criminal law (the penal code), the theoretical nature and purposes of criminal law, criminal liability and the elements of a crime, coverage of the various elements of major crimes as set forth generally and particularly as applied to A.R.S. Title 13, Criminal Code.
3 hours lecture

AJS 205 COMMUNITY CORRECTIONS (3)
Prerequisite AJS 101, AJS 112, ENG 101. Reading 11.5 grade level or higher
A practical study of the origins and development of probation and parole, including the primary roles of lawyers, judges, probation and parole officers in the administration of each, and an examination of various sentencing alternatives.
3 hours lecture

AJS 212 JUVENILE JUSTICE PROCEDURES (.3)
Prerequisite ENG 101 recommended
A practical study of the history and development of juvenile justice theories, procedures and institutions.
3 hours lecture

AJS 215 PENOLOGY (3)
Prerequisite AJS 101, AJS 112, ENG 101. Reading 11.5 grade level or higher
A study of correctional management topics including sentencing classification, good-time credit, discipline, prisoner rights and security/control measures. Additional emphasis is placed on the guard's role, different management styles, and various correctional models.
3 hours lecture

AJS 224 FIELD EXPERIENCE IN ADMINISTRATION OF JUSTICE (1-6)
Prerequisite Sophomore standing in a declared major and prior approval of Cooperative Education Program Coordinator.
A supervised Cooperative Education work experience involving the combined efforts of educators and employers to accomplish career objectives in 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 225 CRIME AND DELINQUENCY (3)
Prerequisite ENG 101. Reading 11.5 grade level or above recommended. SGC 101 or PSY 101 preferred
The study of deviance and society's role in defining behavior. Theories of crime and the economic, social, and psychological impact of crime, victimization, and relationships between statistics and crime trends.
3 hours lecture

AJS 230 THE POLICE FUNCTION (3)
Prerequisite None
The study of theories, procedures, and methods of operation of public peace with emphasis on discretionary powers. Also includes a review of career opportunities and current trends in law enforcement.
3 hours lecture
AJS 240 THE CORRECTIONAL FUNCTION (3)
Prerequisite None
The study of the history and development of correctional theories and institutions
3 hours lecture.

AJS 254 PSYCHOLOGY IN LAW ENFORCEMENT (3)
Prerequisite AJS 101, PSY 101, ENG 101, Reading 11.5 grade level or higher recommended.
A study of the changing role of police, 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 260 PROCEDURAL CRIMINAL LAW (3)
Prerequisite AJS 109 preferred, not required, ENG 101. Reading 11.5 grade level or above.
An introduction to major court holdings, procedural requirements that stem from these holdings, and their effect on daily operations of the criminal justice system
3 hours lecture.

AJS 265 CRITICAL ISSUES IN CRIMINAL JUSTICE (.5-1)
Prerequisite None
A rotating forum emphasizing current issues in the field of criminal justice. Topics will vary in accordance with needs of the local criminal justice community.
1/2-1 hour lecture.

AJS 266 HAZARDOUS MATERIAL INCIDENT RESPONSE (3)
Prerequisite: None.
A study of the fundamentals of fire service chemistry and federal, state, and local laws pertaining to the use, storage and transportation of chemicals. Emphasis is placed upon the hazards of radioactive and other toxic compounds and precautions to observe in fighting fires involving hazardous materials.
3 hours lecture.

AJS 267 HAZARDOUS WASTE SITE WORKERS HEALTH AND SAFETY (3)
Prerequisite: None.
An advanced course designed to teach potential hazardous waste site workers the health and safety implications of working with HAZMATS.
3 hours lecture.

AJS 270 COMMUNITY RELATIONS (3)
Prerequisite AJS 101 SOC 101 recommended. ENG 101. Reading 11.5 grade level or above.
A study of the police officer's role in attaining and maintaining public support - included recognition and understanding of community problems, community action programs, methods of coping with crisis situations, victimology, ethnic and minority cultures, environments, crime prevention and police operations
3 hours lecture.

AJS 275 CRIMINAL INVESTIGATIONS (3)
Prerequisite AJS 101 122. ENG 101. Reading 11.5 grade level of above recommended.
A study of the theory of criminal investigation, crime scene procedures, case preparation, interviewing, and basic investigative techniques
3 hours lecture.

AJS 290 INSTRUCTOR SKILL DEVELOPMENT (3)
Prerequisite: Student must be a certified law enforcement or corrections officer currently employed by a law enforcement agency or a sophomore in the Administration of Justice Program
Designed to impart a wide range of teaching skills, concepts, and techniques specific to the law enforcement trainer. Topics covered include adult learning, training needs, research methodology, instructional objectives, program development, instructional methodology, and evaluation techniques. Successful course completers will be eligible for certification as ALEOAC Certified Instructors (identical to EDU 290).
3 hours lecture.

AJS 291 LAW ENFORCEMENT INSTRUCTOR CERTIFICATION I (1)
Prerequisite None
A study of adult learner characteristics, learning theories, the learning environment, and the role and liabilities of criminal justice trainers. Emphasis upon application of basic instructional concepts (AJS 291, 292 and 293 combined are identical to AJS 290)
1 hour lecture.

AJS 292 LAW ENFORCEMENT INSTRUCTOR CERTIFICATION II (1)
Prerequisite None
A practical application of criminal justice instructional techniques emphasizing training needs, writing course objectives, developing lesson plans, and student evaluation (AJS 291, 292 and 293 combined are identical to AJS 290).
1 hour lecture.
AJS 293 LAW ENFORCEMENT INSTRUCTOR CERTIFICATION III (1)
Prerequisite None
An overview of the characteristics of effective instruction including comparison of various instructional methods and testing/evaluation techniques; use of instructional media and evaluation of criminal justice training programs. (AJS 291, 292, and 293 combined are identical to AJS 290)
1 hour lecture

AJS 295 POLICE RESERVE ACADEMY II (10)
Prerequisite Student employment as a reserve officer by a recognized law enforcement agency and successful completion of AJS 120
An advanced police academy for reserve officers. Successful course completion awards certification as a full authority police reserve
9 hours lecture, 3 hours laboratory

AGRICULTURE

AGR 101 PRINCIPLES OF VETERINARY SCIENCES (3)
Prerequisite None
An introduction to the veterinary sciences for potential pre-veterinary students as well as those students of animal science or husbandry interested in the care and health of all domestic animals and livestock.
3 hours lecture

AGR 102 INTRODUCTION TO AGRICULTURE (3)
Prerequisite None
An introductory class involving the overall concepts of agriculture. This class introduces the theoretical basis of agriculture in order that the student may better select career options.
3 hours lecture

AGR 103 INTRODUCTION TO ANIMAL AND DISEASE PROCESS (3)
Prerequisite None
A course to familiarize the student with the normal animal, including the anatomical description, the physiological function, and the structural differences of the simple cell compared to the complex organs of the body. The instruction will link the normal information specifically to the disease processes that serve as an introduction to the scientific basis of disease.
3 hours lecture

AGR 104 PRINCIPLES OF AGRONOMY (3)
Prerequisite None
This course deals with principles of field crop production with special emphasis on origin, distribution, cultural practices and improvements.
3 hours lecture

AGR 105 RANGE MANAGEMENT (3)
Prerequisite None
A study of the history of rangeland use, the influences of use on plant physiology and ecology, and the interrelationships and coordination of rangeland uses for farm and ranch managers interested in plants, soils and livestock.
3 hours lecture

AGR 106 ANIMAL DISEASES AND SANITATION (3)
Prerequisite AGR 103
This course is designed to deal specifically with individual diseases which affect the common domestic animals and will include the definition, symptoms, diagnosis, prognosis, treatment, and communicability to both man and animals. Sanitation and its application to prevention of these diseases and the health of both man and animals as inter-related to the above diseases will be discussed.
3 hours lecture

AGR 107 FARRIER SCIENCE (3)
Prerequisite None
A study of the basic principles of farrier science, including an introduction to the physiology and anatomy of the horse's legs and hooves, horse shoeing, diagnosis of minor foot and leg problems and proper methods for correcting stride and alignment.
1 hour lecture, 3 hours laboratory

AGR 108 INTRODUCTION TO BEEKEEPING (3)
Prerequisite None
A study of beekeeping including physiology and anatomy, hive and equipment preparation, disease control, and beekeeping management and production.
3 hours lecture

AGR 138 TEAM ROPING (3)
Prerequisite None
This course will provide an opportunity for students to participate for pleasure and for later competition in rodeo team roping.
2 hours lecture, 3 hours laboratory
AGR 139 WESTERN HORSEMANSHIP (3)
Prerequisite: None.
A course enabling students who now own or intend to buy a pleasure horse to handle and care for the animal in the western tradition, how to handle a western saddle, how to select appropriate equipment, how to evaluate a pleasure horse before purchasing, and how to care for the general well-being of the animal.
2 hours lecture; 3 hours laboratory.

AGR 140* RODEO SKILLS (3)
Prerequisite: None.
A course designed for a student to learn rodeo rules and to develop rodeo skills in barrel racing, team roping, calf roping, goat tying, and riding events and the personal ethics and attitudes of a good competitor.
2 hours lecture; 3 hours laboratory.

AGR 141* ENGLISH EQUITATION (3)
Prerequisite: None.
A course for students who now own or intend to purchase a pleasure horse to handle and care for the animal in an arena situation: how to handle English equipment, how to evaluate a pleasure horse and how to care for the general well-being of the animal.
2 hours lecture; 3 hours laboratory.

AGR 207 RANGE PLANTS (3)
Prerequisite: Botany.
Introduction to the study of local grasses, shrubs, and forbs, including identification, forage value, and ecological use. Also, range plants will be studied that are toxic or have poisonous effects on animal life.
1 hour lecture; 3 hours laboratory.

AGR 208 ANIMAL INDUSTRY (3)
Prerequisite: None.
Fundamental principles as applied to animal, dairy, and poultry science and the marketing and distribution of animal products.
3 hours lecture.

AGR 209 AUXILIARY ENGINE OPERATION AND REPAIR (3)
Prerequisite: None.
The operation, servicing, adjusting, care and repair of small gas engines of various types and models.
1 hour lecture; 3 hours laboratory.

AGR 210* GENERAL WELDING I (3)
Prerequisite: None.
Techniques of operating arc welding machines, 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)
Prerequisite: None.
A study of economic principles governing the production of agriculture including the principles of supply and demand, pricing, investing, measuring and consuming with emphasis on theories and practical applications to current economic problems.
3 hours lecture.

AGR 212* ADVANCED AGRICULTURE WELDING (3)
Prerequisite: 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)
Prerequisite: AGR 210, 212, or permission of instructor.
Techniques of operating arc welding and oxyacetylene equipment in the welding and repairing of alloy metals with emphasis on the techniques required to satisfactorily repair alloy metals.
2 hours lecture; 3 hours laboratory.

AGR 214 SOILS & FERTILIZERS (3)
Prerequisite: None.
Fundamental properties of soils, their relation to plant growth and soil amendment.
3 hours lecture.

AGR 215 HOME GARDENING (3)
Prerequisite: None.
The study of the care and maintenance of trees, shrubs, hedges, and flowers for those students who want to sharpen their practical application in growing vegetable and flower gardens.
3 hours lecture.
AGR 224 FIELD EXPERIENCE IN AGRICULTURE & NATURAL RESOURCES (1-8)
Prerequisite: Sophomore standing in a declared major and prior approval of Cooperative Education Program Coordinator
A supervised Cooperative Education work experience involving the combined efforts of educators and employers to accomplish career objectives in Agriculture & Natural Resources. Variable credit (1-6) is available by special arrangement. May be taken four times for a maximum of 16 credit hours, no more than 6 units in a given semester.

AGR 230 ANIMAL FEEDING (3)
Prerequisite: None
Basic principles of animal nutrition and digestion and selection, evaluation, and use of feeds in balancing rations for livestock and poultry.
3 hours lecture

AGR 237* HORSE SCIENCE & MANAGEMENT (3)
Prerequisite: None
An introduction to the types, breeds, and management of horses with emphasis on feeding, breeding, and daily care.
3 hours lecture

AGR 242 LIVESTOCK JUDGING (3)
Prerequisite: None
Selection of animals by type, production, and pedigree, practice judging, and selection of livestock.
3 hours lecture

AGR 243 LIVESTOCK PRODUCTION AND MANAGEMENT (3)
Prerequisite: None
Livestock production and management will teach the managerial skills necessary in the production, feeding, and the care of livestock on farms and ranches. The economics of the livestock industry will also be emphasized.
3 hours lecture

AGR 250* PROJECT WELDING (3)
Prerequisite: AGR 210 or AGR 212 or permission of instructor
Designed for students with demonstrated welding skills to work on a specific project. The project may be one selected by the student or one the instructor has assigned. The project will be made using the arc welding and/or the oxyacetylene equipment in the shop.
May be repeated for non-transfer credit only
2 hours lecture; 3 hours laboratory

AGR 299 INDIVIDUAL STUDIES (1-4)
Prerequisite: Permission of division chair 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)
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)
Prerequisite: None
A survey of human biological origins, based upon paleontological and archaeological records, including recent developments in physical anthropology.
3 hours lecture

ANT 102 SOCIETY AND CULTURE (3)
Prerequisite: None
A theoretical and practical introduction to cultural anthropology designed to provide insight into cultural forces which affect man's way of life. Topics include the study of material culture, technology, social, political and economic systems, religion, and language.
3 hours lecture

ANT 110 EXPLORING ARCHAEOLOGY (3)
Prerequisite: None
A non-technical introduction to archaeology tracing human cultural development from the earliest stone tools to the initial civilizations of the Old and New Worlds.
3 hours lecture
ANT 138* ARCHAEOLOGICAL SITE SURVEY (3)
Prerequisite: None
An introduction to identifying, locating, and recording archaeological sites, with emphasis on gaining practical experience in documenting archaeological remains. Students participate in exploring areas in Southern Cochise County.
1.5 hours lecture; 4.5 hours laboratory.

ANT 140* ROCK ART OF THE AMERICAN INDIAN (3)
Prerequisite: None
The study of the prehistoric carvings and paintings on rock surfaces throughout North America with an emphasis on recording processes, field work, and the Southwest.
2 hours lecture; 3 hours laboratory.

ANT 192 SPECIAL TOPICS IN ANTHROPOLOGY (1.5-1)
Prerequisite: None
A rotating forum/seminar emphasizing anthropological topics of current regional significance which will vary with changes in student needs and interests. May be repeated for Cochise College credit. Cochise College elective credit only. Other designation in degree programs.
1/2-1 hour lecture.

ANT 235 PRINCIPLES OF ARCHAEOLOGY (3)
Prerequisite: None
An introduction to the methods and theories used in archaeological research and interpretation with emphasis upon the practical aspects of archaeology.
3 hours lecture.

ANT 285 PREHISTORIC CULTURES OF NORTH AMERICA (3)
Prerequisite: None
A survey of prehistoric North American native cultures, including basic anthropological, archaeological and ethnological theory methods and concepts. Focus is upon such cultures as the Clovis, Hohokam, Anasazi, Mississippi, Natchez, and Aleut.
3.5 hours lecture.

ANT 286 PREHISTORIC CULTURES OF NORTH AMERICA (3)
Prerequisite: None
An introduction to the methods and theories used in archaeological research and interpretation with emphasis upon the practical aspects of archaeology.
3 hours lecture.

ANT 287 ARCHAEOLOGY OF THE SOUTHWEST (3)
Prerequisite: None
A study of the prehistoric people of the American Southwest from the late Pleistocene to the Spanish conquest. The course includes discussions of local archaeological culture emphasizing the process for cultural development within key regions.
3 hours lecture.

ANT 299 INDIVIDUAL STUDIES (1-4)
Prerequisite: Approval of the division chair 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.

ART 101* INTRODUCTION TO ART (3)
Prerequisite: None
An introduction to the basic elements and principles to the student as well as to account number with materials used in art courses and study of the development of concepts, materials, techniques and processes.
2 hours lecture, 4 hours studio.

ART 103* BASIC DESIGN (3)
Prerequisite: None
An introduction to the basic elements of design - line, shape, value, texture and color. 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)
Prerequisite: None
An introduction to the principles used in elementary art class, a study of a child's artistic development through lectures, slides, films, and appropriate art experience intended for teacher's aide. Will not fulfill art education requirement for teacher's certification.
3 hours lecture.
ART 108* DRAWING I (3)
Prerequisite: None
This is an elementary course in representational drawing and pictorial design. Students utilize the local landscape and various still-life objects as subject matter for individual projects. Freehand drawing is stressed to develop hand-eye coordination. Also encouraged is the use of imagination and memory in the development of ideas.
For students interested in art for career opportunities as well as personal growth and self-expression.
2 hours lecture, 4 hours studio.

ART 107 SURVEY OF WORLD ART, PREHISTORIC-GOTHIC (3)
Prerequisite: None
A survey presentation of the art and architecture of western civilizations through the Gothic Era, including prehistoric and primitive cultures of the world.
For students interested in art for career opportunities as well as personal growth and self-expression.
3 hours lecture.

ART 108 SURVEY OF WORLD ART: RENAISSANCE THROUGH THE TWENTIETH CENTURY (3)
Prerequisite: None
A survey presentation of the art and architecture of western civilizations from the Renaissance through the twentieth century.
For students interested in art for career opportunities as well as personal growth and self-expression.
3 hours lecture.

ART 120 APPRECIATION OF VISUAL ARTS (3)
Prerequisite: None
A general overview of the Visual Arts, to include philosophies, history, techniques, various media, elements of design, form, line, space, and texture. Fulfills the art education requirement for teacher certification.
3 hours lecture.

ART 130* PAINTING FOR PERSONAL DEVELOPMENT I (2)
Prerequisite: None
Introduction to techniques of 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)
Prerequisite: ART 130
Development of those skills and techniques introduced in ART 130 with special emphasis on student projects and preparation of works for exhibition. May be repeated for credit. Not intended for transfer to four-year institutions.
For students interested in art for career opportunities as well as personal growth and self-expression.
1 hour lecture, 3 hours studio.

ART 192* SPECIAL TOPICS IN ART (.5-4)
Prerequisite: None
A rotating forum/seminar/workshop emphasizing regional art forms and the development and practical application of artistic skills using a variety of media. Topics will vary in accordance with changes in student needs and interests. May be repeated for Coos Bay 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 209 COMPUTER ART AND DESIGN (3)
Prerequisite: ART 103 or permission of Instructor
Principles and practices of art and design covering applications of computer graphics and the line arts using Corel Draw and Windows Paintbrush. Emphasis on the practical aspects of production as well as personal growth and self-expression. Identical to MED 209.
3 hours lecture.

ART 216* DRAWING II (3)
Prerequisite: ART 106 or permission of instructor
An intermediate course in representational drawing and pictorial design. Students utilize the landscape, still life objects and individual initiative to develop subject matter for their projects. Freehand drawing is stressed to develop hand-eye coordination. Students are expected to have developed some basic drawing skills before taking this course.
For students interested in art for career opportunities as well as personal growth and self-expression.
2 hours lecture, 4 hours studio.

ART 230* COLOR AND DESIGN (3)
Prerequisite: ART 103 or permission of Instructor
Further investigations into the elements and principles of design including line, shape, value, texture, and color within a two-dimensional framework. A variety of media and techniques will be used and an emphasis will be placed on color and design theory.
For students interested in art for career opportunities as well as personal growth and self expression.
2 hours lecture, 4 hours studio.

**ART 231* THREE DIMENSIONAL DESIGN/SCULPTURE (3)**
Prerequisite: ART 103 or permission of instructor
A studio course with an inquiry into the use of volume, mass, color and textural relationships as they exist in actual space.
For students interested in art for career opportunities as well as personal growth and self expression.
2 hours lecture, 4 hours studio.

**ART 245* FIGURE DRAWING (3)**
Prerequisite: ART 106 or permission of instructor.
Drawing from the model and other subjects to develop pictorial and perceptual skills with 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)**
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 personal growth and self expression.
2 hours lecture, 4 hours studio.

**ART 270* CERAMICS I (3)**
Prerequisite: ART 103 and ART 231 or permission of instructor.
An introduction to clay, glaze and kiln processes and wheelthrown techniques with a general historical survey of ceramics.
For students interested in art for career opportunities as well as personal growth and self expression.
2 hours lecture, 4 hours studio.

**ART 275* CERAMICS II (3)**
Prerequisite: ART 103, ART 231, and ART 270 or permission of instructor.
A more advanced course than ART 270. Ceramics I Students will need to have a basic knowledge of handbuilt and wheelthrown techniques with various clay bodies and, a basic knowledge of glazes, their application and kiln loading and firing processes. Because students work independently it is recommended that they have taken ART 270, Ceramics I at Cochise College.
For students interested in art for career opportunities as well as personal growth and self expression.
2 hours lecture, 4 hours studio.

**ART 280* PAINTING I (3)**
Prerequisite: ART 103 or ART 106 or permission of instructor.
A studio course in beginning oil and/or acrylic painting techniques with emphasis on color theory and color mixing. Preparation of painting surfaces is also introduced.
For students interested in art for career opportunities as well as personal growth and self expression.
2 hours lecture, 4 hours studio.

**ART 281* PAINTING II (3)**
Prerequisite: ART 103 or 106, and 280, or permission of instructor.
An intermediate course in painting with an emphasis on developing individual expressive and pictorial skills in oil and/or acrylic media.
For students interested in art for career opportunities as well as personal growth and self expression.
2 hours lecture, 4 hours studio.

**ART 280* BEGINNING PHOTOGRAPHY (3)**
Prerequisite: None.
An introduction to the use and function of the camera and black-and-white darkroom technique. Students must have access to a fully adjustable 35mm camera. Identical to MED 285.
For students interested in beginning photography for career opportunities as well as for personal growth and self expression.
2 hours lecture, 4 hours laboratory.

**ART 286* INTERMEDIATE PHOTOGRAPHY (3)**
Prerequisite: ART/MED 285 or permission of instructor.
An intermediate course in photography for students who understand the basics of black-and-white film exposure, development, and printing. Emphasis on photojournalism, art photography, portraiture, and landscapes, depending upon the needs of the student. Students must have access to a fully adjustable 35mm camera. Identical to MED 286.
For students interested in photography for career opportunities as well as for personal growth and self expression.
2 hours lecture, 4 hours laboratory.
ART 287 COMPUTERIZED PHOTOGRAPHY I (3)
Prerequisite: None.
An introduction to digital photography and the electronic darkroom. A blending of traditional film-based picture-taking techniques with computer-aided photo manipulation. Photo lab and computer lab will both be used. Emphasis on scanning and on-screen photo-manipulation software. Identical to JRN 287 and MED 287.
3 hours lecture/discussion/demonstration with practical experimentation.

ART 280 SCULPTURE (3)
Prerequisite: ART 103, ART 231, or permission of instructor.
An introduction to traditional and contemporary sculptural media, techniques and concepts. Student involvement from raw material to finished product.
For students interested in art for career opportunities as well as personal growth and self expression.
2 hours lecture, 4 hours studio.

ART 292 ADVANCED TOPICS IN ART (.5-.4)
Prerequisite: ART 192 or permission of instructor.
A rotating forum/seminar/workshop emphasizing regional art forms and the development and practical application of artistic skills using a variety of media. Topics will vary in accordance with changes in student needs and interests. May be repeated for Cochise College credit. Cochise College elective only unless otherwise designated in degree programs.
For students interested in art for career opportunities as well as personal growth and self expression.
1/2 hour to 4 hours lecture/studio.

ART 299 INDIVIDUAL STUDIES (1-.4)
Prerequisite: Approval of the division chair 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)
Prerequisite: MAT 122 or permission of instructor.
A survey of astronomy, including the history of astronomy, celestial motion, terrestrial evolution, the solar system, structure and evolution of the stars, the Milky Way, galaxies and cosmology. Labs include nighttime observing sessions. Field trips to planetariums and observations will be included.
3 hours lecture, 3 hours laboratory.

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

AMT 140 AVIONICS SYSTEMS FUNDAMENTALS (3)
Prerequisite: None.
A study of aircraft avionics systems fundamentals. This course includes the following: gyroscopic instruments, navigation communication, autopilot, and electronic flight information systems, ground proximity warning systems, systems diagnosis and malfunction correction procedures.
2-5 hours lecture, 1.5 hours laboratory.

AMT 150 PHASE I GENERAL (19)
Prerequisite: None.
A comprehensive study of general subjects required by the Federal Aviation Administration for FAA certification as an aircraft mechanic.
50% lecture, 50% laboratory.

AMT 160 PHASE II BASIC AIRFRAME (17)
Prerequisite: Phase I.
A comprehensive study of aircraft structures with emphasis on wood and sheet metal structural repairs and finishing techniques covering welding, aircraft assembly rigging and inspection as well as radio, navigation, and instrument systems.
50% Lecture, 50% Laboratory.

AMT 260 PHASE III ADVANCED AIRFRAME (17)
Prerequisite: Phases I and II.
A study of aircraft systems, including electrical, hydraulics, landing gear, environmental control, ice and rain protection, fire protection, and fuel systems.
50% Lecture, 50% Laboratory.

AMT 270 PHASE IV POWERPLANT (17)
Prerequisite: Phase I.
A continuation of aircraft powerplant and related systems, including propeller, fuel, ignition, lubrication, electrical, cooling, exhaust, starting and fire protection.
50% Lecture, 50% Laboratory.

AMT 275 PHASE V ADVANCED POWERPLANT (17)
Prerequisite: Phases I and IV.
An introduction of aircraft powerplant theory and maintenance on reciprocating and turbine engines and their related systems.
50% Lecture, 50% Laboratory.
AMT 280 HELICOPTER MAINTENANCE AND INSPECTION FUNDAMENTALS (4)
Prerequisite: Completion of AMT 150, 160, 260 or have a F.A.A. Airframe Mechanic Certificate or permission of the Aviation Department Airframe and Powerplant instructors.
A study of helicopter inspection and maintenance techniques and basic rotary wing aerodynamics with emphasis on the exacting requirements of rotary wing aircraft maintenance.

AMT 282 TRANSPORT CATEGORY AIRCRAFT FAMILIARIZATION COURSE (5)
Prerequisite: Student must hold A & P Certificates or obtain instructor's permission.
A lecture course focused on the operating systems of large FAR Part 25 certified aircraft.
5 hours lecture.

AMT 283 PHASE VI (1-6)
Prerequisite: AMT 150 and/or 160, and/or 260, and/or 270, and/or 275 or permission of instructor.
This course, a proficiency course, is designed to upgrade a student's theoretical and physical proficiency in aviation subjects to level prescribed and to make-up missed hours in Phase I through V. Instructor will evaluate students on an individual basis to assess their needs, their assigned subjects, hrs, and units as required.

AMT 290 AIRFRAME AND POWERPLANT UPGRADE (6)
Prerequisite: None.
The student must have an aviation maintenance background and be currently or in the near future, qualified to take the F.A.A. Airframe and/or Powerplant Mechanics examinations.
6 hours lecture.

AMT 295 PRACTICUM IN AVIATION MAINTENANCE TECHNOLOGY UPGRADE (6)
Prerequisite: None.
An upgrade or refresher course in Aviation Maintenance Technology with emphasis on the development of practical skills required in the 43 subject areas of the aviation maintenance occupation as outlined in the FAA's Advisory Circular 65-2D. Course not open to A & P students.
4 hours lecture; 6 hours laboratory

YUMA PROGRAM

AMT 148 GENERAL AERONAUTICS AND APPLICATIONS (3).
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)
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)
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)
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)
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)
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.
BIO 226 ECOLOGY (4)
Prerequisite: MAT 082 and one semester of a college level biological science.
An introduction to ecological concepts and methods in biology including: ecological niches, species, diversity, population biology, ecosystem, life history strategies, environmental factors, environmental cycles, animal behavior and evolution, and their functions in the environment.
3 hours lecture; 3 hours laboratory; 1 Saturday field trip.

BIO 299 INDIVIDUAL STUDIES (1-4)
Prerequisite: Approval of the division chair 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 093 CULTURAL CONTEXT: CASE STUDIES (1)
Prerequisite: Concurrent enrollment in ESL 013 or 014 or permission of instructor.
Introduction to the social norms, cultural values and assumptions underlying workplace behavior with emphasis on case studies and practical application.
2 hours laboratory.

BUS 104 BUSINESS MATH (3)
Prerequisite: MAT 072 or equivalent.
The fundamentals of business mathematics and ability to communicate with the number language of the business world.
3 hours lecture.

BUS 105 TECHNICAL WRITING (1)
Prerequisite: None.
An overview of the technical aspects of developing written reports to include available resources, technical exposition, style, and computer-assisted development.
1 hour lecture; 1 hour laboratory.

BUS 108 SURVEY OF AMERICAN BUSINESS (3)
Prerequisite: None.
Fundamental characteristics and functions of modern business with emphasis on career opportunities.
3 hours lecture.

BUS 121 TAXATION PRINCIPLES AND PROCEDURES (3)
Prerequisite: BUS 201 or permission of instructor.
Tax laws, accounting procedures and preparation of required United States and Arizona Income Tax returns as they apply to individuals and businesses.
3 hours lecture.

BUS 123 HUMAN RESOURCES MANAGEMENT (3)
Prerequisite: None
A study of policies and techniques pertaining to personnel management and human relations as applied to employee selection, placement, training, motivation, promotion, evaluation and supervision. Employer and employee social responsibilities introduced.
3 hours lecture.

BUS 124 MILITARY ORGANIZATIONS AND STAFF FUNCTIONS (3)
Prerequisite: None
A functional study of the development of U.S. defense policy, the organization, role and mission of the Department of Defense, Departments of the Army, Air Force and Navy, the organization and functions of the general and special staff at the Army division level, and the organization and operations of combat support groups.
3 hours lecture.

BUS 125 MANAGEMENT AND ORGANIZATIONAL BEHAVIOR (3)
Prerequisite: None
Study of group behavior, interpersonal relationships and inter-group relationships in the organization, conceptual tools for analyzing behavior and managing group processes of conflict, communication and task accomplishment.
3 hours lecture.

BUS 126 EXPLORING YOUR POTENTIAL AS A MANAGER (3)
Prerequisite: None
A course to assist women in evaluating their aptitudes, capabilities and values, and to relate this evaluation to possible career choices in the business world.
3 hours lecture.

BUS 127 LEADERSHIP AND SUPERVISION (3)
Prerequisite: BUS 123 or permission of instructor.
Study in depth of the supervision and leadership functions in management. Case studies emphasized.
3 hours lecture.
BUS 128 SPECIAL PROBLEMS IN MANAGEMENT (3)
Prerequisite: None
This course introduces problems unique to women choosing business as careers, and assists with the preparation of women to deal effectively as managers.
3 hours lecture.

BUS 138 REAL ESTATE FINANCE (3)
Prerequisite: None
Examines real estate risk and financing, including the source, availability, cost and use of mortgage money.
3 hours lecture.

BUS 142 INSURANCE (3)
Prerequisite: None
Principles and practices of insurance, including coverage availability, buying methods, procedures for settling claims, analysis of contracts and forms of insurance purchases.
3 hours lecture.

BUS 143 PRINCIPLES OF MANAGEMENT (3)
Prerequisite: None
Managerial principles with emphasis on planning, organizing, motivating, and controlling for effective business decisions.
3 hours lecture.

BUS 144 SALESMAINSHP (3)
Prerequisite: None
Career opportunities in sales work, practical and psychological factors in selling, development of a desirable sales personality and correct techniques in conducting sales campaigns, include student participation in practical sales demonstrations.
3 hours lecture.

BUS 145 PRINCIPLES OF MARKETING (3)
Prerequisite: None
Marketing principles involved in the distribution of goods and services from the producer to the ultimate consumer, including functions of wholesaling, retailing, direct selling, risk-taking, and storage.
3 hours lecture.

BUS 146 INTRODUCTION TO ACCOUNTING (3)
Prerequisite: BUS 104 or permission of instructor
The basic accounting cycle, business transactions, journalizing, posting and financial statements, cash control and bank accounts, payroll preparation, credit and receivable control, inventory control, sources of funds, budgeting and ratio analysis. This class is not designed for transfer to a university. Identical to OAD 146.
3 hours lecture; 1 hour laboratory.

BUS 148 ADVERTISING (3)
Prerequisite: BUS 145 or permission of instructor
Principles of advertising involves 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)
Prerequisite: None
Examines the organization and operation of retail outlets, trends and concepts relating both goods and services, solutions for buying, selling, stocking, servicing and controlling in retail outlets.
3 hours lecture.

BUS 150 INTRODUCTION TO BUSINESS ETHICS (3)
Prerequisite: ENG 101
An introductory course in the application of moral philosophy to contemporary ethical and moral problems in business.
3 hours lecture.

BUS 156 PRINCIPLES OF FINANCE (3)
Prerequisite: BUS 146 or BUS 201 or permission of instructor
An introduction to the world of finance dealing with the relationship of money in our economy and an in-depth study of the role and techniques of financial management in the firm.
3 hours lecture.

BUS 160 JOB AND FAMILY SUCCESS SKILLS (3)
Prerequisite: None
A study of problem areas workers may encounter in obtaining and maintaining their employment including job-seeking skills, dressing for success, decision making strategies, self-esteem, job stress, nutrition, communication skills and coping with stress as a working parent (Same as OAD 160).
2 hours lecture.

BUS 167 BUSINESS COMMUNICATIONS (3)
Prerequisite: ENG/OAD 111 or ENG/CIS 129 or permission of instructor
A study of business communications prepared in a business organization typals. Internal and external communications letters, memos and reports. With emphasis on applying English fundamentals, usage, syntax, and methods of organization. Identical to OAD 167 and ENG 167.
3 hours lecture.
BUS 168 CUSTOMER RELATIONS IN THE WORK PLACE (1)
Prerequisite: None.
An exploration of the ways human beings relate to one another using typical problems that occur on a day-to-day basis within organizations. This course will serve as a foundation for improving human relations and personal management skills.
1 hour lecture

BUS 178 APPLIED TECHNICAL WRITING (3)
Prerequisite: ENG 100 (C or better) or placement into ENG 101. College-level reading
An applied skill course on writing clear, organizational reports and communications. Assignments will stress the processes and products for reporting technical information with emphasis on writing mechanics/syntax, forms/forms and technical style. Identical to CIS 179 and ENG 179.
3 hours lecture

BUS 180+ COMPUTERIZED ACCOUNTING (3)
Prerequisite: BUS 146 or BUS 201
Course includes the use of automated accounting software to complete general ledger, accounts payable, accounts receivable and pay-rol reports.
3 hours lecture.

BUS 189 STARTING A BUSINESS (3)
Prerequisite: None.
A comprehensive primer on business success emphasizing investigation and evaluation of business opportunities. The course will also emphasize the acquisition of skills and knowledge 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)
Prerequisite: None.
A study of the strategic planning process, leadership practices, policy analysis, program evaluation and budgeting including financial management, information management, organizational design, culture and productivity. May be repeated for credit.
1/2 hour lecture

BUS 201 FINANCIAL ACCOUNTING (3)
Prerequisite: MAT 082 or BUS 104 or equivalent
An introductory course in gathering, recording and using the financial data of a business, the accounting cycle, debits and credits, classification of accounts, recording of transactions and preparation of financial statements for single proprietorships, partnerships, and corporations.
3 hours lecture, 2 hours laboratory

BUS 202 MANAGERIAL ACCOUNTING (3)
Prerequisite: BUS 201, CIS 181
An introductory course in accounting concepts, methods and techniques used by managers to support financial and operating decision-making within an organization.
3 hours lecture, 2 hours laboratory.

BUS 203 INTRODUCTION TO FUND ACCOUNTING (3)
Prerequisite: BUS 201
An introductory course in the accounting principles and procedures used in federal, state, county and city governments and other not-for-profit organizations.
3 hours lecture, 2 hours laboratory.

BUS 210 INTERMEDIATE ACCOUNTING (3)
Prerequisite: BUS 202 or permission of instructor
A comprehensive course in gathering, recording, and using the financial data of a business, accounting treatment of assets, including related principles of profit determination.
3 hours lecture, 1 hour laboratory.

BUS 211 INTERMEDIATE ACCOUNTING (3)
Prerequisite: BUS 210
A continuation of BUS 210. Accounting treatment of liabilities and capital accounts and the analysis of financial statements.
3 hours lecture, 1 hour laboratory.

BUS 214 AUDITING TECHNIQUES (3)
Prerequisite: BUS 211 or permission of instructor
The quantitative opinion formulation process of the professional auditor that includes the auditor's reports, professional standards and internal and operational auditing.
3 hours lecture.

BUS 219 BUSINESS STATISTICS (3)
Prerequisite: MAT 151
Introductory topics of business statistics such as data presentation, data summarization, probability, probability distributions, sampling distributions, elementary decision-making, estimation of population means, testing of hypotheses, analysis of variance and regressive analysis.
3 hours lecture.
BUS 220 BUSINESS STATISTICS (3)
Prerequisite: BUS 219
Testing and estimation, statistical inference, variance analysis, regression, correlation, time series, and index number application.
3 hours lecture

BUS 224 FIELD EXPERIENCE IN BUSINESS ADMINISTRATION (1-6)
Prerequisite: Sophomore standing in a declared major and prior approval of Cooperative Education Program Coordinator.
A supervised Cooperative Education work experience involving the combined efforts of educators and employers to accomplish career objectives in business administration. Variable credit (1-6) is available by special arrangement. May be taken four times for a maximum of 16 credit hours, no more than 6 units in a given semester.

BUS 225 PERSONAL FINANCIAL PLANNING AND INVESTMENTS (3)
Prerequisite: BUS 219, 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 229 INTRODUCTION TO PERSONAL INVESTING (3)
Prerequisite: BUS 228 or permission of instructor
A survey of investment opportunities open to individual investors. This will include a description of available investment instruments, brokerage procedures, applicable rules and regulations, tax impacts and analysis techniques. A student may elect to take this course on a pass/fail basis. A "P" is assigned for a grade of "C" or better.
3 hours lecture.

BUS 231 BUSINESS LAW (3)
Prerequisite: Sophomore standing.
A presentation of law as part of the American society with an emphasis on judicial procedures, business transactions, contracts, torts, personal and real property, administrative, criminal, and consumer law.
3 hours lecture.

BUS 232 BUSINESS LAW (3)
Prerequisite: Sophomore standing and completion of BUS 231 or permission of instructor
A presentation of the laws pertaining to sales, commercial paper, creditor's rights and secured transactions, agency and employment, partnerships and special ventures, and corporations.
3 hours lecture.

BUS 233 THE LEGAL ENVIRONMENT OF BUSINESS (3)
Prerequisite: None
An examination of the legal framework governing rules of conduct among businesses and its impact on establishing business policy.
3 hours lecture.

BUS 236 ANALYZING FINANCIAL STATEMENTS (3)
Prerequisite: BUS 201 or permission of instructor
The characteristics and analysis of financial statements, with emphasis on their utilization in banking. Covers the balance sheet, the profit and loss statement, and analysis of earning potential. An American Institute of Banking Course.
3 hours lecture.

BUS 240 PRINCIPLES OF REAL ESTATE I (3)
Prerequisite: None
A course on basic real estate principles including introduction to the profession and license law, definition of real property, legal descriptions, rights and interest in property, ownership, contracts, real estate economics, financing and foreclosure, and use and valuation. This course is one of two courses required for the Arizona Real Estate Salespersons' examination.
3 hours lecture.

BUS 241 PRINCIPLES OF REAL ESTATE II (3)
Prerequisite: BUS 240 or permission of instructor
An advanced course in real estate including escrow procedures and title insurance, liens and encumbrances, advanced contracts, water rights, toxic waste and environmental hazards, agency, ethics, and professional relationships, real estate code and the commissioners' rules, investment, property management and government restriction.
3 hours lecture.
BUS 245 SEMINAR: TRENDS AND PRACTICES
IN MARKETING AND MANAGEMENT (3)
Prerequisite Sophomore level or permission of instructor
Applying problem-solving and decision-making techniques to
practical business situations based on current readings in
marketing and management. Designed to blend and apply
current business theories and practices to meet class and
individual needs.
3 hours lecture.

BUS 282 MANAGEMENT INFORMATION
SYSTEMS (3)
Prerequisite: CIS 120, comparable work experience, or per-
mission of instructor.
A study of the management sciences involved in meeting the
informational needs of business, industry, governmental and
educational agencies. A study of the skills and knowledge of
man versus machine to develop and design data processing
systems in a problem-oriented approach.
2 hours lecture, 1 hour laboratory.

BUS 283* SMALL BUSINESS MANAGEMENT-A
SEMINAR APPROACH (3)
Prerequisite: BUS 143, 145, 201, 202 and CIS 181.
This course is recommended for the last semester of the As-
sociate of Applied Science degree in Middle Management.
Analysis of the practical problems of organizing and man-
aging a successful small business. Practical problems in mar-
keting, research, financial analysis and control, budgeting,
management, and organization for small businesses are em-
phasized with the aid of the microcomputer.
3 hours lecture, 1 hour lab.

BUS 290 INTRODUCTION TO INDUSTRIAL
ENGINEERING (3)
Prerequisite: None.
Taught in Spanish, a basic introduction to the methods and
practice of Industrial Engineering for business managers and
students. The course emphasizes fundamental principles of
work organization and job design in an industrial setting. Prac-
tical aspects of application to Twin Plant Industries along the
U.S. Mexican Border will be highlighted.
3 hours lecture.

BUS 299 INDIVIDUAL STUDIES (1-4)
Prerequisite: Approval of the division chair 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 in-
structor and the division chair prior to initiation of the study.
May be repeated for credit.

CHEMISTRY

CHM 100* PREPARATION FOR CHEMISTRY (4)
Prerequisite: MAT 082 or equivalent.
Elements of general chemistry adapted to the needs of those
students who have not had high school chemistry.
3 hours lecture, 3 hours laboratory.

CHM 130* FUNDAMENTAL CHEMISTRY (4)
Prerequisite: MAT 082 or equivalent.
A one-semester course introducing fundamentals of general
chemistry with emphasis placed on principles important to
the understanding of human biological functions and related
medical aspects. Especially adapted to the needs of students
in nursing and other health-related fields. Serves as a labo-
ratory science for degree requirements.
3 hours lecture, 3 hours laboratory.

CHM 140* FUNDAMENTAL ORGANIC AND
BIOCHEMISTRY (4)
Prerequisite: CHM 130 or CHM 151 or permission of instruc-
tor.
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 educa-
tion.
3 hours lecture, 3 hours laboratory.

CHM 151* GENERAL CHEMISTRY I (4)
Prerequisite: MAT 122 or equivalent, also high school chemis-
try or CHM 100 with a grade of "C" or better.
Introduction to the general principles of chemistry with em-
phasis on quantitative relationships including properties of
matter, chemical bonding and structure, nomenclature, chemi-
cal equations, stoichiometry, thermodynamics, and states of
matter.
3 hours lecture, 3 hours laboratory.

CHM 152* GENERAL CHEMISTRY II (4)
Prerequisite: CHM 151.
Introduction to the general principles of chemistry with em-
phasis on quantitative relationships including acids and bases,
equilibrium, oxidation-reduction, kinetics, nuclear chemistry, elec-
trochemistry, and aspects of organic and biochemistry.
3 hours lecture, 3 hours laboratory.
CHM 235-236* GENERAL ORGANIC CHEMISTRY I & II (4)
Prerequisite: CHM 152. CHM 235 is a prerequisite for CHM 236.
An introduction to the chemical compounds of carbon, structural formulas, nomenclature, special configurations of molecules, synthesis and the relation between different classes of organic compounds.
3 hours lecture, 3 hours laboratory.

CHM 299 INDIVIDUAL STUDIES (1-4)
Prerequisite: Approval of division chair 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)
Prerequisite: None
Mansuration 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 data for engineering surveys; locating & positioning man-made structures.
2 hours lecture, 4 hours laboratory

CET 101 ENGINEERING SURVEY II (3)
Prerequisite: CET 100 Engineering Survey I.
Advantages, disadvantages and restriction of various methods used in surveying and mapping, principles of directional control, geodetic relationships and subdivision layout.
2 hours lecture, 3 hours laboratory

COMMUNICATIONS

COM 091 PRONOUNCING ENGLISH (1)
Prerequisite: Recommendation from placement testing. Concurrent enrollment in ESL 011, 012, 013, or 014.
Introduction to the sounds, rhythm, stress patterns, and intonation of English, with emphasis on those aspects of the oral language which make it easier to understand and to be understood.
2 hours laboratory

COM 100 INTRODUCTION TO COMMUNICATIONS (3)
Prerequisite: None. However, the student must have an English language proficiency at least comparable to that of the advanced level of the English-as-a-Second Language Program at Cochise College. This course is not designed to transfer to a university.
A study of and practice in basic oral communication for transitional students. The study includes: 1) a study of what is involved in oral communications, and 2) practice in communication both as a speaker and a listener.
3 hours lecture/discussion

COM 102 FUNDAMENTALS OF SPEECH (3)
Prerequisite: Placement in ENG 101 or higher level English or completion of 100 or higher with a grade of "C" or better
A study of the communication process as it relates to all communication (one-to-one conversations, small group discussions, and larger group speaking situations) with an emphasis on communicating with an audience. The study includes basics in all communication, choosing and researching a topic, organizing material for speaking, and delivering speeches of information, persuasion, and actuation.
3 hours lecture, discussion and speech delivery

COM 109 PUBLIC SAFETY COMMUNICATIONS (3)
Prerequisite: ENG 100 or equivalent proficiency.
Theory and practice of encoding and decoding electronically transmitted messages radio, telephone, teletype, computer, FCC regulations, strategies to reduce ambiguity in messages, vocational report writing, telephone interviewing, call prioritization, police, fire, and medical dispatching, interagency cooperation, radio procedures for pilots.
3 hours lecture

COM 110 PUBLIC SPEAKING (3)
Prerequisite: COM 102, a high school speech course or permission of instructor.
A study of public speaking, beginning with a review of the fundamentals of speech as they relate to communicating with an audience, continuing with a study of theories and techniques of persuasion with practical application and an analysis of various types of speeches with practice in researching, constructing and delivering speeches of each type. Includes a study of the basics in parliamentary procedure and public discussion with practice in participating in and leading parliamentary meetings.
3 hours lecture, discussion and presentation of speeches.
COM 115 ARGUMENTATION AND DEBATE (3)
Prerequisite: COM 102 or permission of instructor
A course in practical reasoning, appraisal and use of evidence, recognition of fallacies and application of debate forms and oral style of argumentation. Intercollegiate debate optional for class members.
3 hours lecture

COM 193 SPECIAL TOPICS IN COMMUNICATIONS (1)
Prerequisite: None
A rotating forum/seminar emphasizing a variety of communication skills ranging from telephone use to interpersonal and small group skills to formal public speaking. Topics will vary according to changes in student need and interest.
1 hour lecture
COM 193A Coping with “Stage Fright”
COM 193B Diversity Issues
COM 193C Gender Differences in Communication
COM 193D “Difficult” People
COM 193E Improving Small Group Communication
COM 193F Improving Group Problem-Solving
COM 193G Preparing for and Running Public Meetings

COM 270 INTERPERSONAL COMMUNICATIONS (3)
Prerequisite: Sophomore standing or permission of instructor
A course to develop self-awareness and insight into interpersonal relationships with emphasis upon the development of communications skills and techniques for one-on-one professional communication. (Identical with SSV 270)
3 hours lecture

COM 271 COMMUNICATIONS IN SMALL GROUPS (3)
Prerequisite: SSV 270 or COM 270 and permission of instructor
A continuation of COM 270 and SSV 270 refining skills and techniques learned first semester and adding analysis and presentation with emphasis on small-group communication processes. (Identical with SSV 271)
3 hours lecture

COMPUTER INFORMATION SYSTEMS

CIS 110 COMPUTER MATH (3)
Prerequisite: MAT 122
A study of the mathematics used in computer programming including problem solving techniques, numbering systems, linear programming, and Boolean algebra concepts.
3 hours lecture

CIS 113 COMPUTER KEYBOARDING/DATA ENTRY (3)
Prerequisite: None
Specifically designed for (but not limited to) students with no prior knowledge of touch typing or prior computer experience. Skill development on keyboarding and data entry techniques will be utilized to develop speed and accuracy. Same as OAD 101
3 hours lecture

CIS 116* LEARNING TO USE THE MICROCOMPUTER (3)
Prerequisite: None
An introduction to the uses of the microcomputer. Emphasis will be placed on how microcomputers work, using the operating system and common software applications in a hands-on environment.
3 hours lecture

CIS 120* INTRODUCTION TO DATA PROCESSING (3)
Prerequisite: None
An overview of the data processing field, general practices and aims of business, data processing systems and terminology; data collection, report preparation, functions of data processing units, flow charts and systems design concepts. Students receive practice in writing computer programs using Pascal Programming Language.
3 hours lecture

CIS 125 TELECOMMUNICATIONS TECHNIQUES (3)
Prerequisite: None
A study of the methods of telecommunication. Topics include transmission techniques, telephonic systems, satellite communication systems, local and wide area networks, software and hardware considerations, and telecommunications applications.
3 hours lecture
CIS 130 ALGORITHMS (3)
Prerequisite: None
A course in software and programming concepts. Topics will include methodology, notations, data, operators, sequence, selection, repetition, subprograms, composite data types, input/output, data files and the software development life cycle.
3 hours lecture

CIS 140* INTRODUCTION TO OPERATING SYSTEMS (3)
Prerequisite: None
An introduction to computer operating systems used to monitor and control all input/output and processing operations. DOS and Windows are addressed.
3 hours lecture; 1 hour laboratory

CIS 142* PC AND PRINTER SUPPORT (3)
Prerequisite: CIS 140 (or concurrent enrollment) or permission of instructor.
PC support in the office environment is a fast-growing area of computer-related employment. This course will enable the student to connect PC hardware systems, install (or reinstall) the DOS operating system and Windows user environment, and properly configure the PC for use. Topics will include installation and configuration of major PC applications, and first-level diagnosis of user problems.
2 hours lecture, 3 hours laboratory

CIS 150* PC CONNECTIVITY (3)
Prerequisite: None
PC Connectivity is the fastest-growing area of computer office automation, offering resource sharing and group productivity technology. This course is presented as an introduction to networking. The student will study and compare the various methods used in PC communications and networking.
3 hours lecture

CIS 179 APPLIED TECHNICAL WRITING (3)
Prerequisite: ENG 100 (C or better) or placement into ENG 101 College level reading.
An applied 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)
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 182 COMPUTER APPLICATIONS FOR MAT 122 (3)
Prerequisite: MAT 122 or the equivalent high school course
A course in the use of current software packages to help students perform mathematical and technical word processing, computations, and graphing for mathematical application areas. Applications include spreadsheets, word processing, graphics, scanner and the operating system. No programming experience is necessary.
3 hours lecture

CIS 192 COMPUTER APPLICATION ORIENTATION (.5)
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 hours 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)
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 Spreadsheets
CIS 193B Intermediate Spreadsheets
CIS 193C Advanced Spreadsheets
CIS 193D Spreadsheet Macros
CIS 193E Beginning Database
CIS 193F Intermediate Database
CIS 193G Advanced Database
CIS 193H UNIX Operations I
CIS 193I UNIX Operations II
CIS 193J UNIX Operations III
CIS 193K Harvard Graphics I
CIS 193L Harvard Graphics II
CIS 193M Harvard Graphics III
CIS 193N Powerpoint I
CIS 193O Powerpoint II
CIS 193P Powerpoint III
1 hour lecture/laboratory

CIS 203* FORTRAN PROGRAMMING (4)
Prerequisite: CIS 130, MAT 122
A detailed study of the FORTRAN programming language to include organization of data structures, input-output operations, and control considerations. Structured programming practices are used.
3 hours lecture, 3 hours laboratory

CIS 204* C PROGRAMMING (4)
Prerequisite: CIS 130 or permission of instructor
A beginning course in the C programming language. Topics will include syntax and semantics, data types, operators, looping structures, decision structures, functions, arrays, pointers and file handling.
3 hours lecture, 3 hours laboratory

CIS 205* ADA PROGRAMMING (4)
Prerequisite: CIS 130 or permission of instructor
A beginning course in the ADA programming language. Topics will include syntax and semantics, data types, operators, looping structures, decision structures, functions, procedures, packages, exception handlers and file handling.
3 hours lecture, 3 hours laboratory

CIS 206* ASSEMBLER PROGRAMMING (4)
Prerequisite: CIS 130 and either CIS 110 or MAT 243
A detailed study of the 8086 Assembly Programming language that takes individual instructions, written in symbolic form, and converts them into machine language. Includes a study of computer organization, architecture, data structure, input-output and operation considerations. Students will write a minimum of eight operational programs.
3 hours lecture, 3 hours laboratory

CIS 207* LISP PROGRAMMING (4)
Prerequisite: CIS 130 or permission of instructor
A beginning course in the LISP programming language. Topics will include problem definition, program design, program development and testing and the syntax and semantics of the LISP programming language.
3 hours lecture, 3 hours laboratory

CIS 218* WINDOWS PROGRAMMING (4)
Prerequisite: CIS 130 and CIS 140 or permission of instructor
A 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)
Prerequisite: MAT 082 and CIS 130 or permission of instructor
An initial course in Report Program Generator (RPG). Students will learn to develop typical business application programs including: RPG syntax specifications, problem manipulation, magnetic tape and disk storage, and a variety of file access methods
3 hours lecture, 3 hours laboratory

CIS 220* DATA STRUCTURES (4)
Prerequisite: CIS 130 and one programming language course or permission of instructor
A course in data structures and advanced programming concepts. Topics will include the design, implementation and application of stacks, queues, lists, trees, sequential and direct access to files. Students will choose one of the following languages to implement the data structures: ADA, Assembler, C, C++, COBOL, FORTRAN, or Pascal
3 hours lecture, 3 hours laboratory

CIS 222* COMPUTER ARCHITECTURE (3)
Prerequisite: CIS 130 and either CIS 110 or MAT 243
An introduction to the organization and structuring of the major hardware components of a microcomputer to include primary memory, control unit and arithmetic logic. The student will study machine data representation, the mechanics of information transfer and control within a digital computer system, and the fundamentals of logic design
3 hours lecture

CIS 223* ADVANCED WINDOWS PROGRAMMING (4)
Prerequisite: CIS 218 or permission of instructor
An examination of advanced topics in Windows programming and Visual Basic. Topics include file access, data base access, help system development and graphics. Emphasis is placed on the development of Windows systems to include specification, development and documentation
3 hours lecture, 3 hours laboratory

CIS 227* OBJECT-ORIENTED PROGRAMMING (4)
Prerequisite: CIS 130 or permission of instructor
A beginning course in object-oriented programming using the C++ language. Topics will include object oriented concepts, terminology, notation, and the syntax and semantics of C++ language
3 hours lecture, 3 hours laboratory

CIS 228* UNIX OPERATING SYSTEM (4)
Prerequisite: None
A course in the UNIX Operating System. Topics will include: the history and organization of UNIX, UNIX user commands, shell programming, and system administration
3 hours lecture, 3 hours laboratory

CIS 229* UNIX SYSTEM ADMINISTRATION (4)
Prerequisite: CIS 228 or permission of instructor
A course in UNIX System Administration. Topics will include: installation, starting and stopping the system, security, administering users, groups, file systems, terminals, printers, disks and electronic mail, backing up the system, tuning and troubleshooting the system
3 hours lecture, 3 hours laboratory

CIS 230 DATA COMMUNICATIONS (3)
Prerequisite: None
A study of the fundamentals of electronically transmitting information from one location to another, with emphasis on how data communication relate to data and word processing systems
3 hours lecture

CIS 231 NETWORKS AND SWITCHING SYSTEMS (3)
Prerequisite: CIS 140
A study of the fundamentals of electronically transmitting information from one location to another, with emphasis on how data communication relate to data and word processing systems
3 hours lecture

CIS 234* INTRODUCTION TO NETWORKS (4)
Prerequisite: CIS 140
The Local Area Network (LAN) is among the more important tools which support office automation. Novell'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)
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)
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, Arisoft 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)
Prerequisite: CIS 130 or permission of instructor
A study of the software engineering principles, practices and techniques used to produce, maintain and manage quality software.
3 hours lecture, 3 hours laboratory

CIS 250* DATABASE MANAGEMENT (4)
Prerequisite: CIS 130
A study of the management of data in business organizations with emphasis on learning the underlying technology and techniques of developing computer databases.
3 hours lecture, 3 hours laboratory

CIS 260* SERVICE AND MAINTENANCE OF PERSONAL COMPUTERS (3)
Prerequisite: CIS 140 (or concurrent enrollment) or permission of instructor
Designed to provide basic, introductory information on computer servicing, enabling the average PC user to diagnose and repair simple problems. Simple and complicated configuration and hardware problems will be covered. Some of the topics included will be PC setup and configuration, floppy and hard disk drives, replacing and upgrading RAM chips, board-level diagnosis and repair.
2 hours lecture, 3 hours laboratory

CIS 262* NETWORK SUPPORT AND TROUBLESHOOTING (3)
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 ring, and application configuration problems.
2 hours lecture, 3 hours laboratory

CIS 270 SYSTEMS ANALYSIS (3)
Prerequisite: CIS 120
A study of structured methods used to analyze existing information systems. Techniques used to improve or design better systems are examined.
3 hours lecture

CIS 279* ADVANCED APPLIED TECHNICAL WRITING (3)
Prerequisite: CIS 179
An applied skill course on writing effective, clear, technical reports and communications with confidence, skill and flair. Emphasis on using appropriate processes and products for reporting technical information. Industry-standard writing mechanical/syntax, forms/format and technical style are stressed. Same as ENG 279.
3 hours lecture

CIS 280* ADVANCED COMPUTERIZED ACCOUNTING (3)
Prerequisite: 3 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 receivable, accounts payable, depreciation, payroll, inventory, and financial statement analysis.
2 hours lecture, 3 hours computer laboratory

CIS 281* ADVANCED COMPUTER APPLICATIONS (3)
Prerequisite: CIS 181 or permission of instructor
Advanced topics in computer application software for management and office usage. Applications include integrated software, computerized project management techniques, and advanced data base software from the user's point of view.
3 hours lecture
CIS 288* INTRODUCTION TO DESKTOP PUBLISHING (3)
Prerequisite: Typing, word processing or computer experience helpful
Principles and practice of creating printed materials combining text and graphics using major desktop publishing programs, with emphasis on the practical aspects of production identical to MED 207 and JRN 207
3 hours lecture

CIS 288* ADVANCED DESKTOP PUBLISHING (3)
Prerequisite: CIS 285.
Advanced techniques and practices to create printed materials of diverse size and complexity using a desktop publishing system, and a drawing software package. Emphasis will be on improving and enhancing visual appearance of printed materials
3 hours lecture

CIS 284 FIELD EXPERIENCE IN COMPUTER INFORMATION SYSTEMS (1-8)
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, 206, and 208 were designed specifically for the Arizona Department of Corrections in Douglas

CER 100 RADIO THEORY AND REPAIR (3)
Prerequisite: General Electronic Technician Certificate
A course designed to teach the student radio receiver theory, mechanical components, and electronic circuit operation of the AM/FM radio receiver, with special emphasis on alignment procedures, proper replacement parts selection and substitution using small tools, test equipment, and a soldering iron
3 hours lecture plus individualized laboratory instruction

CER 102 AUDIO TAPE RECORDER/PLAYER REPAIR (3)
Prerequisite: CER 100.
A course designed to make the student proficient in repairing audio tape recorder/player equipment. The student will learn magnetic media storage, sound amplification, tape drive systems, types of record and playback heads, microphone and earphone apparatus used in recording and playback, and how to use diagnostic equipment, diagnostic and repair techniques, hand tools, soldering equipment and repair procedures to facilitate repairs
3 hours lecture plus individualized laboratory instruction

CER 104 TELEVISION THEORY AND REPAIR (4)
Prerequisite: CER 102
A course designed to teach the student television receiver theory and the diagnostic techniques used to repair malfunctions with special emphasis on using test equipment, alignment procedures, and the safe use of maintenance tools, materials and supplies to facilitate repairs of television receivers
4 hours lecture plus individualized laboratory instruction

CER 200 VIDEO CASSETTE RECORDER REPAIR (4)
Prerequisite: CER 104
A course designed to make the student proficient in video cassette recorder repair. The student will learn video and sound recording and playback using magnetic media, and how to troubleshoot defective circuits using materials, supplies and diagnostic procedures with emphasis on test equipment and alignment procedures to facilitate repairs
4 hours lecture plus individualized laboratory instruction

CER 202 COMPACT DISC PLAYER REPAIR (3)
Prerequisite: CER 102
A course designed to make the student proficient in compact disc player repair. The student will learn sound recording and playback using optical laser technology, and how to troubleshoot and repair defective equipment by safely using maintenance tools, gauges, materials and supplies, with emphasis on test equipment and alignment procedures to facilitate repairs
3 hours lecture and individualized laboratory instruction

CER 204 MICROWAVE OVEN REPAIR (4)
Prerequisite: General Electronics Technician Certificate
A course designed to make the student proficient in microwave oven repair. The student will learn to schedule maintenance, allot maintenance task hours, and the cost-efficient and safe use of maintenance tools, gauges, materials and supplies with emphasis on test equipment and alignment procedures to facilitate repairs
4 hours lecture plus individualized laboratory instruction
CER 205 POWER AMPLIFIER REPAIR (3)
Prerequisite: CER 100
A course designed to teach the student advanced power amplifier theory such as integrated amplifiers, integrated stereo systems, graphic equalizers and high power amplifiers. The student will learn the diagnostic techniques used to repair malfunctions with special emphasis on test equipment use, alignment procedures, and the safe use of maintenance tools, materials and supplies to facilitate repairs.
3 hours lecture and individualized instruction.

CER 206 ADVANCED TELEVISION REPAIR (4)
Prerequisite: CER 104
A course designed to teach the student advanced television receiver theory, picture-in-picture, projection and high definition televisions. The student will learn the diagnostic techniques used to repair malfunctions with special emphasis on test equipment, alignment procedures, and the safe use of maintenance tools, materials and supplies to facilitate repairs.
4 hours lecture and individualized laboratory instruction.

CER 224 FIELD EXPERIENCE IN CONSUMER ELECTRONICS REPAIR (1-8)
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 (1-8) 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 television Cooperative Education courses may be combined but cannot exceed 16 units.

CONSUMERISM

CSN 110 CONSUMER EDUCATION (3)
Prerequisite: None
A course designed to create an awareness of the problems facing the modern consumer. Areas of consumer rights and remedies covered include: government, 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)
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)
Prerequisite: None
Reading and discussions on various topics related to individual's 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)
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)
Prerequisite: Sophomore standing and completion of CSN 110
An informed approach to maximizing the individual's participation in benefit programs, to minimize taxes 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)
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)  
Prerequisite: None  
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)  
Prerequisite: Prior approval of Cooperative Education Program Coordinator or Faculty Advisor  
A supervised cooperative work experience in Cooperative Education allowing students to apply entry-level skills gained in the classroom in a real world-of-work situation. Variable credit is available by special arrangement. May be taken four times for a maximum of 16 credit hours.

CED 224 FIELD EXPERIENCE IN COOPERATIVE EDUCATION (1-6)  
Prerequisite: Sophomore standing in a declared major and prior approval of Cooperative Education Program Coordinator  
A supervised Cooperative Education work experience involving the combined efforts of educators and employers to accomplish career objectives in the student's chosen occupation. Variable credit (1-6) is available by special arrangement. May be taken four times for a maximum of 16 credit hours, no more than 6 units in a given semester.

CORRECTIONS TRAINING ACADEMY

COR 112 CORRECTIONS (3)  
Prerequisite: None  
A practical study of the corrections component of the criminal justice system, tracing the history of corrections in the U.S., the relationships and interdependencies of corrections with both law enforcement and judiciary and the various functions of prisons. Also includes the application of major criminology theories, the insanity plea and the death penalty  
3 hours lecture.

COR 113 CRISIS INTERVENTION (1)  
Prerequisite: None  
A practical study of conflict resolution techniques including assertive communication, force, safety procedures and referrals. Emphasis upon appropriate use by police and correctional officers. (Credit awarded for successful completion of the Arizona Correctional Officer Training Academy.)  
1 hour lecture.

COR 114 ARREST, SEARCH AND SEIZURE (1)  
Prerequisite: None  
A study of the procedural applications of current arrest, search and seizure statutes within correctional institutions  
1 hour lecture.

COR 115 THEORIES OF CRIMINAL BEHAVIOR  
Prerequisite: None  
An introduction to theories of human behavior and crime with emphasis upon biological, sociological and psychological approaches  
1 hour lecture.

COR 116 CRIMINAL EVIDENCE (1)  
Prerequisite: None  
A practical study of the legal aspects of criminal investigation and the presentation of relevant evidence in a manner that precludes suppression  
1 hour lecture.

COR 117 ARIZONA CRIMINAL CODE (1)  
Prerequisite: None  
A practical study of substantive provisions of the Arizona Criminal Code with emphasis upon those areas which have proven most troublesome to the law enforcement community  
1 hour lecture.

COR 118 COMMUNICATIONS IN CRIMINAL JUSTICE (1)  
Prerequisite: None  
A practical study of effective intra-departmental and interdepartmental communication within the criminal justice profession including barriers to effective communication, communication with the community and communication within the courtroom. (Credit awarded for successful completion of the Arizona Correctional Officer Training Academy.)  
1 hour lecture.

COR 119 FIREARMS (1)  
Prerequisite: None  
A practical approach of the moral aspects, legal provisions, safety precautions and restrictions covering the use of firearms and the firing of the automatic and shotgun (Restricted to Law Enforcement Personnel)  
1 hour lecture.
COR 121 RANGEMASTER CERTIFICATION (3)
Prerequisite: None
Designed to certify Arizona Department of Corrections Security staff as rangemasters, and to prepare the rangemaster to operate a shooting range and teach formal classes. (Restricted to Law Enforcement Personnel)
1 hour lecture.

COR 159 CORRECTIONAL CASE WORK TECHNIQUES (3)
Prerequisite: None
A critical examination of the theory and application of specific correctional casework techniques and treatment with emphasis upon team concepts, diagnostic concepts, counseling, criminal personality and practical application
3 hours lecture.

COR 161 IDENTIFICATION OF GANGS (1)
Prerequisite: None
A practical study of the history, philosophy and identification of organized gangs and the revolutionary groups in the United States prison system
1 hour lecture.

COR 162 ORGANIZATION AND IMPACT OF GANGS (1)
Prerequisite: None
An analysis of the structure and development of gang organization, including the impact of gangs on the prison environment and the outside community
1 hour lecture.

COR 163 SPECIAL POPULATIONS I (1)
Prerequisite: None
A practical introduction to the recognition of non-psychotic and psychotic behaviors including personality disorders, substance abuse and suicide. Emphasis upon appropriate correctional staff response and the identification of community agencies that can provide assistance
1 hour lecture.

COR 164 SPECIAL POPULATIONS II (1)
Prerequisite: None
A practical study of the problems of illegal alien, physically disabled, mentally retarded and elderly inmates, including the impact of culture and life experiences on one's perceptions Emphasis on problems of particular interest to criminal justice practitioners
1 hour lecture.

COR 165 BASIC MANAGEMENT SKILLS (1)
Prerequisite: None
An overview of the entire management process in criminal justice agencies with emphasis upon the fundamental skills of basic management, motivation, leadership, communication, decision making and community relations
1 hour lecture.

COR 167 MANAGEMENT BY OBJECTIVES (1)
Prerequisite: None
An overview of management by objectives (MBO) as it pertains to criminal justice agencies, with emphasis on the MBO implementation process
1 hour lecture.

COR 170 PAROLE SUPERVISION (3)
Prerequisite: None
A practical introduction to community relations, caseload management, basic counseling, stress management, defensive driving, and crisis/conflict management for the parole officer
3 hours lecture.

COR 184 CORRECTIONAL SUPERVISION I (3)
Prerequisite: None
An overview of basic supervision for correctional supervisors Emphasis on the theory and practical application of personnel practices, employee discipline and motivation, trust/team building and one-minute manager principles. Identical to PAD 102
3 hours lecture.

COR 185 CORRECTIONAL SUPERVISION II (3)
Prerequisite: COR 184
A practical introduction to leadership, writing/preparation of reports, legal issues, budgetary management, personnel issues and problem solving techniques for correctional supervisors and managers
3 hours lecture.

COR 186 CORRECTIONAL ADMINISTRATION (3)
Prerequisite: None
An introduction to military, formal participative and leadership models of management, as well as management by objectives. Modern management techniques, media and line management in correctional institutions, probation and parole are emphasized Includes a brief overview of the history of punishment and the evolution of correctional facilities
3 hours lecture.
COR 192 CRITICAL ISSUES IN PENOLOGY (1.5-1)  
Prerequisite: None  
A revolving seminar/forum emphasizing current areas of critical concern to corrections personnel. May be repeated for Cochise College credit.  
5-1 hour lecture  

COR 275 CORRECTIONS TRAINING ACADEMY (12)  
Prerequisite: Employment with Arizona Department of Corrections (DOC)  
A survey of the correctional field with emphasis on the acquisition of knowledge, skills, and attitudes necessary for successful employment  
11 hours lecture, 1 hour laboratory  

COR 274A CORRECTIONS TRAINING ACADEMY (3)  
Prerequisite: Employment with Department of Corrections. Acquisition of knowledge, skills, and attitudes necessary for successful employment  
3 hours lecture  

COR 294 CORRECTIONAL INSTRUCTOR CERTIFICATION (1.5)  
Prerequisite: None  
Designed to certify Arizona Department of Corrections Subject Matter Experts (SME) to teach academy and in-service staff training courses. Prepares SME's to use approved curriculum materials and effective teaching techniques.  
1.5 hours lecture  

COUNSELING AND PERSONAL DEVELOPMENT  

CPD 101 COLLEGE SEMINAR (1)  
Prerequisite: None  
A course designed to promote academic success and to instill personal 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 for achieving future goals.  
1 hour lecture  

CPD 103 PERSONALITY AND ADJUSTMENT (3)  
Prerequisite: None  
A study of basic theoretical principles of psychology and their application to human behavior and growth. Emphasis on scientific psychology contributions to more effective professional and personal relationships. Group activities and self-evaluation included.  
1 hour lecture  

CPD 105 CHALLENGE OF PARENTING (3)  
Prerequisite: None  
The application of some basic concepts of effective parenting to more effectively treat the challenges and problems of parenting for the modern American family (Identical With HEC 105).  
1 hour lecture  

CPD 107 STRESS MANAGEMENT (2)  
Prerequisite: None  
A review of the various physiological and psychological approaches to the management of stress, with emphasis upon personal options and methodologies for coping with anxiety and stress.  
2 hours lecture  

CPD 121 CAREER AND LIFE PLANNING (3)  
Prerequisite: None  
An exploration of career opportunities, for assisting students in developing and planning for their chosen career.  
3 hours lecture  

CPD 299 INDIVIDUAL STUDIES (1-4)  
Prerequisite: Approval of the instructor and academic advisor.  
Completion of a research project or an individual course of study under the direction of a faculty member with contract for the individual study arranged upon by the student and the instructor and the student. May be repeated for credit.
DRAFTING

DFT 100 BLUEPRINT INTERPRETATION AND BASIC DRAFTING (3)
Prerequisite: None
Introductory course in blueprint reading and interpretation, basic drafting skills including lettering, sketching, orthographic projection, dimensioning, pictorial drawing, related to mechanical and architectural requirements
2 hours lecture; 4 hours laboratory

DFT 112* TECHNICAL GRAPHICS I (3)
Prerequisite: None
Introductory course in technical drafting including orthographic and axonometric projection, geometric construction, sketching, lettering, dimensioning, section conventions, with emphasis on industrial drafting standards
2 hours lecture; 4 hours laboratory

DFT 113* TECHNICAL GRAPHICS II (3)
Prerequisite: DFT 112
Study of auxiliary and oblique surfaces, intersections, detailing standards, fasteners, materials, and dimensioning with elements of descriptive geometry stressed
2 hours lecture; 4 hours laboratory

DFT 120* SPATIAL RELATIONSHIPS (3)
Prerequisite: DFT 112 or concurrent with
Solution of points, lines and planes, single-curved, double-curved and warped surfaces; Emphasis upon mechanical, civil and mining engineering applications
2 hours lecture; 4 hours laboratory

DFT 150* COMPUTER-AIDED DRAFTING (3)
Prerequisite: DFT 112
An introduction to the computer as a drafting tool. Multi-view, pictorial and electronic drawings will be completed using computer graphics techniques
2 hours lecture; 4 hours laboratory

DFT 170* ILLUSTRATION (3)
Prerequisite: DFT 112 or permission of instructor
A study of illustration and rendering techniques used to describe three-dimensional objects with special emphasis placed on graphic construction and the depiction of shade, shadow and texture to assist the student in graphic communication
2 hours lecture; 4 hours laboratory

DFT 201 TOPICS IN DRAFTING (4)
Prerequisite: DFT 112, 113
A study of drafting related to industrial problems common to machine drafting and electrical mechanical drafting. Emphasis is placed on dimensioning standards, fabrication procedures, cable and wiring diagrams, and detailing
3 hours lecture; 4 hours laboratory

DFT 224 FIELD EXPERIENCE IN DRAFTING (1-6)
Prerequisite: Completion of 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) available by mutual arrangement. May be taken four times for a maximum of 24 credit hours; no more than 6 credits in a given semester
2 hours lecture; 4 hours laboratory

DFT 231* PRODUCT DESIGN (3)
Prerequisite: DFT 112, 120 or concurrent with DFT 201
A study of the design process as applied to industrial design problems. Included are elements of human factors, engineering, mechanical design and systems design as a means to designing industrial design products
2 hours lecture; 4 hours laboratory

DFT 232* DESIGN AND FABRICATION (3)
Prerequisite: DFT 112, DFT 120
An advanced study of design applied to feasibility determination and prototype construction. Included are elements of ergonomics, anthropometry, and systems design. Feasibility is explored through cost estimation and manufacturability inquiry
2 hours lecture; 4 hours laboratory

DFT 241* ENGINEERING DESIGN (4)
Prerequisite: DFT 112, DFT 120, DFT 150
A study of standardized fastening components, including gusseting, and gages with emphasis on design of the various fastening elements. Includes a study of automation for manufacturing applications
3 hours lecture; 5 hours laboratory

DFT 250* COMPUTER-AIDED DRAFTING II (3)
Prerequisite: DFT 112, DFT 150
A continuation of DFT 150 at an advanced level to include three-dimensional construction, pictorial drawings, and complex two-dimensional working drawings. This course also includes an introduction to solid modeling and animation techniques
2 hours lecture; 4 hours laboratory
ECONOMICS

ECN 201 PRINCIPLES OF MACROECONOMICS (3)
Prerequisite: None
A view of the economy at the highest level of aggregation. A study of aggregate supply and demand, gross national product, national income, employment, inflation, banking, and monetary versus fiscal policy with emphasis on household, business, and government sectors.
3 hours lecture

ECN 202 PRINCIPLES OF MICROECONOMICS (3)
Prerequisite: None
A study of individual market interactions. An inquiry into the elasticity of supply and demand, the production function, consumer choice, price theory, utility, and cost behavior as applied to households and businesses under competition, monopoly, and oligopoly market situations.
3 hours lecture

ECN 229 INDIVIDUAL STUDIES (1-4)
Prerequisite: Approval of the division chair and instructor
Completion of a research problem or an outlined course of study under the direction of a faculty member with 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 103 SPECIAL TOPICS IN EDUCATION (1)
Prerequisite: None
A forum/seminar emphasizing topics of current interest to public school and/or community college teachers, paraprofessionals and administrators. Seminars will focus on those topics having practical application for the improvement of classroom instruction and educational management.
1 hour lecture
193A Effectively Dealing with Linguistic Diversity in the Classroom
193B Curriculum Development for a Culturally-Diverse Student Population
193C Content Specific Teaching Strategies for Bilingual and Limited English Proficiency Students
193D A Holistic Approach to Language and Literacy
193E Cooporative Learning
193F Effectively Managing the Educational Institution
193G Professional Development of Instructional Staff
193H Involving Parents and the Community in the Educational Process
193I Minimizing the Adverse Impact of Social Problems
193J Technology and Teaching

EDU 200 THE COMMUNITY COLLEGE (3)
Prerequisite: Instructor certification complete except for this course
A study of the history, philosophy, role, objectives and educational functions of the community college with emphasis on organization, operation, curriculum and instruction at Cochise College in particular and Arizona community colleges in general.
3 hours lecture

EDU 201 INTRODUCTION TO EDUCATION (3)
Prerequisite: ENG 101
An overview of the education profession and the United States Educational System with emphasis upon educational history, current issues and the roles and responsibilities of the teacher.
3 hours lecture

EDU 211 TEACHER COMPETENCY TEST PREPARATION READING (2)
Prerequisites: Sophomore standing in the pre-education program ENG 101, 102, MAT 122 or permission of instructor
Preparation for the sophomore pre-education major to take the reading portion of the Pre-Professional Skills Test (PPST) as required for admittance to Arizona Universities Colleges of Education. The course emphasizes review of essential reading skills and test-taking techniques tailored to individual student needs. May be repeated for Cochise College credit.
3 hours lecture, 3 hours laboratory

EDU 212 TEACHER COMPETENCY TEST PREPARATION MATHEMATICS (5)
Prerequisite: Sophomore standing in the pre-education program, MAT 122 or permission of instructor
Preparation for the sophomore pre-education major to take the mathematics portion of the Pre-Professional Skills Test (PPST) as required for admittance to Arizona Universities Colleges of Education. The course emphasizes review of essential mathematics skills and test-taking techniques tailored to individual student needs. May be repeated for Cochise College credit.
3 hours lecture

EDU 213 TEACHER COMPETENCY TEST PREPARATION ENGLISH (5)
Prerequisite: Sophomore standing in the pre-education ENG 101 and 102 or permission of instructor
Preparation for the sophomore pre-education major to take the English portion of the Pre-Professional Skills Test (PPST) as required for admittance to Arizona Universities Colleges of Education. The course emphasizes review of essential writing skills tailored to individual student needs.
1.5 hours lecture
EDU 224 FIELD EXPERIENCE IN EDUCATIONAL INSTRUCTION (1-6)
Prerequisite: Sophomore standing in the Pre-Ed Program and prior approval of Cooperative Education Program Coordinator.
A supervised internship in a preschool, elementary or secondary educational institution designed to provide the pre-education major with hands-on classroom experience. Number of units determined by the total hours to be spent at the job site in a given semester. May be taken four times for a maximum of 18 units, with a maximum of 6 units per semester.

EDU 290 INSTRUCTOR SKILL DEVELOPMENT (3)
Prerequisite: None
Designed to impart a wide range of teaching skills, concepts, and techniques applicable to adult learning situations. Topics covered include adult learning, training needs, research methodology, instructional objectives, program development, instructional methodology, and evaluation techniques (identical to AJS 290).
3 hours lecture

ELECTRONICS

ELT 100 ELECTRONICS FOUNDATIONS (3)
Prerequisite: MAT 082 or equivalent
An introduction to electronic principles including DC and AC circuits, passive and active circuits, and applications that will give the student a general concept of the electronics field.
3 hours lecture

ELT 101 BEGINNING DIGITAL ELECTRONICS (3)
Prerequisite: None.
A beginning course in digital electronics for students planning to enter the electronics field.
3 hours lecture

ELT 105* INTRODUCTION TO DC CIRCUITS (3)
Prerequisite: ELT 110 or equivalent (MAT 110 may be taken concurrently)
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 108* INTRODUCTION TO AC CIRCUITS (4)
Prerequisite: ELT 105 (ELT 105 may be taken concurrently)
An introduction to alternating current passive circuits, and the application of trigonometry and vectors to circuit solutions.
3 hours lecture, 3 hours laboratory

ELT 107* BASIC COMPUTER PROGRAMMING (3)
Prerequisite: MAT 122
An introduction to computers and the BASIC language with emphasis on the concepts, writing and execution of computer programs, processing of data, and the development of algorithms for the computer solution to problem solving.
2 hours lecture, 3 hours laboratory

ELT 110 MATH FOR ELECTRONICS (3)
Prerequisite: One year of high school algebra or equivalent
A review of arithmetic and the study of algebraic principles necessary to analyze electronic circuitry and provide a firm background for advanced studies. Topics include fractions, decimals, fundamental concepts of algebra, scientific notation, graphing, linear equations, and the solution of DC electric circuits.
3 hours lecture

ELT 120 ADVANCED MATHEMATICS FOR ELECTRONICS (3)
Prerequisite: ELT 110 or equivalent
A study of basic trigonometric relations to electronics with emphasis on network problems and analysis of alternating circuits.
3 hours lecture

ELT 122* SEMICONDUCTORS AND TRANSISTORS (4)
Prerequisite: ELT 106 and ELT 110 or MAT 122
A comprehensive study of semiconductor devices stressing the qualitative and quantitative analysis of semiconductor circuits with major emphasis on DC biasing, small signal analysis of diodes and transistors, load lines, approximate hybrid parameters, and multistage systems.
3 hours lecture, 3 hours laboratory

ELT 125* ELECTRONIC CIRCUITS AND SYSTEMS (4)
Prerequisite: ELT 105, ELT 106 and concurrent enrollment in ELT 120 or equivalent
A study of large signal diode and filter analysis, voltage and current regulators, with emphasis on the feedback concept as an amplifier, the Miller effect, frequency response and feedback.
3 hours lecture, 3 hours laboratory
ELT 224 FIELD EXPERIENCE IN ELECTRONICS (1-6)
Prerequisite: Sophomore standing in a declared major and prior approval of Cooperative Education Program Coordinator.
A supervised Cooperative Education work experience involving the combined efforts of educators and employers to accomplish career objectives in electronics. Variable credit (1-6) is available by special arrangement. May be taken four times for a maximum of 16 credit hours, no more than 6 units in a given semester.

ELT 231* PULSE CIRCUITS (4)
Prerequisite: ELT 122
A study of waveforms, RC and RL networks, passive and active pulse circuitry, diode and transistor switching circuits, nonlinear waveshaping and multivibrators
3 hours lecture, 3 hours laboratory

ELT 233* DIGITAL CIRCUITS AND SYSTEMS (4)
Prerequisite: ELT 122
A study of number systems, Boolean algebra, combinational and sequential logic, circuits and systems
3 hours lecture, 3 hours laboratory

ELT 243* MODERN ELECTRONIC DEVICES (4)
Prerequisite: ELT 122
A study of the characteristics of differential and operational amplifiers, applications, and analysis of practical op amp circuits, photoconductive and photovoltaic devices, unjuction transistors, silicon controlled rectifiers, and selected materials covering other electronic devices
3 hours lecture, 3 hours laboratory

ELT 245* COMMUNICATION ELECTRONICS I (4)
Prerequisite: ELT 120, 122, 125
The application of qualitative and quantitative theoretical concepts to practical communications circuits AM and FM receiver systems, voltage and power amplifiers, feedback, oscillators, resonance, filters, coupling, frequency synthesizers and phase lock techniques are studied
3 hours lecture, 3 hours laboratory

ELT 247* COMMUNICATION ELECTRONICS II (4)
Prerequisite: ELT 245
A continuation of Communication Electronics I, including AM transmitters, frequency modulation systems, transmission lines, antennas and propagation. Laboratory emphasis on the use of electronic test equipment in the analysis and adjustment of receivers and transmitters.
3 hours lecture, 3 hours laboratory

ELT 255* MICROPROCESSORS AND MICROCOMPUTERS (4)
Prerequisite: ELT 233
An introduction to the architecture of microprocessors and the organization, programming, interfacing, and control application of microcomputers
3 hours lecture, 3 hours laboratory

ELT 270 MICROCOMPUTER SYSTEMS (4)
Prerequisite: ELT 233 and concurrent enrollment in ELT 265
Analysis of small computer systems. Computer organization and the hardware and software required for peripheral interfacing
3 hours lecture, 3 hours laboratory

EMERGENCY MEDICAL TECHNOLOGY

EMT 101 FIRST RESPONDER TRAINING (2)
Prerequisite: None
A practical study of the role of the first responder as a provider of immediate emergency medical care with emphasis upon evaluating accidents, patient assessment, CPR, emergency care for internal and external injuries, emergency childbirth, poison and drugs, and the minimization of further injury and complications
2 hours lecture, 1 hour laboratory

EMT 174* EMERGENCY MEDICAL TECHNOLOGY (6-7)
Prerequisite: None
Provides the student with preparation for vocational work as an ambulance attendant and is required by the Arizona Department of Health Services for certification. The course also prepares the students for industrial OSHA and virtually any other occupational safety standards certification. Students wishing certification must complete the state mandated hours of clinical experience in a hospital emergency room. The course covers basic knowledge of the symptoms of illness and injury, the concurrent procedures considered the responsibility of the Emergency Medical Technician and the basic legal responsibilities, anatomy and physiology, triage, CPR and life-support system
6-7 hours lecture, 1 hour laboratory
EMT 175* EMERGENCY MEDICAL TRAINING REFRESHER (2)
Prerequisite: EMT 174
A refresher course to maintain and update Emergency Medical Technical skills. May be repeated as required for recertification.
2 hours lecture, 1 hour laboratory

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

ENG 001 STUDY SKILLS (1)
Prerequisite: None
A review of basic techniques for success in college, including practical exercises in listening to 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)
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)
Prerequisite: None.
A review of spelling fundamentals helps freshmen conceptualize words used in various content fields as well as basic functions words for college writing. A review of basic phonetics, common roots, silent consonants and vowel blends introduces strategies for learning to visualize English spelling. The one unit module can be included in the Reading Improvement Block or taught individually by student contract through the Student Development Center.
1 hour lecture.

ENG 005 EXPLORING YOUR LANGUAGE IMAGE (3)
Prerequisite: None. Placement based on writing sample with reading grade level score between 5 and 6 on a standardized test, or instructor recommendation following first diagnostic essay in ENG 010. Not designed for transfer.
A whole language approach to learning. Students will write using a word processor. Instructors will diagnose students' use of non-standard grammar, usage and spelling and assign appropriate exercises and tutorials. Student tutors may work with students during the brainstorming and editing processes.
3 hours lecture, 2 hours laboratory

ENG 010 ENGLISH FUNDAMENTALS (3)
Prerequisite: Completion of ENG 005 with a grade of 'C' or better, or placement on diagnostic essay with reading grade level score of 8.0 on a standardized placement exam. Not designed for transfer.
A review of standard oral and written English that continues the remedial sequence begun in ENG 005 focusing on phonetics for spelling/vocabulary, grammar/usage/punctuation, studying a text, and reading/writing/responding to short essays and fiction. ENG 010 is a more traditional approach to instruction than is ENG 005.
3 hours lecture.

ENG 011 WRITTEN MILITARY COMMUNICATIONS AND REPORTS (1)
Prerequisite: Determined by U.S. Army
Development of the skills of effective written communications and reports with emphasis on accuracy, brevity and clarity. Assignments will consist of military reports and correspondence normally written by junior officers.
1 hour lecture.

ENG 019 TRANSITIONAL READING (3-4)
Prerequisite: ESL 034 or placement test score
A course designed for ESL students beginning regular college classes and for lower level readers of English. Emphasis on basic, literal comprehension, vocabulary building and reading rate improvement. Upon completion, the student will read at the 6.0 reading level or equivalent as measured by a standardized reading test (Identical with RDG 019).
3 hours lecture, 1-2 hours laboratory

ENG 020 READING FUNDAMENTALS (3)
Prerequisite: None.
A review of basic skills for college reading emphasizing content, vocabulary growth, improved rate of comprehension in various materials. Review of phonetic rules applied to English spelling, dictionary and library use complementing general study skills. Designed to be taught three hours weekly, with ENG 001 Study Skills and ENG 004 Spelling Improvement as the basic skills block for all freshmen testing below grade level 11.5 on the Nelson-Denny placement test.
3 hours lecture
ENG 022 INDIVIDUALIZED READING (3)
Prerequisite: ENG 020
A continuation of reading ENG 020 for second semester students whose Nelson-Denny scores remain below 121. Individualized approaches to reading for mature adults, part-time evening vocational students or those who wish to concentrate on selected aspects of literal and critical comprehension while developing higher level thinking skills using college vocabulary.
3 hours lecture.

ENG 092 ENGLISH FOR OCCUPATIONS (1)
Prerequisite: Concurrent enrollment in ENG 012, 013, or 014 or permission of instructor.
Intensive practice with English vocabulary and specialized terminology useful in the workplace.
2 hours laboratory.

ENG 094 INTRODUCTION TO TRANSLATION AND INTERPRETATION (1)
Prerequisite: Concurrent enrollment in ESL 014 or permission of instructor.
An introduction to basic concepts and procedures useful in translation and interpretation between Spanish and English. Experience working with both general language and materials in the student's occupational specialty.
2 hours laboratory.

ENG 100 INTERMEDIATE WRITING (3)
Prerequisite: Completion of ENG 010 with a grade of C or better, or appropriate placement based on the diagnostic essay, with a reading level score of 9.0 on a standardized test.
A review of vocabulary/homophones, paragraph construction, with emphasis on clear, correct writing/editing paragraphs and two page papers. Introduction to college level style/research techniques, general review of grammar/usage/punctuation, and analysis of short fiction.
3 hours lecture.

ENG 101 COMPOSITION (3)
Prerequisite: ENG 100 with a grade of C or better, or equivalent placement score on diagnostic essay, a college reading level of 11.0 demonstrated on a standardized placement exam, keyboarding skills.
A thorough review of usage and syntax, study of and practice in the process of writing, methods of organization, expository patterns, and the documented paper based on library resources.
3 hours lecture.

ENG 102 ENGLISH COMPOSITION (3)
Prerequisite: ENG 020 or its equivalent.
A continuation of ENG 021 with special emphasis on the techniques involved in writing argument, persuasion, and literary analysis.
3 hours lecture.

ENG 104 INTRODUCTION TO LITERATURE (3)
Prerequisite: ENG 102 or its equivalent or ENG 101 and permission of instructor.
A study of major literary genres: drama, poetry, fiction, criticism. Emphasis on writing critically about literature.
3 hours lecture.

ENG 106 INTERMEDIATE WRITING FOR FOREIGN STUDENTS (3)
Prerequisite: Placement by the English 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)
Prerequisite: ENG 106 or ENG 100, or recommendation from placement testing.
College composition course for non-native speakers of English, with emphasis on writing about prose readings, summary and analysis, documentation, library research methods, and writing a research paper.
3 hours lecture.

ENG 108 ENGLISH COMPOSITION FOR FOREIGN STUDENTS II (3)
Prerequisite: ENG 107 or ENG 101.
A continuation of ENG 107 with emphasis on argumentation and persuasion and an introduction to the research paper for students whose native language is not English.
3 hours lecture.
ENQ 108 WRITTEN COMMUNICATIONS AND REPORTS (3)
Prerequisite: ENG 101 or permission of instructor.
Development of the skills of effective written communications and reports with emphasis on clarity and accuracy. Assignments will be individualized by occupational discipline. 3 hours lecture.

ENQ 110 CRITICAL THINKING (3)
Prerequisite: ENG 101 or permission of instructor. This course is designed to help students develop the critical thinking skills necessary for success in all academic disciplines. 3 hours lecture.

ENQ 111 GRAMMAR, USAGE AND PUNCTUATION (3)
Prerequisite: ENG 100, or 101 or 106 or 107 or permission of instructor. A general review of modern English punctuation, grammatical structure, diction and modern American English usage. 3 hours lecture.

ENQ 112 CHILDREN'S LITERATURE (3)
Prerequisite: None. An introduction to children's literature and the qualities that make it appealing to children of various ages. The course will include an examination of literature as reflected in childhood. 3 hours lecture.

ENQ 114 THE RESEARCH PAPER (1)
Prerequisite: ENG 020 or its equivalent. A course in 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.

ENQ 115 THE GENEALOGY OF ENGLISH WORDS (3)
Prerequisite: None. Designed to assist the student to increase his command of modern English. Emphasis is primarily on words derived from Latin etymological meanings and modern meanings will be considered along with semantic and phonetic changes. 3 hours lecture.

ENQ 116 GENEALOGY OF ENGLISH WORDS (3)
Prerequisite: None. Designed to assist the student to increase his command of modern English emphasizing words derived from Greek. Etymological meanings and modern meanings will be considered along with semantic and phonetic changes. ENG 115 is not a prerequisite to 116. 3 hours lecture.

ENQ 119 CREATIVE WRITING (3)
Prerequisite: ENG 101 and ENG 102. An introduction to creative writing and poetry. Short stories and student work to model and critique. 3 hours lecture.

ENQ 167 BUSINESS ENGLISH COMMUNICATIONS (3)
Prerequisite: ENG /OAD 111 or ENG/CIS 179 or permission of instructor. A study of business communications prepared in a business organization, typical internal and external communication (letters, memos, and reports) with emphasis on applying English fundamentals, usage, syntax and methods of organization. Same as BUS 167 and OAD 167. 3 hours lecture.

ENQ 177 APPLIED TECHNICAL WRITING (3)
Prerequisite: ENG 100 (C or better) or placement into ENG 101 College level reading. An applied skill course on writing clear, organized reports and communications. Assignments will stress the processes and products for reporting technical information with emphasis on writing mechanics/syntax, forms/formats and technical style. Same as CIS 179. 3 hours lecture.

ENQ 192 SPECIAL TOPICS IN LANGUAGE AND LITERATURE (.5-1)
Prerequisite: None. A rotating forum/seminar emphasizing linguistic development and change, regional literature, literary styles, folklore and related topics. Topics will vary in accordance with changes in student need and interest. Co-chance College elective credit only unless otherwise designated in degree programs.

ENQ 192A Word Foraging
ENQ 192B True Tales and Tall Tales of Southwestern Indians
ENQ 192C High Speed Reading
ENQ 192D Stories of the Old West
ENQ 192E Satire, Irony and Humor
ENQ 192F Linguistic History of the English Language
ENQ 192G Evolution of a Hero: Prince Hal to Hamlet
ENQ 192H Books and People
1/2-1 hour lecture

ENQ 203 ADVANCED COMPOSITION (3)
Prerequisite: ENG 102 or permission of instructor. An introduction to writing critically about literature with analysis of various literary genres. Credit for ENG 104 will not be granted if the student has taken ENG 203. 3 hours lecture.
ENG 208 CRITICAL WRITING (3)
Prerequisite: ENG 101 and 102 or permission of instructor with placement test score of grade level 12 on Nelson-Denny Test
A study of composition as an analytical, interpretative process requiring the student to make rational judgments based on valid criteria. For students who wish to pursue further composition and reading skills, to prepare for upper division writing at the university level, or to improve critical thinking skills
3 hours lecture.

ENG 209 INTRODUCTION TO POETRY (3)
Prerequisite: ENG 101 or equivalent or permission of instructor
A survey of selected traditional, modern, and contemporary poetry designed to promote a sensitive reading, appreciation, and understanding of poetry. Emphasis on the ordering of language by which poetry brings into being patterns of thought and feeling which release meaning. Some works will be explored in depth through analysis and discussion
3 hours lecture.

ENG 210 THE BIBLE AS LITERATURE (3)
Prerequisite: None.
A study of the Bible as a work of literature emphasizing historical development, types of literature, allusions, impact upon later writers and the literary expression of cultural values
3 hours lecture.

ENG 219 ADVANCED CREATIVE WRITING (3)
Prerequisite: ENG 101, 102, 119 or permission of instructor
The second semester of a one-year creative writing sequence beginning with ENG 119. It will address advanced student projects in prose and poetry. Students will continue to be exposed through readings and lectures to the best in American, British, and Continental literature
3 hours lecture.

ENG 220 BRITISH LITERATURE I (3)
Prerequisite: ENG 101.
A survey of the major authors from the beginnings to the eighteenth century. Need not be taken in sequence, with ENG 221
3 hours lecture

ENG 221 BRITISH LITERATURE II (3)
Prerequisite: ENG 101.
A survey of major authors from the beginning of the eighteenth century to the present. Need not be taken in sequence, with ENG 220
3 hours lecture

ENG 222 INTRODUCTION TO SHAKESPEARE (3)
Prerequisite: Six units of freshman English
An introduction to the major comedies, histories, and tragedies of Shakespeare
3 hours lecture

ENG 224 AMERICAN LITERATURE I (3)
Prerequisite: ENG 101
A survey of major American authors from the colonial period to 1860, including the works of Hawthorne, Poe, Melville, and Emerson
3 hours lecture

ENG 225 AMERICAN LITERATURE II (3)
Prerequisite: ENG 101
A survey of major American authors from 1860 to the present, including works of Whitman, Twain, Frost, and Faulkner
3 hours lecture

ENG 226 WORLD LITERATURE (3)
Prerequisite: Six units of freshman English or permission of instructor
A study of some of the master works of world literature through the Renaissance, including selections by Homer, the Greek tragic writers, Virgil, Dante, Chaucer, Cervantes, and Shakespeare
3 hours lecture

ENG 227 WORLD LITERATURE (3)
Prerequisite: Six units of freshman English or permission of instructor
A study of eight major literary works from the Renaissance to the present, including selections of Voltaire, Goethe, Stendahl, Dickens, Dostoevsky, Turgenev, Flaubert, and Mann. ENG 226 is not a prerequisite to ENG 227
3 hours lecture

ENG 228 MYTHOLOGY AND FOLKLORE (3)
Prerequisite: ENG 101 or permission of instructor
A survey of beliefs and customs from ancient Greece to the present with emphasis on folk beliefs, legends, myths and folk tales from various cultures
3 hours lecture

ENG 255 MAJOR AMERICAN WRITERS (3)
Prerequisite: ENG 102
An exploration of selected works by major American authors from the last century to the present
3 hours lecture, discussion
ENGG 279* ADVANCED APPLIED TECHNICAL WRITING (3)
Prerequisite: CIS/ENG 179
An applied skills course on writing effective, clear, technical reports and communications with confidence, skill, and flair. Emphasis on using appropriate processes and products for reporting technical information. Industry-standard writing mechanics/syntax, forms/formats and technical style are stressed. Same as CIS 279.
3 hours lecture.

ENGG 299 INDIVIDUAL STUDIES (1-4)
Prerequisite: Approval of the division chair and instructor
Completion of a research problem or an outlined course of study under the direction of a faculty member with 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)
Prerequisite: Recommendation from placement testing
An introduction to reading and writing English for non-literate, non-native speakers of English who need an Adult Basic Education approach to the alphabet, English phonetics, and how to read print and to form words into basic English sentences
3 hours lecture.

ESL 011 WORKPLACE ENGLISH I (3)
Prerequisite: Recommendation from placement testing
Beginning-level practice communicating in English with emphasis on those elements of language most useful in the workplace
3 hours lecture.

ESL 012 WORKPLACE ENGLISH II (3)
Prerequisite: Recommendation from placement testing and/or completion of ESL 011 with a grade of C or better within the preceding six months
High-beginner/lower-intermediate level practice communicating in English with emphasis on those elements of language most useful in the workplace
3 hours lecture.

ESL 013 WORKPLACE ENGLISH III (3)
Prerequisite: Recommendation from placement testing and/or completion of ESL 012 with a grade of C or better within the preceding six months
Low-intermediate to intermediate practice communicating in English with emphasis on those elements of language most useful in the workplace
3 hours lecture.

ESL 014 WORKPLACE ENGLISH IV (3)
Prerequisite: Recommendation from placement testing and/or completion of ESL 013 with a grade of C or better within the preceding six months
High-intermediate practice communicating in English with emphasis on those elements of language most useful in the workplace
3 hours lecture.

ESL 024* SPEAKING AND UNDERSTANDING ENGLISH I (3-4)
Prerequisite: Recommendation from placement testing
This course is designed as a study of beginning grammar, vocabulary and listening comprehension with controlled conversation. Language laboratory reinforcement of aural/oral patterns is also provided.
3-4 hours lecture.

ESL 025* SPEAKING AND UNDERSTANDING ENGLISH I (3-4)
Prerequisite: Recommendation from placement testing
This course is designed as a study of beginning grammar, vocabulary and listening comprehension with controlled conversation. Language laboratory reinforcement of aural/oral patterns is also provided.
3-4 hours lecture.

ESL 026* SPEAKING AND UNDERSTANDING ENGLISH I (6-8)
Prerequisite: Recommendation from placement testing
This course is designed as a study of beginning grammar, vocabulary and listening comprehension with controlled conversation. Language laboratory reinforcement of aural/oral patterns is also provided.
6-8 hours lecture.

ESL 027* SPEAKING AND UNDERSTANDING ENGLISH I (6-8)
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.
6-8 hours lecture.
ESL 028 READING ENGLISH I (3-4)
Prerequisite: Placement through the English Immersion Program based on scores from the Michigan English Placement Test & Nelson Reading Test
An introduction to basic reading skills with an emphasis on structural reinforcement, vocabulary development, and comprehension for students whose native language is not English.

ESL 029 ELEMENTARY WRITING SKILLS (3-4)
Prerequisite: Placement through the English Immersion Program based on scores from the Michigan English Placement Test and a writing sample
An introduction to written sentence patterns and paragraph development in English for students whose native language is not English.

ESL 030 READ AND WRITE ENGLISH II (3-4)
Prerequisite: ESL 029 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 II (3-4)
Prerequisite: ESL 027 or recommendation from placement testing.
A review of basic English grammatical structures and a presentation of more advanced structures, and an expansion of listening comprehension skills with conversation and reinforcement of skills with aural/oral practice for students whose native language is not English.

ESL 032 READING ENGLISH III (3-4)
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)
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 for students whose native language is not English.

ESL 034 READING ENGLISH IV (3-4)
Prerequisite: ESL 032 or recommendation from placement testing.
A course designed to improve reading comprehension, expand vocabulary, develop basic reading skills, and teach basic study skills for students whose native language is not English.
3 hours lecture; 2 hours individualized instruction.

ESL 035* SPEAKING AND UNDERSTANDING ENGLISH III (3-4)
Prerequisite: ESL 031 or recommendation from placement testing.
A review of basic English grammatical structures, a presentation of advanced structures, and an expansion of listening comprehension skills with conversation and reinforcement of skills with aural/oral practice for students whose native language is not English.

ESL 040* USING AND READING ENGLISH I (6-8)
Prerequisite: No previous English necessary. Placement is determined by test administered by the English Immersion Program staff.
Designed for students who have little or no knowledge of English. Introduction to the sounds of English, the structure of English as used in simple sentences and questions, and elementary vocabulary, with practice.

ESL 041* LAB FOR USING AND READING ENGLISH I (2)
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, dramatic activities, speaking exercises, and exercises using computers or audio/visual media.

ESL 042* USING AND READING ENGLISH II (6-8)
Prerequisite: ESL 040 or placement by the English Immersion staff.
A continuation of ESL and Reading English I. Covers grammar, reading, vocabulary, and listening exercises at the lower intermediate level. Activities at this level are more advanced than ESL 040.
ESL 043* LAB FOR USING AND READING ENGLISH II (2)
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 using computers or audio/visual media in conjunction with special projects.

ESL 044* USING AND READING ENGLISH III (6-8)
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 comprehensions at the high intermediate level, with more advanced activities than the ESL 042.

ESL 045* LAB FOR USING AND READING ENGLISH III (2)
Prerequisite: ESL 044 (concurrently or permission of 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 using computers or audio/visual media in conjunction with special projects.

ESL 046* USING AND READING ENGLISH IV (6-8)
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)
Prerequisite: ESL 046 (concurrently or permission of 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 using computers or audio/visual media in conjunction with special projects.

ESL 091 PRONOUNCING ENGLISH (1)
Prerequisite: Recommendation from placement testing. Concurrent enrollment in ESL 011, 012, 013, or 014
Introduction to the sounds, rhythm, stress patterns, and intonation of English, with emphasis on those aspects of the oral language which make it easier to understand and to be understood.
2 hours laboratory.

ESL 100 ACADEMIC SKILLS (3)
Prerequisite: Placement testing (ASSET or other College-approved testing instrument).
A course designed to develop and integrate students' academic language proficiency and study skills through tasks which simulate the American college classroom. Emphasis is on note-taking from lectures and texts, previewing and reviewing research, asking questions and participating in discussions. Recommended concurrent enrollment in COM 100.
3 hours lecture, 2 hours individualized instruction.

ESL 193 CURRENT TOPICS IN ESL (1)
Prerequisite: None
A rotating forum/seminar on various English as a Second Language (ESL) skills or topics such as pronunciation and business or aviation ESL. Topics will vary in accordance with changes in student need and interest. May be repeated for Cochise College credit. Cochise College elective credit only unless otherwise designated in degree programs.
1 hour lecture.
193A English Pronunciation
193B English in Business Contexts
193C Intercultural Communication
193D American Idioms
193E A Rapid Review of English Grammar
193F Computer Nomenclature for ESL Students

ENVIRONMENTAL STUDIES

EVS 101 GENERAL ENVIRONMENTAL STUDIES (3)
Prerequisite: None
A general study of man's impact upon the environment, its pollution problems, and possible solutions to current dilemmas related to population and basic ecological principles.
3 hours lecture and discussion.

EVS 110 WILDERNESS PROBLEMS (3)
Prerequisite: None
Focuses upon the philosophy of the wilderness movement, the Wilderness Act of 1964, the Endangered Species Act, the Environmental Policy Act, and the current U.S. Wilderness system with special emphasis on Cochise County.
3 hours lecture.
EVS 111 WILDLAND ECOLOGY (3)
Prerequisite: None.
A seven-day field course designed to familiarize the student with Southwestern ecosystems, their flora and fauna components, and their conservation through direct experience and scientific observation including study of field journal methods, measurements, and management objectives on-site in the outdoors. Students must furnish their own sleeping bags, backpack, food and personal hygiene needs.
1 hour lecture; 3 hours laboratory.

EVS 193 SPECIAL TOPICS IN ENVIRONMENTAL STUDIES (1.5)
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.

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<tr>
<th>Course Code</th>
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<tr>
<td>192A</td>
<td>OSHA Hazmat and Emergency Response Refresher</td>
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<td>192B</td>
<td>Asbestos Awareness</td>
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<tr>
<td>192C</td>
<td>Lead Awareness - In Paint, Soil, and Water</td>
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<tr>
<td>192D</td>
<td>Confined Space Safety/Rescue</td>
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<tr>
<td>192E</td>
<td>State Water/Wastewater Operator Certification</td>
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<td>192F</td>
<td>Respiratory Protection</td>
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EVS 193 SPECIAL TOPICS IN ENVIRONMENTAL STUDIES (1)
Prerequisite: None.
A rotating forum/seminar emphasizing environmental topics of current interest to public and private service organizations. Includes seminars based upon E.P.A. and O.S.H.A. regulations 1 hour lecture.

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<td>193B</td>
<td>Basic Wastewater Treatment</td>
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<td>193C</td>
<td>Safety Management for Health Care Professionals</td>
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FIRE SCIENCE

FST 101 INTRODUCTION TO FIRE SCIENCE (3)
Prerequisite: None.
A study of the historical and scientific background of the fire protection field. Includes a review of the history and future role of fire protection; governmental, industrial, and private fire protection organizations and employment/promotional opportunities presently available in the fire protection field. Modern methods in fire prevention and protection also will be explored.
3 hours lecture.

FST 106 FUNDAMENTALS OF FIRE PREVENTION (3)
Prerequisite: None
A survey of the basic principles of fire prevention with special emphasis on fire detection and extinguishing systems and the interpretation and enforcement of fire regulations. Includes the story of hazards associated with heating equipment and building design as well as chemicals and explosives.
3 hours lecture.

FST 110 FIRE FIGHTER I (6)
Prerequisite: None
An introduction to the operations and individual skills involved in the extinguishment of fire. Completion of this course will prepare the student for certification as Firefighter I by the Office of the State Fire Marshall.
6 hours lecture.

FST 111 FIRE FIGHTER II (6)
Prerequisite: FST 110 or permission of the instructor.
A continuation of Fire Fighter I with emphasis on fire hydrants and pumps, use of ropes, ventilation, salvage, forcible entry tools, rescue techniques and record keeping in the fire service workplace. Completion of this course will qualify the student to take the Firefighter II certification exam through the State Fire Marshall's office.
6 hours lecture.

FST 120 FIRE SERVICE HYDRAULICS (3)
Prerequisite: FST 110, FST 111 or permission of the instructor.
A review of basic math, hydraulic laws and formulas as applied to the fire service with emphasis upon the application of formulas and mental calculations to hydraulic problems, water supply problems, underwriters requirements and pumpers.
3 hours lecture.

FST 193 SPECIAL TOPICS IN FIRE SCIENCE (1)
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.

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<td>Fire Science Supervision Increasing Personal Effectiveness</td>
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<td>193C</td>
<td>Fire Science Supervision Increasing Team Effectiveness</td>
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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)**
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)**
Prerequisite: FST 110 and 111 or permission of instructor

A practical study of life-saving practices pertaining to the fire company. Emphasis is placed on training for resuscitator squads, rescue equipment, the fire department's role in Civil Defense and other disasters, chemicals and diseases that affect breathing, and breathing apparatus.

3 hours lecture.

**FST 224 FIELD EXPERIENCE IN FIRE SCIENCE TECHNOLOGY (1-6)**
Prerequisite: Sophomore standing in a declared major and prior approval of Cooperative Education Program Coordinator.

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

**FST 240 FIRE FIGHTING TACTICS AND STRATEGY (3)**
Prerequisite: FST 110 and FST 111 or permission of the instructor.

A practical study of the organization and use of manpower, equipment and apparatus in fire fighting with emphasis on practical methods of attacking, controlling and extinguishing various types of fires.

3 hours lecture.

**FST 260 FIRE INVESTIGATION (3)**
Prerequisite: Current employment with a fire department or law enforcement agency or permission of instructor.

A practical introduction to accidental, suspicious, and incendiary fire cause determination with special emphasis on arson and incendiarism as well as appropriate procedures for handling each situation.

3 hours lecture.

**FST 265 SUPERVISORY TRAINING FOR FIREFIGHTERS (3)**
Prerequisite: FST 110 and FST 111 or permission of the instructor

A study of administrative methods and practices as applied to the fire service, including departmental organization, and personnel management. Emphasis is placed on employee-selection procedures, employee discipline, performance evaluations, elements of supervision, labor relations, fire service planning and relationships with other organizational units.

3 hours lecture.

**FOOD AND NUTRITION**

**FON 101 NUTRITION (3)**
Prerequisite: None

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

3 hours lecture.

**FRENCH**

**FRE 101 ELEMENTARY FRENCH (4)**
Prerequisite: None

For beginning students. conversation, comprehension of the spoken language, pronunciation, grammar, reading and composition.

4 hours lecture, 1 hour laboratory.

**FRE 102 ELEMENTARY FRENCH (4)**
Prerequisite: FRE 101 or permission of instructor based on demonstrated competence

Continuation of FRE 101 with further development of conversation, grammar, reading and composition. Stress on language use and vocabulary development.

4 hours lecture, 1 hour laboratory.
FRE 201 INTERMEDIATE FRENCH (4)
Prerequisite: FRE 102 or three years of high school French with a grade of C or equivalent competency
A review of grammar, pronunciation, and development of patterns of speech in French, with additional practice in reading, writing, speaking, and understanding the language. Supplemental readings and assignments to enrich the student's vocabulary.
4 hours lecture, 1 hour laboratory

FRE 202 INTERMEDIATE FRENCH (4)
Prerequisite: FRE 201 or equivalent competency as demonstrated by placement examination
A review of grammar, pronunciation, and development of patterns of speech in French, with additional practice in reading, writing, speaking, and understanding the language. Supplemental readings and assignments to enrich the student's vocabulary.
4 hours lecture, 1 hour laboratory.

GENERAL TECHNOLOGY
The following classes, GET 103, 104, 108, 123, and 240 were designed specifically for the Arizona Department of Corrections in Douglas.

GET 103 BASIC ELECTRONIC CIRCUITS AND DIAGNOSTICS (3)
Prerequisite: None
A course designed to develop student proficiency in diagnosing basic electronic circuits, defective components, and in performing repair procedures for basic series, parallel and series/parallel circuits using appropriate supplies and test equipment to facilitate repairs.
3 hours lecture plus individualized laboratory instruction

GET 104 DIRECT CURRENT CIRCUIT DIAGNOSTICS (3)
Prerequisite: GET 103
A comprehensive course designed to make the student proficient in diagnosing complex direct current circuits and defective components, and in performing repair procedures for complex series, parallel, and series/parallel circuits using appropriate test equipment and supplies to facilitate repairs. Use schematic diagrams as a diagnostic tool. Learn how components are made and how to select the proper replacement or substitution part.
3 hours lecture plus individualized laboratory instruction

GET 108 ALTERNATING CURRENT CIRCUIT DIAGNOSTICS (4)
Prerequisite: GET 104
A comprehensive course designed to make the student proficient in diagnosing complex alternating current circuits, defective components, and in performing repair procedures for complex series, parallel, and series/parallel circuits using appropriate test equipment and supplies to facilitate repairs. Use schematic diagrams as a diagnostic tool. Learn how components are made and how to select the proper replacement or substitution part.
4 hours lecture plus individualized laboratory instruction

GET 123 SEMICONDUCTOR DEVICE DIAGNOSTICS AND REPAIR (4)
Prerequisite: GET 108
A comprehensive course designed to make the student proficient in diagnosing simple and complex semiconductor device circuits, defective components, and in performing repair procedures using appropriate test equipment and supplies. Use schematic diagrams as a diagnostic tool. Learn how components are made and how to select the proper replacement or substitution part.
4 hours lecture plus individualized laboratory instruction

GET 240 ELECTRONIC SYSTEMS DIAGNOSTICS AND REPAIR (6)
Prerequisite: GET 123
A comprehensive course designed to make the student proficient in diagnosing power supplies, amplifiers, oscillators, digital and microprocessor circuits, and in using schematic diagrams as diagnostic tools, locating defective components, selecting proper replacement part, and in performing repair procedures using appropriate test equipment, tools and supplies, and in performing system checks to verify proper operation, and that repairs were successful.
4 hours lecture plus 4 hours of individualized laboratory instruction

GENERAL TECHNOLOGY

GTC 001 HOME MAINTENANCE (3)
Prerequisite: None
A "do it yourself" home maintenance course covering use of common hand and power tools for routine electrical, carpentry, plumbing repairs. May be repeated for AA credit.
1 hour lecture, 3 hours laboratory.
GTC 002 GENERAL TECHNICAL MATH I (1)
Prerequisite: Math placement test scores below requirements for successful completion of MAT 072 and low for successful completion of MAT 005.
A general technology arithmetic course in an open entry/open exit format emphasizing drill in computation skills and techniques. Includes basic operations with whole numbers and addition of fractions using terminology of different technologies. Completion of the GTC 002/003/004 sequence is equivalent to MAT 005.
1 hour lecture.

GTC 003 GENERAL TECHNICAL MATH II (1)
Prerequisite: GTC 002.
A general technology arithmetic course in an open entry/open exit format emphasizing drill in skills and techniques of computation. Includes basic operations with fractions and decimals using terminology of different technologies. Completion of the GTC 002/003/004 sequence is equivalent to MAT 005.
1 hour lecture.

GTC 004 GENERAL TECHNICAL MATH III (1)
Prerequisite: GTC 003.
A general technology arithmetic course in an open entry/open exit format emphasizing drill in skills and techniques of computation. Includes basic operations and applications of decimals, ratio, proportion, and percent using terminology of different technologies. Completion of the GTC 002/003/004 sequence is equivalent to MAT 005.
1 hour lecture.

GTC 005 READ-STUDY SKILLS (1)
Prerequisite: GTC 002.
Tutorial for pre-vocational students functioning below grade level B. A review of reading comprehension necessary to a vocational program. Required competencies include study strategies for textbooks, vocabulary, interpreting visuals, writing related to study assignments, and exams.
1 hour lecture.

GTC 006 WORD ID-SPELLING (1)
Prerequisite: Recommendation by a counselor or vocational program advisor to the Student Development Center Director for individualized instruction. The class may be repeated once for credit.
Introduction to basic decoding/spelling rules with application for adults functioning below grade level 7-0 on a standardized placement test indicating a need for phonetic/structural analysis.
1 hour lecture.

GTC 007 GENERAL TECHNICAL MATH IV (1)
Prerequisite: Indicated in arithmetic deficiency.
A general technology arithmetic course in an open entry/open exit format emphasizing drill in computational skills and techniques. Includes fundamental math operations with whole numbers, fractions, and prime factorization. Completion of the GTC 007/008/009 sequence is equivalent to MAT 072.
1 hour lecture.

GTC 008 GENERAL TECHNICAL MATH V (1)
Prerequisite: GTC 007.
A general technology arithmetic course in an open entry/open exit format emphasizing drill in computational skills and techniques. Includes basic operations with fractions, decimals, ratio, and proportion. Completion of the GTC 007/008/009 sequence is equivalent to MAT 072.
1 hour lecture.

GTC 009 GENERAL TECHNICAL MATH VI (1)
Prerequisite: GTC 008.
A vocationally oriented basic arithmetic course in an open entry/open exit format emphasizing drill in skills and techniques of computation. Includes operations with percentages and signed numbers. Also emphasized are conversions within and between English and Metric systems of measurement. Completion of the GTC 007/008/009 sequence is equivalent to MAT 072.
1 hour lecture.

GTC 012 GENERAL AUTOMOTIVE MECHANICS I (3)
Prerequisite: None.
Automotive maintenance and repair including tune-up, electrical systems, fuel systems, cooling systems, lubrication systems, and oil, transmissions, and clutches, brake systems and accessories, such as air conditioning.
2 hour lecture, 3 hours laboratory.

GTC 014 KNOW YOUR AUTOMOBILE (3)
Prerequisite: None.
A course to develop entry level automotive skills. This is classroom theory and supporting laboratory experience for basics of engine operation, powertrain operation, use of tools, care and selection of tires, use of jack, changing tires, lubrication system service, checking of all fluid levels, cooling system and minor service, use of repair manuals, brake system theory and minor service, repack wheel bearings, fuel system theory and very minor service, basics of electricity, basics of battery, starter and charging system theory, ignition system service, diagnosis—what to do if the car won't start, selecting a used car.
3 hours lecture.
GTC 016* BASIC AUTO REFRIGERATION (3)
Prerequisite: None
Basic application of theory of refrigeration and techniques of servicing automotive air conditioners.
1 hour lecture, 4 hours laboratory

GTC 017* ADVANCED AUTOMOBILE REFRIGERATION (3)
Prerequisite: GTC 016 or permission of instructor
Advanced techniques of testing, trouble-shooting and repair of automotive air conditioner.
1 hour lecture, 4 hours laboratory

GTC 018* COMMERCIAL REFRIGERATION (3)
Prerequisite: GTC 016
Theory, techniques and practices of commercial refrigeration and servicing of refrigerators, freezers and commercial air conditioners.
1 hour lecture, 4 hours laboratory

GTC 022 WATER AND WASTE WATER PLANT OPERATION (3)
Prerequisite: Admissibility to Cochise College
A course designed to provide the student with the knowledge, skills and techniques required to pass a State of Arizona Certification Examination or Class I or Class II or Waste Water Plant Operator.
2 hours lecture, 3 hours laboratory

GTC 025 SOLAR ENERGY SYSTEMS (3)
Prerequisite: MAT 122 and knowledge of basic hand tools
Design, installation and operation of residential solar energy systems. Basic solar heating and cooling theory and laboratory experience to develop student understanding of solar energy systems. Emphasis on selection of components and operation of the system.
2 hours lecture, 3 hours laboratory

GTC 082 ENGLISH FOR OCCUPATIONS (1)
Prerequisite: Concurrent enrollment in ENG 012, 013, or 014 or permission of instructor
Intensive practice with English vocabulary and specialized terminology useful in the workplace.
2 hours laboratory

GTC 100 TECHNICAL MATHEMATICS I (3)
Prerequisite: One semester of high school algebra or permission of instructor
A review of arithmetic and the study of fundamentals of algebra and geometry applied to practical problems of the drafting room, machine shop and engineering.
3 hours lecture

GTC 101 TECHNICAL MATHEMATICS II (3)
Prerequisite: GTC 100 or permission of instructor
A comprehensive study of trigonometry as applied to electronics and drafting industrial situations with an introduction to calculus.
3 hours lecture

GTC 105 MANUFACTURING MATERIALS AND PROCESSES I (3)
Prerequisite: None
The study of manufacturing materials, their characteristics and applications, manufacturing processes including machining, forging, welding and automated manufacturing techniques with emphasis on their relationship to drafting and design.
3 hours lecture

GTC 110 MASONRY I (3)
Prerequisite: MAT 005 and 010 or equivalent
An examination of the masonry profession with an emphasis upon the use of masonry tools and the techniques of laying brick and block.
2 hours lecture, 3 hours laboratory

GTC 111 MASONRY II (3)
Prerequisite: GTC 110
A continuation of Masonry I with emphasis upon the decorative and design possibilities of brick and block and upon the development of a smooth style of work with different types and patterns of brick and block.
2 hours lecture, 3 hours laboratory

GTC 112 MASONRY III (3)
Prerequisite: GTC 111
A continuation of Masonry II concentrating on the design and construction of various types of fireplaces and on decorative stone-work, arches and tie.
2 hours lecture, 3 hours laboratory

GTC 120 CONCRETE CONSTRUCTION AND FINISH (3)
Prerequisite: None
A combination of step-by-step layout and finish techniques with the theory of practical concrete formulation.
2 hours lecture, 3 hours laboratory
GTC 121 PAINTING: EXTERIOR AND INTERIOR (3)
Prerequisite: None
Student preparation for proficiency in patching, repainting, and maintaining painted surfaces in the interior and exterior of building and structures with an emphasis on surface preparation, the selection of paints, their application and the safe and proper storage of all painting materials and tools
2 hours lecture; 4 hours laboratory

GTC 122 AIR CONDITIONING MAINTENANCE (3)
Prerequisite: None
A course to provide the student with proficiency in inspecting, 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)
Prerequisite: None
A course to provide the student with proficiency in maintaining, trouble-shooting, repairing existing residential and industrial circuitry and equipment. The student will install original circuitry in newly remodeled spaces or additions.
3 hours lecture.

GTC 124 CARPENTRY MAINTENANCE AND REPAIR (3)
Prerequisite: None
A course to provide the student with proficiency in maintaining, repairing, replacing, and remodeling existing or new building components including floor coverings, wall coverings, and glazing.

GTC 125 PLUMBING MAINTENANCE AND REPAIR (3)
Prerequisite: None
A course to provide the student with proficiency in maintaining, trouble-shooting, repairing, and replacing of liquid supply and waste removal or drainage systems.

GTC 126 MAINTENANCE MANAGEMENT (3)
Prerequisite: None
A course to provide the student with proficiency in scheduling maintenance, allotting maintenance task hours, and the cost efficient and safe use of maintenance tools and materials with an emphasis on the cost of preventive maintenance versus unscheduled maintenance.

GTC 127 BLUEPRINT READING AND ESTIMATING (3)
Prerequisite: None
A course to provide the student with proficiency in reading and understanding blueprints and their use in locating plumbing, electrical and waste disposal systems. The student will learn the symbols and abbreviations used by architects and draftsmen, how to apply them to maintenance techniques, and how to estimate material from architectural specifications.
3 hours lecture

GTC 130 ESTIMATING CONSTRUCTION (3)
Prerequisite: GTC 100 and DFT 100
Techniques and procedures of contract interpretation, material selection, and materials, labor and time estimation
3 hours lecture

GTC 131 PRINCIPLES OF TECHNOLOGY I (6)
Prerequisite: GTC 101
An introductory course in applied science and associated mathematics to study how concepts such as force, work, rate, resistance and energy apply to mechanical, fluidic, electrical and thermal energy systems for those students preparing to enter high technology career fields.
3 hours lecture, 6 hours lab and/or individualized instruction

GTC 132 PRINCIPLES OF TECHNOLOGY II (6)
Prerequisite: GTC 131
An intermediate course in applied science and related mathematics to study how concepts such as power, force transformation, momentum, waves, vibrations and energy conversion apply to mechanical, fluidic, electrical and thermal energy systems for the student preparing to enter high technology career fields.
3 hours lecture, 6 hours lab and/or individualized instruction

GTC 133 PRINCIPLES OF TECHNOLOGY III (6)
Prerequisite: GTC 132
An advanced course in applied science and associated mathematics to study how concepts such as transducers, radiation, light, optics, and time constants apply to mechanical, fluidic, electrical and thermal energy systems for students preparing to enter high technology career fields.
3 hours lecture, 6 hours lab and/or individualized instruction

121
GTC 134 BUSINESS AND INDUSTRIAL CLEANING (3)
Prerequisite: None
A course to provide the student with proficiency in business and industrial cleaning techniques and their practical application with a concern for safety. The student will identify various types of chemicals and equipment used in industrial and business cleaning and how to properly handle, store and safely use them.
2 hours lecture, 3 hours lab

GTC 206 ENGINEERING MATERIALS AND PROCESSES (4)
Prerequisite: GTC 105
Materials, their structures, properties, fabrication characteristics and applications. Material forming, joining and finishing processes. Automation and quality control
4 hours lecture

GTC 224 FIELD EXPERIENCE IN MASONRY TECHNOLOGY (1-8)
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 (1-8)
Prerequisite: Sophomore standing in a declared major or prior approval of Cooperative Education Program Coordinator
A supervised Cooperative Education work experience involving the combined efforts of educators and employers to accomplish career objectives in Business & Industrial Cleaning. Variable credit (1-6) is available by special arrangement. May be taken four times for a maximum of 16 credit hours, no more than 6 units in a given semester.
NOTE: Lower- and upper-division Cooperative Education courses may be combined but cannot exceed 16 units.

GTC 226 FIELD EXPERIENCE IN BUILDING MAINTENANCE TECHNOLOGY (1-6)
Prerequisite: Sophomore standing in a declared major or prior approval of Cooperative Education Program Coordinator
A supervised Cooperative Education work experience involving the combined efforts of educators and employers to accomplish career objectives in Building Maintenance Technology. Variable credit (1-6) is available by special arrangement. May be taken four times for a maximum of 16 credit hours, no more than 6 units in a given semester.
NOTE: Lower- and upper-division Cooperative Education courses may be combined but cannot exceed 16 units.

GTC 231 MANUFACTURING PROCESSES (4)
Prerequisite: GTC 105, GTC 206
A course in both theoretical and practical experience related to the machining of ferrous and nonferrous metals. Designed to develop a basic understanding of machining operations related to drilling, milling, grinding and lathe processes.
3 hours lecture, 2 hours laboratory

GEOGRAPHY

GEO 101* PHYSICAL GEOGRAPHY (4)
Prerequisite: None
An introduction to the various features of the earth's physical environment including the origin and development of landforms and the composition of the earth's crust, weather, climate, vegetation, soils and the mineral resources used by man.
3 hours lecture, 3 hours laboratory

GEO 102 CULTURAL GEOGRAPHY (3)
Prerequisite: None
A study of the cultural regions of the world and the important world geographical characteristics
3 hours lecture

GEO 104 POLITICAL GEOGRAPHY (3)
Prerequisite: None
A study of political phenomena in different locations in conjunction with the physical features of the earth's landscape
3 hours lecture

GEO 105 ECONOMIC GEOGRAPHY (3)
Prerequisite: None
A survey of the world's economics, including subsistence economic activities, commercial gathering of animals and plants, commercial bioculture, mining, manufacturing, transportation and trade, and tertiary economic activities centering on basic economics and their relationship to the natural resources of the area involved and the relationship of the physical features, climate, soil, vegetation, and topography
3 hours lecture
GEO 181 WORLD REGIONAL GEOGRAPHY (3)
Prerequisite: ENO 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 182 REGIONAL GEOGRAPHY (.5)
Prerequisite: None.
A progressive (four module) in-depth study of a particular region of man's sequent occupancy, beginning with the physical geography of the major region and continuing through the cultural, economic, and political geography of that region. The four modules are one-half credit per module and are sequential in nature, building on the previous modules.
There are nine major regions in this program, generally oriented to the major language groupings. The alphabetic precursor indicates the major region, the numerics indicate the major functional area of geographic studies.
.5 hour lecture/modules

GEO01 192A Physical - North America
GEO01 192B Cultural - Central America
GEO01 192C Cultural - 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 192H Physical - Southeast Asia
GEO02 192A Physical - North America
GEO02 192B Cultural - Central America
GEO02 192C Cultural - South America
GEO02 192D Physical - Europe (non-Slavic)
GEO02 192E Physical - Eurasia (Slavic)
GEO02 192F Cultural - North Africa/Southwest Asia (Arabic/Turkic/Farsi)
GEO02 192G Cultural - East Asia (non-Slavic)
GEO02 192H Cultural - 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 - 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 - Southeast Asia
GEO04 192I Political - Africa South of the Sahara

GEO 193 NATIONAL STUDIES (1)
Prerequisite: Permission of instructor
An intensive nation-by-nation study within a given region of the world. This course is a follow-up to the four modules of GEO 192 (Regional Studies). Building on the regional material developed in GEO 192. Each student will conduct an in-depth study of the physical, cultural, economic, and political geography of a particular nation.
GEO 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 Southeast Asia
GEO00 193I National Studies in Africa South of the Sahara

GEOLOGY

GLG 101+ INTRODUCTION TO GEOLOGY (PHYSICAL) (4)
Prerequisite: None
Principles of physical geology for both general-interest students and those who plan to major in geology. Includes materials of interest on recent trends in earth science and environmental science.
3 hours lecture, 3 hours laboratory
GLG 102* INTRODUCTION TO GEOLOGY II (HISTORICAL) (4)
Prequisite None
Prepares the most current model of the development of the surface of our planet and the life found upon it. For general interest students and those majoring in geology, archaeology, or the biological sciences.
3 hours lecture; 3 hours laboratory

GLG 110 ENVIRONMENTAL GEOLOGY (4)
Prequisite Physical Geology recommended, but not required
An introduction to understanding geologic events and environmental issues, and their impact on populations. The course will include hazardous geologic events, and their impact on populations. Emphasis on proper nomenclature (e.g., environmental impact, natural disasters, etc.), and the integration of scientific advances with changes in student needs and interests. May be repeated with the approval of the division chair. College elective credit only unless otherwise designated in degree programs.
3 hours lecture; 3 hours laboratory

GLG 192 SPECIAL TOPICS IN GEOLOGY (.5-1)
Prequisite None
A rotating forum/seminar emphasizing geological topics of current regional and national significance, topics to vary in accordance with student needs and interests. May be repeated for credit. College elective credit only unless otherwise designated in degree programs.
1/2-1 hour lecture

GLG 209 INDIVIDUAL STUDIES (1-4)
Prequisite 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 the approval of 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)
Prequisite 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)
Prequisite 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)
Prequisite 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)
Prequisite GER 102 or ability to pass corresponding examination
An intermediate course in speaking, reading, 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)
Prequisite 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)
Prequisite 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

124
HPE 106 COED AEROBIC EXERCISE (1)
Prerequisite: None.
A practical introduction to aerobic exercise with emphasis upon the acquisition of basic skills and movements as well as the improvement and maintenance of individual fitness.
1 hour lecture; 1 hour laboratory

HPE 107 AQUA AEROBICS (1)
Prerequisite: None.
Stretching and toning aerobic exercises conducted in a swimming pool, with emphasis upon cardiovascular fitness. Individual needs and limitations are considered, and each student progresses at his/her own rate. No swim skills necessary.
1 hour lecture; 1 hour laboratory

HPE 110 COED BODY CONDITIONING (1)
Prerequisite: None.
A practical application of the accepted fitness principles and concepts conducive to the development and maintenance of an adequate level of overall fitness. The course introduces the student to aerobic and anaerobic activities that promote cardiovascular endurance, flexibility, and muscular endurance.
1 hour lecture; 1 hour laboratory

HPE 111 COED BODY DYNAMICS (1)
Prerequisite: None.
A practical introduction to the principles and concepts of physical fitness through the use of various exercise equipment and activities.
1 hour lecture, 1 hour laboratory

HPE 112 COED WEIGHT TRAINING (1)
Prerequisite: None.
An activity course introducing basic skills and knowledge necessary to develop a proper weight training program and cardiovascular development.
1 hour lecture, 1 hour laboratory

HPE 113 COED ATHLETIC CONDITIONING & TRAINING (2)
Prerequisite: None.
A practical introduction to fitness activities conducive to the development of strength, flexibility, endurance and cardiovascular fitness. Designed to enhance athletic performance of the athlete.
1 hour lecture, 3 hours laboratory

HPE 114 WEIGHT LIFTING FOR WOMEN (1)
Prerequisite: None.
The course will introduce female students to anaerobic activities related to the development of muscular strength, muscular endurance and flexibility. It will provide the female student with exercise techniques related to the development of overall body strength and the reduction of body fat.
1 hour lecture, 1 hour laboratory

HPE 115 PERSONAL FITNESS I (2)
Prerequisite: None.
A practical introduction to the theory and skills of lifetime fitness with emphasis upon aerobic activities to maintain and/or improve the student's cardiorespiratory system and overall fitness level. Student fitness profiles are developed and utilized to determine an individualized exercise program in the Exercise Physiology Lab.
1 hour lecture, 2 hours laboratory

HPE 116 PERSONAL FITNESS II (1-2)
Prerequisite: HPE 115 or permission of instructor.
A continuation of the theory and skills of lifetime fitness introduced in HPE 115 Personal Fitness. Student fitness profiles are developed and utilized to determine an individualized exercise program in the Exercise Physiology Lab.
2-4 hours laboratory

HPE 120 BASIC COED JUDO (1)
Prerequisite: None.
An introduction to the fundamental theory and skills of judo, with emphasis upon practical application of basic judo techniques.
1 hour lecture, 1 hour laboratory

HPE 121 INTERMEDIATE COED JUDO (1)
Prerequisite: HPE 120 or permission of instructor.
A study of intermediate judo with emphasis upon acquisition of intermediate-level skills and techniques, introduction of selected elements of advanced judo.
1 hour lecture, 1 hour laboratory

HPE 122 BEGINNING COED KARATE (1)
Prerequisite: None.
Introduction to basic karate with emphasis upon the underlying theory and practical application of beginning karate techniques.
1 hour lecture, 1 hour laboratory
HPE 123 INTERMEDIATE COED KARATE (1)
Prerequisite: HPE 122 or permission of instructor
A theoretical and practical study of intermediate karate skills with emphasis upon sparring and self-defense techniques. Elements of advanced techniques will provide a basis for continued study by the individual student.
1 hour lecture; 1 hour laboratory

HPE 124 PRACTICAL SELF-DEFENSE (1)
Prerequisite: None
An introduction to the art of self-defense with emphasis upon practical instruction in various self-defense techniques and their appropriate situational applications and the prevention of dangerous or compromising situations.
1 hour lecture; 1 hour laboratory

HPE 125 COED HIKING (1)
Prerequisite: None
An introduction to wilderness trail and off-trail hiking with emphasis on the care and handling of equipment, the use of maps, the care and protection of wilderness trails, the use of emergency first aid, and the importance of physical conditioning.
1 hour lecture; 1 hour laboratory

HPE 126 COED BACKPACKING (1)
Prerequisite: HPE 125 or its equivalent or permission of instructor
A study of back-country hiking and camping designed to develop skills in wilderness living and travel. Emphasis on developing a wilderness philosophy and an awareness of the individual's ability to live in the back country. Students must furnish boots, packs, sleeping bags and shelter.
1 hour lecture; 1 hour laboratory

HPE 130 BEGINNING COED SWIMMING (1)
Prerequisite: None
An introduction to the swimming skills for the non-swimmer with emphasis upon water safety, basic strokes and developing the ability to swim thirty yards.
1 hour lecture; 1 hour laboratory

HPE 131 INTERMEDIATE COED SWIMMING (1)
Prerequisite: HPE 130 or permission of instructor
A practical study of swimming designed to improve skills in the four fundamental strokes: crawl, breast, back and side. Upon course completion, students will have the ability to swim continuously for five minutes on front, side, and back.
1 hour lecture; 1 hour laboratory

HPE 132 ADVANCED COED SWIMMING AND WATER SPORTS (1)
Prerequisite: HPE 131 or permission of instructor
A study of advanced swimming techniques, emphasizing variations on the four fundamental strokes, water sports, synchronized swimming and other aquatic activities.
1 hour lecture; 1 hour laboratory

HPE 133 COED LIFE SAVING AND WATER SAFETY (1)
Prerequisite: HPE 131 or permission of instructor
A practical study of life-saving skills and water safety with emphasis upon water extraction/rescue, emergency first aid and cardiorespiratory resuscitation. American Red Cross Advanced Life Saving Certificate available to successful course completers.
1 hour lecture; 1 hour laboratory

HPE 134 WATER SAFETY INSTRUCTOR (2)
Prerequisite: Current Red Cross Advanced Life Saving Certification, competency in swimming strokes and 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)
Prerequisite: Students must be comfortable in the water.
A basic introduction to fundamental skin diving and scuba diving techniques. PADI International Lifeline Open Water Certification achieved upon successful completion of the course.
1 hour lecture; 3 hours laboratory

HPE 140 COED ARCHERY (1)
Prerequisite: None
A practical introduction to archery with emphasis upon the acquisition of the basic skills and knowledge of archery and an appreciation for the sport as a lifelong leisure activity. Demonstrate an appreciation for the competitive archer's skills.
1 hour lecture; 1 hour laboratory

HPE 141 COED BADMINTON (1)
Prerequisite: None
A practical introduction designed to provide the student with the basic skills, rules and strategies necessary to participate in recreational badminton as a lifelong leisure activity.
1 hour lecture; 1 hour laboratory
HPE 142 COED BASKETBALL (1)
Prerequisite None
A practical introduction to the basic skills, rules and strategies of recreational basketball to prepare the student for participation in a lifelong leisure activity
1 hour lecture, 1 hour laboratory

HPE 143 BEGINNING COED BOWLING (1)
Prerequisite None
A practical introduction to bowling with emphasis on the acquisition of basic skills and knowledge of bowling and on bowling as a lifelong leisure activity
1 hour lecture, 1 hour laboratory

HPE 144 INTERMEDIATE COED BOWLING (1)
Prerequisite HPE 143 or permission of instructor
A practical introduction to the advanced skills and knowledge of bowling with emphasis on the acquisition of a lifelong leisure activity.
1 hour lecture, 1 hour laboratory

HPE 145 BEGINNING COED GOLF (1)
Prerequisite None
A practical introduction to the basic skills, rules and etiquette of golf to prepare the student for participation in a lifelong leisure activity.
1 hour lecture, 1 hour laboratory

HPE 146 INTERMEDIATE COED GOLF (1)
Prerequisite HPE 145
A practical introduction to the advanced skills and strategies of golf with emphasis on the acquisition of a lifelong leisure activity.
1 hour lecture, 1 hour laboratory

HPE 147 BEGINNING COED HANDBALL (1)
Prerequisite None
A practical introduction to handball with emphasis upon the acquisition of the basic skills and knowledge necessary for participation in handball. The student shall also acquire an appreciation for the sport as a lifelong leisure activity.
1 hour lecture, 1 hour laboratory

HPE 148 BEGINNING COED RACQUETBALL (1)
Prerequisite None
A practical introduction to racquetball with emphasis upon the acquisition of the basic skills and knowledge necessary for participation in racquetball. The student shall also acquire an appreciation for the sport as a lifelong leisure activity.
1 hour lecture, 1 hour laboratory

HPE 150 COED SOFTBALL (1)
Prerequisite None
A practical introduction designed to provide the student with the basic skills, rules and strategies necessary to participate in recreational softball as a lifelong leisure activity
1 hour lecture, 1 hour laboratory

HPE 151 COED BEGINNING TENNIS (1)
Prerequisite None
A practical introduction designed to provide the student with the basic skills, rules and strategies necessary to participate in recreational tennis as a lifelong leisure activity
1 hour lecture, 1 hour laboratory

HPE 152 COED INTERMEDIATE TENNIS (1)
Prerequisite HPE 151
A practical introduction designed to provide the student with the advanced skills and strategies necessary to participate in recreational tennis as a lifelong leisure activity.
1 hour lecture, 1 hour laboratory

HPE 153 COED VOLLEYBALL (1)
Prerequisite None
A practical introduction to the basic skills, rules and strategies of recreational volleyball to prepare the student for participation in a lifelong leisure activity.
1 hour lecture, 1 hour laboratory

HPE 154 PISTOL MARKSMANSHIP (1)
Prerequisite None
An activity course emphasizing firearms safety and care for pistols that supplements law enforcement education, physical education and competition sports from collegiate to Olympic levels. Students will be required to provide a .22 caliber pistol and ammunition.
1 hour lecture, 1 hour laboratory

HPE 155 RIFLE MARKSMANSHIP (1)
Prerequisite None
An activity course emphasizing firearms safety and care for rifles that supplements law enforcement education, physical education and competition sports from collegiate to Olympic levels. Students will be required to provide a .22 caliber rifle and ammunition.
1 hour lecture, 1 hour laboratory
HPE 170 VARSITY BASEBALL (1)
Prerequisite: None
Designed to provide the intermediate/advanced athlete with the skills and strategies necessary to compete at the intercollegiate level.
1 hour lecture, 3 hours laboratory

HPE 171 VARSITY MEN'S BASKETBALL (1)
Prerequisite: None
Designed to provide the intermediate/advanced athlete with the skills and strategies necessary to compete at the intercollegiate level.
1 hour lecture, 3 hours laboratory

HPE 172 VARSITY WOMEN'S BASKETBALL (1)
Prerequisite: None
Designed to provide the intermediate/advanced athlete with the skills and strategies necessary to compete at the intercollegiate level.
1 hour lecture, 3 hours laboratory

HPE 173 VARSITY VOLLEYBALL (1)
Prerequisite: None
Designed to provide the intermediate/advanced athlete with the skills and strategies necessary to compete at the intercollegiate level.
1 hour lecture, 3 hours laboratory

HPE 175 CHEERLEADING (1)
Prerequisite: Permission of instructor and tryouts
An applied study of cheerleading emphasizing individual and group physical exercises, stunts, dances, routines, and chants with demonstration of these skills at school rallies and games.
1 hour lecture, 1 hour laboratory

HPE 179 LIFELONG WELLNESS (2)
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)
Prerequisite: None
A comprehensive introduction to the basic foundations of physical education and sport, including an examination of career preparation and opportunities.
3 hours lecture

HPE 181 ORIENTATION TO RECREATION (3)
Prerequisite: None
A comprehensive introduction to the basic foundations of recreation. An examination of career opportunities in the field of recreation.
3 hours lecture

HPE 183 CARDIOPULMONARY RESUSCITATION AND ELEMENTS OF FIRST AID (.5)
Prerequisite: None
A basic course in CPR and first aid for the first responders. Upon completion of the course, the student will be certifiable by the American Heart Association in CPR.
1/2 hour lecture

HPE 185 ELEMENTARY SCHOOL PHYSICAL EDUCATION (3)
Prerequisite: None
A comprehensive overview of child development theories, general and specific physical education instructional procedures, and activity sequences.
3 hours lecture

HPE 186 SCHOOL AND COMMUNITY HEALTH (3)
Prerequisite: None
The basic plan of the school health program, health services, health instruction and healthful school environment. The role of the teacher in relation to the school health program and the community health program.
3 hours lecture

HPE 187 PERSONAL HEALTH (3)
Prerequisite: None
A survey of human adaptation emphasizing study of birth, growth and development, drugs, disease lifestyle, marriage and parenthood, quality life and death.
3 hours lecture

HPE 188 FIRST AID AND CPR (1)
Prerequisite: None
A study of first aid and cardiopulmonary resuscitation for first responders in an emergency. American Red Cross First Aid and CPR certificate awarded upon successful course completion.
1 hour lecture
HPE 189 FIRST AID AND SAFETY (3)
Prerequisite: None
A study of first aid and cardiopulmonary resuscitation skills for first responders in an emergency American Red Cross First Aid and CPR certification and the option to qualify for instructor status will be awarded upon successful course completion.
3 hours lecture

HPE 190 SPORTS OFFICIATING (3)
Prerequisite: None
An overview of officiating skills in several sports including baseball, basketball, football and volleyball. Emphasis upon the acquisition of skills and knowledge essential to serve as a coach and/or as an official with the Arizona Interscholastic Association.
3 hours lecture

HPE 192 COACHING TEAM SPORTS (2)
Prerequisite: None
An overview of coaching skills and theory with emphasis upon coaching team sports at the youth and secondary levels. Introduces the student to career and professional opportunities in the coaching field. Basic and intermediate skills inherent in several team sports (as selected by the instructor) will be introduced to the student.
2 hours lecture

HPE 193 THEORY OF COACHING BASEBALL (3)
Prerequisite: None
An overview of coaching skills and theory with emphasis upon coaching baseball at the youth and secondary levels. Introduces the student to the aspects of coaching baseball at the collegiate level.
3 hours lecture

HPE 194 THEORY OF COACHING BASKETBALL (3)
Prerequisite: None
A theoretical and practical study of coaching with emphasis upon coaching basketball at the youth and secondary levels. Introduces the student to the aspects of coaching basketball at the collegiate level.
3 hours lecture

HPE 195 THEORY OF COACHING VOLLEYBALL (3)
Prerequisite: None
An overview of coaching skills and theory with emphasis upon coaching volleyball at the youth and secondary levels. Introduces the student to the aspects of coaching volleyball at the collegiate level.
3 hours lecture

HPE 197 CARE & PREVENTION OF ATHLETIC INJURIES (3)
Prerequisite: None
A theoretical and practical study of common athletic injuries including appraisal, treatment, prevention, psychological implications, and legal issues.
3 hours lecture

HPE 224 FIELD EXPERIENCE IN RECREATION OCCUPATIONS (1-6)
Prerequisite: Sophomore standing in a declared major and prior approval of Cooperative Education Program Coordinator.
A supervised Cooperative Education work experience involving the combined efforts of educators and employers to accomplish career objectives in recreation occupations. Variable credit (1-6) is available by special arrangement. May be taken four times for a maximum of 16 credit hours, no more than 6 units in a given semester.

HPE 250 INTRODUCTION TO PHYSICAL THERAPY (3)
Prerequisite: BIO 106 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 education teacher) to identify and correctly describe disorders of body posture and movement. The use of exercise will be emphasized to correct postural and movement disorders. Referral to appropriate medical professionals will also be addressed. Additionally, the topic of physical therapy as an occupation with an emphasis upon the requirements for entering the profession will be included.
3 hours lecture

HPE 299 INDIVIDUAL STUDIES (1-4)
Prerequisite: Approval of the division chair 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 108 NUASINQ ASSISTANT ONE (4)
State Certificate of Achievement
Prerequisite: 8th grade reading level. (Placement testing must be done.)
A course to prepare and certify the basic level of nursing assistant to meet the criteria of Medicare with emphasis on basic concepts of communication, patient safety, anatomy and physiology, nursing process, patient rights, legal and professional responsibilities, and specific patient care skills. The student will learn to recognize and meet basic physical, psychosocial, and cultural needs of patients, especially those needs of the geriatric patient.
3 hours lecture, 3 hours clinical

HLT 110* NURSING ASSISTANT (8)
Prerequisite: None
Designed to prepare the student to assume the role of nursing assistant in a health care institution. The student will learn the concepts of communication, patient safety, anatomy and physiology, growth and development, the nursing process, and specific patient care skills to prepare for the health care provider role. The student will learn to recognize and meet basic physical, psychosocial and cultural needs of patients/clients emphasizing the needs of the geriatric patient.
4 hours lecture, 6 hours skill laboratory

HLT 111* NURSING ASSISTANT (8)
Prerequisite: HLT 110, unless taken concurrently.
A course designed to prepare the student to assume the role of nursing assistant in a health care institution. The student will learn the concepts of communication, patient safety, anatomy and physiology, growth and development, the nursing process, and specific patient care skills to prepare for the health care provider role. The student will learn to recognize and meet basic physical, psychosocial and cultural needs of patients/clients, emphasizing the needs of the geriatric patient.
4 hours lecture, 6 hours skill laboratory

HLT 114 HOME HEALTH ASSISTANT (3)
Prerequisite: Nursing Assistant
A course to prepare the nursing assistant to function in a home setting either performing specifically assigned tasks or giving complete care within the legal and ethical limits of the role. Adaptation of existing certified nursing assistant skills and those new skills such as food preparation, assistance in the house and good communications skills necessary for giving total care in the home are included. A certificate of completion will be awarded following satisfactory completion of this course. 2 hours lecture, 3 hours laboratory

HLT 177 FIRST AID INSTRUCTOR TRAINING (3)
Prerequisite: A HLT 169 EMT 174 176 or permission of instructor. a Certified in Advanced First Aid by American National Red Cross; c. Or be certified as an EMT with the Arizona Department of Public Safety, Emergency Medical Services Division.
This American National Red Cross course, intended for persons certified in advanced first aid or emergency medical technology, will prepare students to instruct all phases of American National Red Cross first aid. 3 hours lecture

HLT 225 MEDICAL ETHICS (3)
Prerequisite: None
An introduction to medical ethics, with an emphasis on analysis and problem solving techniques, within the medical/nursing arena. Medical ethical theories are explored. Ethical/legal case studies in a broad range of areas are considered.
5 hours lecture

HEBREW

HEB 101 ELEMENTARY HEBREW (4)
Prerequisite: None
Comprehension of the spoken language, proper pronunciation, usage of proper grammar, development of oral reading skills, composition and conversation.
4 hours lecture, 1 hour laboratory

HEB 115 BIBLICAL HEBREW (3)
Prerequisite: None
Reading and understanding Biblical Hebrew in order to comprehend both the old and new testament books in the original Hebrew. Students will learn to read and translate modern Hebrew.
3 hours lecture

HISTORY

HIS 110 HISTORY OF THE UNITED STATES 1607-1877 (3)
Prerequisite: None
A study of development of American character and national identity from early beginnings through the period of the Civil War. Emphasis is placed on the period of the transition from frontier to agricultural society and the Civil War.
3 hours lecture
HIS 111 HISTORY OF THE UNITED STATES
SINCE 1877 (3)
Prerequisite: None.
A study of the social, economic, and political forces that moved the United States through changing times from the post-Reconstruction era to the present, focusing on both domestic and foreign affairs in the country's last century of development.
3 hours lecture

HIS 115 SURVEY OF THE AMERICAN WEST (3)
Prerequisite: None.
A study of the methods of penetration and the patterns of westward expansion and settlement with emphasis on the Southwest. Analysis and criticism of the conquest, exploitation and settlement of the last frontiers, including the contribution of minority groups in the American West.
3 hours lecture

HIS 120 ARIZONA HISTORY (3)
Prerequisite: None.
The history of Arizona from the entrance of the Spaniards in 1539 to its emergence as a modern state in the Southwest.
3 hours lecture

HIS 140 SURVEY OF WESTERN CIVILIZATION I
THE FORMATION OF WESTERN CIVILIZATION TO 1400 (3)
Prerequisite: None.
A study of the major historical trends from the emergence of Western Civilization through the High Middle Ages, with emphasis upon the cultural development of mankind and historical relationships.
3 hours lecture

HIS 141 SURVEY OF WESTERN CIVILIZATION II
EARLY MODERN CIVILIZATION FROM 1400 TO 1800 (3)
Prerequisite: None.
A study of the major historical trends in Western Civilization from the High Middle Ages to the Age of Napoleon with emphasis upon the cultural development of mankind and historical relationships.
3 hours lecture

HIS 142 SURVEY OF WESTERN CIVILIZATION III
MODERN CIVILIZATION FROM 1800 TO THE PRESENT (3)
Prerequisite: None.
A study of the major historical trends in Western Civilization from 1800 to the present with emphasis upon the cultural development of mankind and historical relationships.
3 hours lecture

HIS 160 AN INTRODUCTION TO THE HISTORY OF THE SOVIET UNION (3)
Prerequisite: None.
A survey of Russian history since 1917, emphasizing revolutionary movements leading to the Bolshevik triumph (the early Soviet triumphs), the early Soviet governments, the Stalin Era, Russia in World War II, the Khrushchev Era, and the USSR in the contemporary world.
3 hours lecture

HIS 192 SPECIAL TOPICS IN HISTORY (.5-1)
Prerequisite: None.
A rotating forum/seminar emphasizing local, regional and international historical topics which will vary with changes in student needs and interests. May be repeated for Coconino College credit. Coconino College electives credit only unless otherwise designated in degree programs.

HIS 192A The History of Huxley
HIS 192B Ghost Towns of Coconino County
HIS 192C History of Transportation in Arizona
HIS 192D Arizona Place Names
HIS 192E Women and the West
HIS 192F John H. (Doc) Holiday
HIS 192G History of Tourism during Arizona's Territorial Period
HIS 192H History of Coconino County
HIS 192I Communities and the Military Legacy in the West
HIS 192J History of the American West as seen through the Writings of John Muir
HIS 192K The Real West—The Good, the Bad and the Ugly
HIS 192L The History of Southwestern Ranching
HIS 192M Military History of Fort Huachuca, Arizona
HIS 192N Women, Education, and World History
HIS 192O Military History of the Regency
HIS 192P History and Art of America
HIS 192Q Conflict in the Middle East

1/2 to 1 hour lecture
HIS 193 SPECIAL TOPICS IN HISTORY (1)
Prerequisite: None
A rotating forum/seminar emphasizing local, regional and international historical topics which will vary with changes in student needs and interests. May be repeated for Coconino College credit. Coconino College elective credit only unless otherwise designated in degree programs.
HIS 193A The History of Rodeo
HIS 193B Ghost Towns of Coconino County
HIS 193C History of Transportation in Arizona
HIS 193D Arizona Place Names
HIS 193E Women and the West
HIS 193F John H. (Doc) Holiday
HIS 193G History of Tombstone during Arizona's Territorial Period
HIS 193H History of Coconino County
HIS 193I Coronado and the Spanish Legacy in the West
HIS 193J History of the American West as seen through the Writings of John Myers
HIS 193K The Real West (the Good, Bad and the Ugly)
HIS 193L The History of Northwestern Ranching
HIS 193M Military History of Fort Huachuca, Arizona
HIS 193N Islamic Civilization in World History
HIS 193O Family History (Genealogy)
HIS 193P History and Art of Heraldry
HIS 193Q Conflict in the Middle East
HIS 193R The Border: From Heroic Past to Present-day Controversies
1 hour lecture

HIS 229 HISTORY OF MEXICO I (3)
Prerequisite: None
A study of political, economic, social, and cultural developments from Pre-Columbian civilizations to the War for Independence.
3 hours lecture.

HIS 230 HISTORY OF MEXICO II (3)
Prerequisite: None
A study of political, economic, social, and cultural developments from the War for Independence to modern times.
3 hours lecture.

HOSPITALITY ADMINISTRATION
HAD 100 INTRODUCTION TO THE HOSPITALITY INDUSTRY (3)
Prerequisite: None
An introductory course of the hospitality industry which includes the hotel-restaurant-resort career; a review of the industry's history, career opportunities, training and motivation, labor relations and management principles as they relate to the hospitality industry.
3 hours lecture.

HAD 120 INTRODUCTION TO PROPERTY MANAGEMENT (3)
Prerequisite: None
An introductory course to professional housekeeping and housekeeping administration, including maintenance and logistical supply, employee supervision and safety.
3 hours lecture.

HAD 210 GUEST SERVICES MANAGEMENT (3)
Prerequisite: HAD 100
Front desk management and operations of a hotel, including bell service, clerking, cashier functions, guest reception, reservation systems, guest and building security, night audit and inter-organizational liaison.
3 hours lecture.

HAD 224 FIELD EXPERIENCE IN HOSPITALITY ADMINISTRATION (1-6)
Prerequisite: Sophomore standing in a declared major and prior approval of Cooperative Education Program Coordinator.
A supervised Cooperative Education work experience involving the combined efforts of educators and employers to accomplish career objectives in hospitality administration. Variable credit (1-6) is available by special arrangement. May be taken four times for a maximum of 16 credit hours, no more than 6 units in a given semester.
3 hours lecture.

HAD 235 HOSPITALITY LAW (3)
Prerequisite: HAD 100 and HAD 120
Common law and its application to the hospitality industry, including basic contracts, administrative law and government regulations, and legal concerns resulting from the innkeeper-guest relationship and the establishment and operation of a place of public accommodation. The impact of the legal environment and process on the day-to-day aspects of the hospitality industry, including preventative measures to limit revenue liability and reputation.
3 hours lecture.
HAD 240 COMMERCIAL FOOD PREPARATION THEORY (3)
Prerequisite: None.
A course outlining the basic principles of food selection and purchase, storage, menu planning, preparation, service, kitchen organization and sanitation in commercial food preparation.
3 hours lecture.

HAD 241 ADVANCED COMMERCIAL FOOD PREPARATION AND LAB (4)
Prerequisite: HAD 240.
Basic principles, procedures, operations and techniques in quality commercial food preparation and service, including planning, storage, cooking equipment, sanitation and service
2 hours lecture; 8 hours laboratory.

HAD 250 HOSPITALITY FINANCIAL MANAGEMENT (3)
Prerequisite: BUS 201.
A study of financial statement analysis, management of assets, ratio analysis, analytical techniques and investment decision making as they apply to the hospitality industry
3 hours lecture; 2 hours laboratory.

HAD 270 HOSPITALITY AUTOMATION (3)
Prerequisite: HAD 210.
An exploration and application of computer technology to front desk operations, including reservations, guest accounting and manager's reports
3 hours lecture.

HOME ECONOMICS

HEC 100 THE GROWING YEARS (3)
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)
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)
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.
Cochise College elective credit only unless otherwise designated in degree programs (Identical with SOC 105)
3 hours lecture

HEC 210 MARRIAGE AND THE FAMILY (3)
Prerequisite: None
Courtship, mate selection, marital adjustment, parenthood, and family living from the sociological and psychological points of view.
Cochise College elective credit only unless otherwise designated in degree programs (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)
Prerequisite: High School diploma, GED or instructor approval
An examination of the horticulture industry including the study of safety measures, terminology and tools with an emphasis on available occupational opportunities.
2 hours lecture; 3 hours laboratory.

HRT 110 LANDSCAPE PLANT MATERIAL (3)
Prerequisite: HRT 101
Identification and utilization of plant materials used for landscaping purposes in the desert southwest with emphasis on cultural requirements, soils and water-plant relationships.
2 hours lecture; 3 hours laboratory.

HRT 111 LANDSCAPE CONSTRUCTION AND MAINTENANCE (3)
Prerequisite: HRT 110
A study of landscape materials, the planting and maintenance of commercial and residential landscapes, sprinkler systems and the use of concrete, brick and wood in landscape construction.
2 hours lecture; 3 hours laboratory.

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HRT 115 GARDEN CROP PRODUCTION (3)
Prerequisite: HRT 110, 111, or permission of instructor
A review of propagation, cultivation, and harvest of popular garden fruits and vegetables, from seedbed preparation to retail/wholesale distribution. Focus is on original production of high-demand products created from raw materials and labor. 1 hour lecture; 5 hours laboratory.

HRT 110 FLORICULTURE (3)
Prerequisite: HRT 110 or permission of instructor
Hands-on introduction to creation of floral arrangements and a practical review of propagation, culture, and economic production of flower and foliage plants. 1 hour lecture; 5 hours laboratory.

HRT 120 PEST CONTROL (3)
Prerequisite: HRT 111
A practical analysis of plant pest identification and control methods. Environmental protection agency regulations and pertinent federal laws will be covered. 2 hours lecture; 3 hours laboratory.

HRT 130 ORGANIC GARDENING (3)
Prerequisite: HRT 101
Practical applications in the utilization of natural, organic methods of pest control and soil fertilization. Advantages and disadvantages of organic gardening routines will be examined. 1 hour lecture; 5 hours laboratory.

HRT 140 LANDSCAPE IRRIGATION SYSTEMS (3)
Prerequisite: HRT 111 or permission of instructor
The course will develop skills in designing, installing, operating, and maintaining traditional irrigation systems. Emphasis on current developments to include sprinklers, bubblers, drip emitters, manual and automated systems. 3 hours lecture.

HRT 201 LANDSCAPE DESIGN (3)
Prerequisite: HRT 120
The principles of landscape design focusing on the utilization of varied plant materials, environmental requirements, drawing and layout techniques and reading landscape blueprints. 3 hours lecture; 1 hour laboratory.

HRT 208 GREENHOUSE MANAGEMENT (3)
Prerequisite: HRT 110, 111 and 120
Focus on actual problems and opportunities in daily activities as well as seasonal projects involved in greenhouse operation. Emphasis will include greenhouse construction, maintenance, environment control and commercially-oriented production. 1 hour lecture; 5 hours laboratory.

HRT 216 LANDSCAPE ESTIMATING (3)
Prerequisite: HRT 111, 140, 201, or permission of instructor
Emphasis on completed job estimates based on current labor costs and material prices. Various practical projects including landscape construction, installation, and maintenance contract bids will be developed. 1 hour lecture; 5 hours laboratory.

HRT 224 CERTIFIED NURSERY PROFESSIONAL (3)
Prerequisite: None
A review of technical practices and knowledge necessary in the nursery/landscape industry as 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)
Prerequisite: Recommendation from testing
Reading and discussion of material which has cultural content relevant to the United States with consequent enlarging of vocabulary and basic understanding of certain American cultural concepts. 3-4 hours lecture.

HUM 093 CULTURAL CONTEXT: CASE STUDIES (1)
Prerequisite: Concurrent enrollment in ESL 013 or 014 or permission of instructor
Introduction to the social norms, cultural values and assumptions underlying workplace behavior with emphasis on case studies and practical application. 2 hours laboratory.
HUM 100 AMERICAN CULTURE (3)  
Prerequisite: Concurrent placement in ENG 100, or 106 or higher, or permission of instructor.  
A course for students from non-English-speaking cultures and for others who wish to increase their awareness of American cultural values. Students will receive and practice key concepts about contemporary American social behavior and values.  
3 hours lecture.

HUM 101 HUMANITIES IN CONTEMPORARY LIFE (3)  
Prerequisite: None.  
A study of contemporary thought, literature, music and art as they occur in mass media, journalism, television, and motion pictures, written student critiques of required lectures, plays, motion pictures, concerts, and art exhibits.  
3 hours lecture.

HUM 104 HERITAGE FROM MEXICO (3)  
Prerequisite: None.  
A study of the various facets of culture and their historical settings which have contributed to the traditions, life style and uniqueness of Mexicans and Americans of Mexican heritage both past and present.  
3 hours lecture.

HUM 110 INTRODUCTION TO FILM AND VIDEO (3)  
Prerequisite: None.  
A study of film and video as art forms and as 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)  
Prerequisite: None.  
A general survey of the cultural heritage in the Southwest. A cultural look at the significant events, historical figures, customs, ways and institutions that have contributed to the unique cultural heritage in the Southwest.  
3 hours lecture.

HUM 167 CULTURAL VALUES IN THE BORDERLANDS WORKPLACE (3)  
Prerequisite: Completion of ENG 101 with a grade of "C" or better, concurrent enrollment in HUM 101 or HUM 104 preferred.  
An overview of cultural patterns, values, beliefs and customs prevalent in business and industry on the United States/Mexico border, with emphasis on practical application.  
3 hours lecture.

HUM 192 SPECIAL TOPICS IN THE HUMANITIES (.5-1)  
Prerequisite: None.  
A rotating forum/seminar emphasizing connections among literature, philosophy and the arts. Topics will vary in accordance with changes in student need and interest. Cochise College elective credit only unless otherwise designated in degree programs.  
1/2 to 1 hour lecture.

HUM 205 MAJOR ANCIENT CULTURES (3)  
Prerequisite: ENG 101, 102 or permission of instructor.  
Art, literature, music and ideas in the Western World from Ancient times through the late Middle Ages, with emphasis on man's relation to his Gods or God.  
3 hours lecture.

HUM 206 EUROPEAN CULTURE (3)  
Prerequisite: ENG 101, 102 or permission of instructor.  
Art, literature, music and philosophy from the Renaissance to the Industrial Revolution with emphasis on the development of humanism and science.  
3 hours lecture.

HUM 207 THE MODERN WORLD (3)  
Prerequisite: ENG 102 or permission of instructor.  
Art, literature, and ideas in the West from the Romantic Age through the Twentieth Century with emphasis on the importance of science and technology on arts and ideas.  
3 hours lecture.

HUM 299 INDIVIDUAL STUDIES (1-4)  
Prerequisite: Approval of the division chair and instructor.  
Completion of a research problem, or an outlined course of study, under the direction of a faculty member with a contract for the individual study agreed upon by the student, the instructor and the division chair prior to initiation of the study. May be repeated for credit.
INTERCULTURAL STUDIES

ICS 193 SPECIAL TOPICS IN INTERCULTURAL STUDIES (1)
Prerequisite: High school level reading ability in English or Spanish, and some speaking knowledge of both English and Spanish preferred.
A rotating forum/seminar on a variety of topics of interest to individuals who wish to learn more about the values and interactions of Spanish-speaking and English-speaking people and their cultural foundation. Topics will vary in accordance with changes in student need and interest.

JOURNALISM

JRN 101 INTRODUCTION TO MASS COMMUNICATION (3)
Prerequisite: Completion of ENG 101 or permission of instructor.
An introduction to mass communications media with emphasis on understanding basic concepts of gathering, writing, and evaluating news and other kinds of communication in newspapers, television, radio, magazines, wire services, syndicated books, movies, computer/digital, and other media. Identical to MED 101.
3 hours lecture.

JRN 102 BASIC REPORTING (3)
Prerequisite: Completion of ENG 101 or permission of instructor.
Entry-level course in media arts/communications and journalism. Students will be introduced to news writing, editing, assignments, deadlines and general print production. Identical to MED 102.
2 hours lecture; 2 hours laboratory.

JRN 103 NEWS REPORTING (3)
Prerequisite: JRN/MED 102 or permission of instructor
A course in writing and editing news and feature articles. Special emphasis on news gathering and reporting of real-life situations. Class will supply articles for the journalism workshop newsletter or college newspaper. Identical to MED 103.
2 hours lecture; 2 hours laboratory.

JRN 201 STUDENT NEWSPAPER (3)
Prerequisite: JRN/MED 102 or JRN/MED 207. CIS 285 or permission of instructor.
A guided workshop for publication of a student-based college newspaper emphasizing techniques for editing, layout, headline and caption writing, photo/art assignment and selection, and computer production techniques. May be repeated twice for Cochise College degree credit. Identical to MED 201.
2 hours lecture; 4 hours laboratory.

JRN 207 INTRODUCTION TO DESKTOP PUBLISHING (3)
Prerequisite: Typing, word processing or computer experience helpful.
Principles and practice of creating printed materials combining text and graphics using major desktop publishing programs, with emphasis on the practical aspects of production. Identical to CIS 285 and MED 207.
3 hours lecture.

JRN 224 FIELD EXPERIENCE IN COMMUNICATION & MEDIA TECHNOLOGY (1-6)
Prerequisite: Sophomore standing in a declared major and prior approval of Cooperative Education Program Coordinator.
A supervised Cooperative Education work experience involving the combined efforts of educators and employers to accomplish career objectives in communication and media technology. Variable credit (1-6) is available by special arrangement. May be taken four times for a maximum of 16 credit hours; no more than 6 units in a given semester.

JRN 287 COMPUTERIZED PHOTOGRAPHY I (3)
Prerequisite: None.
An introduction to digital photography and the electronic darkroom. A blending of traditional film-based picture-taking techniques with computer-aided photo manipulation. Photo lab and computer lab will both be used. Emphasis on scanning and on-screen photo-manipulation software. Identical to ART 287 and MED 287.
3 hours lecture/discussion/demonstration with practical experimentation.

JRN 299 INDIVIDUAL STUDIES (1-4)
Prerequisite: Approval of the division chair and instructor.
Completion of a research problem or an outlined course of study under the direction of a faculty member with 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)
Prequisite 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)
Prequisite 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)
Prequisite ENG 101 or 101. Previous foreign language experience or permission of instructor
Survey of linguistic concepts and methods, communication among animals, physiology of human speech, elementary phonology, morphology, syntax and semantics, language variation, borrowing and change, language and the brain, language and thought
3 hours lecture

LIN 180 EFFECTIVE MESSAGES (3)
Prequisite ENG 167 and SPA 267 or equivalent proficiency as determined by the instructor on the basis of prescheduled 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.

MATHEMATICS

MAT 005 DEVELOPMENTAL MATH (3)
Prequisite Math placement test scores below requirements for successful completion of MAT 072
MAT 005 is a self-paced course in basic mathematics. Math pre-test and student inventory responses are used to develop individual course plans. One-to-one or small group instruction is provided as needed. Laboratory assignments, homework and unit exam grades determine individual’s progress and course completion rates. Acceptable course progress is indicated by a final grade of incomplete (I) until course work is completed with a final grade of C or better.
3 hours lecture

MAT 015 PREPARATORY MATH FOR NURSES (2)
Prequisite For entering nursing students who receive less than 90 on the nursing math placement test
A course designed for nursing students to improve their mathematical accuracy in solving problems commonly encountered in nursing fractions, decimals, percentages, proportions, conversions, units, Roman numerals and word problems. (Only offered during summer session)
2 hours lecture

MAT 072 FUNDAMENTAL MATHEMATICS (3)
Prequisite Indicated mathematics deficiency
A study of basic arithmetic concepts with drill in skills and techniques of computation includes fundamental operations with whole numbers, fractions and decimals, percent, units of measure, geometry, scientific notation, ratio and proportion, averages, basic operations with signed numbers and solving simple algebraic equations
3 hours lecture

MAT 082 ELEMENTARY ALGEBRA (3)
Prequisite Acceptable score in placement examination or C or better in MAT 072
An introduction to the basic algebra normally included in a first-year high school algebra course. Includes fundamental axioms and operations applied to rational numbers, laws of integral exponents, solution of equations, polynomials and factoring, systems of equations, graphing equations and inequalities, rational expressions, radicals and quadratic equations
3 hours lecture
MAT 111 INTERMEDIATE ALGEBRA (3)
Prerequisite: One year of high school algebra or MAT 082 with a grade of 'C' or better or appropriate placement score.
A continuation of algebra concepts which parallels the content generally included in a second-year high school algebra course: real number system, linear equations, absolute value and inequalities, functions, basic analytical geometry, systems of equations, polynomials, exponents, radicals and quadratic equations. May or may not transfer for credit to four-year universities.
3 hours lecture

MAT 118 MATHEMATICS FOR ELEMENTARY EDUCATION MAJORS I (3)
Prerequisite: MAT 122 or equivalent.
The objective of this course is to provide an understanding of problem solving, sets and functions, numeration systems, whole numbers, integers, rational numbers, decimals, and number theory.
3 hours lecture

MAT 125 MATHEMATICS FOR ELEMENTARY EDUCATION MAJORS II (3)
Prerequisite: MAT 122 or equivalent
The objective of this course is to provide an understanding of probability, statistics, introductory geometry, problem solving, and LOGO turtle graphics (optional).
3 hours lecture

MAT 112 COLLEGE ALGEBRA (3)
Prerequisite: Two years of high school algebra, or MAT 122 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 172 FINITE MATHEMATICS (3)
Prerequisite: Satisfactory completion of a course in College Algebra MAT 151 or permission of instructor.
A nonrigorous, yet mathematically sound, introduction to finite mathematics, the branch of mathematics not involving infinite sets, limits, and continuity including linear equations with applications in two space to supply demand functions, systems of linear equations with applications to optimization and two-product supply and demand analysis, systems of linear inequalities with application, linear programming and the simplex method, the primal and dual problems with shadow prices and matrices, summations with application to elementary statistics, common and natural logarithms, and mathematics of finance.
3 hours lecture

MAT 182 PLANE TRIGONOMETRY (3)
Prerequisite: MAT 151 or approval of instructor.
An analytical approach to trigonometry based upon the unit circle concept: trigonometric functions, identities, conditional equations, radian measure graphs, logarithms, solution of right and oblique triangles, inverse trigonometric functions and trigonometric form of complex numbers.
3 hours lecture

MAT 187 PRECALCULUS (5)
Prerequisite: MAT 122
Topics from college-level algebra and trigonometry essential to the study of calculus and analytic geometry: includes algebraic, exponential, logarithmic, trigonometric, and inverse trigonometric functions; complex numbers, linear and nonlinear systems of equations and inequalities; and sequences and series.
5 hours lecture

MAT 212 CALCULUS FOR BUSINESS (3)
Prerequisite: MAT 151 and MAT 172 with satisfactory grade, or equivalent.
Elementary topics in analytic geometry, differential and integral calculus with business application.
3 hours lecture

MAT 220 CALCULUS I (5)
Prerequisite: Four years of high school mathematics or MAT 151 and MAT 182 or permission of instructor.
An integrated study in which analytic geometry is used to develop, understand, and apply calculus concepts: includes absolute value and inequality, relations and functions, graphs, limits and continuity, definition and application of the derivative, antiderivative and definite integral.
5 hours lecture

MAT 231 CALCULUS II (4)
Prerequisite: MAT 220 with a grade of C or better.
A continuation of MAT 220: includes techniques of differentiation and integration of transcendental functions, and an introduction to infinite series. Also covers topics in analytic geometry, parametric equations, and polar coordinates.
4 hours lecture
MAT 241 CALCULUS III (4)
Prerequisite: MAT 231 with grade of C or better
A continuation of MAT 231 to conclude the three-semester calculus sequence. Topics include vectors, vector-valued functions, partial differentiation, and multiple integration.
4 hours lecture

MAT 243 DISCRETE MATH (3)
Prerequisite: MAT 151 or equivalent
The objective of this course is to provide an understanding of elementary set theory, permutations and combinations, discrete functions, generating functions, difference equations, relations, graphs, trees, circuits, cut-sets, and network flow problems.
3 hours lecture

MAT 252 INTRODUCTION TO LINEAR ALGEBRA (3)
Prerequisite: MAT 231
Matrices and systems of linear equations, determinants, vector spaces, linear transformations, eigenvalues and eigenvectors, and applications.
For math majors, physics majors, pre-engineering, and computer science majors.
3 hours lecture

MAT 252 DIFFERENTIAL EQUATIONS (3)
Prerequisite: MAT 231 with a grade of C or better
Ordinary differential equations with applications including linear equations, nonlinear and separable equations, homogeneous equations, power series solutions, Euler equations, LaPlace transforms (optional) and numerical methods (optional).
3 hours lecture

MAT 299 INDIVIDUAL STUDIES (1-4)
Prerequisite: Approval of the division chair 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)
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)
Prerequisite: Completion of ENG 101 or permission of instructor.
Entry level course in media arts/communications and journalism. Students will be introduced to news writing, editing, assignments, deadlines, and general print production. Identical to JRN 102.
2 hours lecture, 2 hours laboratory

MED 103 NEWS REPORTING (3)
Prerequisite: MED/JRN 102 or permission of instructor.
A course in writing and editing news and feature articles. Special emphasis on news gathering and reporting of real-life situations. Class will supply articles for the journalism workshop newsletter or College newspaper. Identical to JRN 103.
2 hours lecture, 2 hours laboratory

MED 125 INTRODUCTION TO VIDEO PRODUCTION (3)
Prerequisite: Placement in ENG 101 or permission of instructor.
An introduction to the elements of video production. Includes operation of video, audio, lighting, and other resources. Emphasis is placed on theory and practical applications used in video production.
3 hours lecture

MED 130 INTRODUCTION TO TV, RADIO, AND FILM PRODUCTION (3)
Prerequisite: None
An introduction to the elements of television, radio, and film production. Includes operation of video, audio, lighting, sound, and other resources. Emphasis is placed on theory and practical applications used in all aspects of production.
3 hours lecture and studio

MED 192* SPECIAL TOPICS IN MEDIA (1-3)
Prerequisite: None
A rotating forum/seminar emphasizing a variety of areas in media, including but not limited to, television, radio, film, electronic media, newspapers, magazines, and books. Topics will vary in accordance with changes in student need and interest. Cofosse College elective credit only, unless otherwise designated in degree programs.
1-3 hours lecture
MED 201 STUDENT NEWSPAPER (3)
Prerequisite: JRN/MED 102 or JRN/MED 207/CIS 285 or permission of instructor.
A guided workshop for the publication of a student-based college newspaper, emphasizing techniques for editing, layout, headline and caption writing, photo/art assignment and selection, and computer production techniques. May be repeated twice for Cochise College degree credit. Identical to JRN 201.
2 hours lecture; 4 hours laboratory.

MED 207 INTRODUCTION TO DESKTOP PUBLISHING (3)
Prerequisite: Typing, wordprocessing, or computer experience helpful.
Principles and practice of creating printed materials combining text and graphics using major desktop publishing programs, with emphasis on the practical aspects of production. Identical to CIS 285 and JRN 207.
3 hours lecture.

MED 209* COMPUTER ART & DESIGN (3)
Prerequisite: ART 103 or permission of instructor
Principles and practices of art and design in applications of computer graphics and the line arts using Corel Draw and Windows Paintbrush. Emphasis on the practical aspects of production as well as personal growth and self-expression. Identical to ART 209.
3 hours lecture.

MED 285* BEGINNING COMMERCIAL DESIGN (3)
Prerequisite: MED/ART 103 or permission of instructor
A study of the principle of commercial design and the techniques of advertising layout, their practical application, and the tools and materials used in the field of advertising. Identical to ART 285. For students interested in Commercial Design for career opportunities, as well as for personal growth and self-expression.
2 hours lecture, 4 hours laboratory.

MED 285* BEGINNING PHOTOGRAPHY (3)
Prerequisite: None.
An introduction to the use and function of the camera and black-and-white darkroom technique. Students must have access to a fully adjustable 35mm camera. Identical to ART 285. For students interested in Photography for career opportunities, as well as for personal growth and self-expression.
2 hours lecture, 4 hours laboratory.

MED 286* INTERMEDIATE PHOTOGRAPHY (3)
Prerequisite: ART/MED 285 or permission of instructor
An intermediate course in photography for students who understand the basics of black-and-white film exposure, development, and printing. Emphasis on photojournalism, art photography, portraiture, and landscapes, depending upon the needs of the student. Students must have access to fully adjustable 35mm camera. Identical to ART 286.
2 hours lecture, 4 hours laboratory.
For students interested in photography for career opportunities as well as for personal growth and self expression.

MED 287* COMPUTERIZED PHOTOGRAPHY I (3)
Prerequisite: None
An introduction to digital photography and the electronic darkroom. A blending of traditional film-based picture-taking techniques with computer-aided photo manipulation. Photo lab and computer lab will both be used. Emphasis on scanning and on-screen photo-manipulation software. Identical to ART 287 and JRN 287.
3 hours lecture/discussion/demonstration with practical experimentation.

MOTOR TRANSPORTATION TECHNOLOGY

MTT 101 TRANSPORT BASIC (4)
Prerequisite: Satisfactory completion of physical examination and truck driver license applications, minimum age 21 years.
A beginning course preparing the student to understand the role of motor transportation industry and to prepare for the Arizona State License and Department of Transportation's certification examinations. Initial development of basic skills and techniques required to control the tractor-trailer transport vehicle.
2 hours lecture, 4 hours laboratory.

MTT 102 OVER THE ROAD OPERATIONS (5)
Prerequisite: Satisfactory completion of MTT 101.
Students will study and operate in the highway traffic environment to develop vehicle handling skills, safe and efficient operating practices, perceptual skills necessary to recognize potential hazards, and manipulative skills needed to handle a vehicle in an emergency. A study and practice of defensive driving techniques, accident prevention in heavy vehicle operation, and the use of energy efficient driving techniques.
3 hours lecture; 5 hours laboratory.
MTT 103 VEHICLE MAINTENANCE AND INSPECTION (1.5)
Prerequisite: MTT 101 or concurrent enrollment.
This course provides the student with knowledge and skills required to keep a tractor-trailer rig in safe and efficient operating condition.
1 hour lecture; 5 hour laboratory

MTT 104 FREIGHT AND TRUCK OPERATIONS (5.5)
Prerequisite: MTT 101 or concurrent enrollment.
A course designed to cover non-driving activities which must be performed by tractor-trailer drivers. Students will perform these auxiliary activities to assure safety to the driver, the vehicle, cargo, and other road users. Development of knowledge and skills to assist the student in securing desired employment, understanding the importance of health maintenance practices and industrial safety procedures, effectively communicating in verbal and written forms, and positively interacting with fellow employees, customers, and the general public.
3.5 hours lecture; 4 hours laboratory.

MTT 108 COMMERCIAL DRIVER LICENSE (2)
Prerequisite: At least 21 years of age and eligible to apply for a Commercial Driver License (CDL) or at least 16 years of age and eligible for a restricted CDL for in-state driving.
Designed to train third party examiners in the conduct of CDL test administration procedures. Through implementation of the Arizona Department of Transportation (ADOT) Motor Vehicle Division (MVD) approved training program, the course will prepare the examiner in accordance with the guidelines and criteria established by the Arizona Association of Motor Vehicle Administrators (AAMVA).
1 hour lecture; 2 hours laboratory

MTT 224 FIELD EXPERIENCE IN MOTOR TRANSPORTATION TECHNOLOGY (1-6)
Prerequisite: Successful completion of MTT 101, 102, 103, and 104.
A supervised Cooperative Education work experience involving the combined efforts of educators and employers to accomplish career objectives in the 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.

MUSIC

MUS 100 FUNDAMENTALS OF MUSIC NOTATION (3)
Prerequisite: None
Introduction to the fundamentals of musical notation, chords, rhythm and melody (for beginners)
3 hours lecture

MUS 101 INTRODUCTION TO MUSIC (3)
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)
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)
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. Basic vocal literature will be memorized and performed.
1 hour per week

MUS 104 VOICE CLASS INSTRUCTION (1)
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)
Prerequisite: None
Study and practice in stage movement and choreography for theatrical production designed for students in musical theatre productions. Meets one day a week for three hours. (Not intended for transfer credit.)
MUS 109 ORCHESTRA (1)
Prerequisite: Audition or permission of instructor.
Study and performance of orchestral musical literature from various periods of musical composition. May be repeated for credit.
3 hours laboratory.

MUS 110 CHOIR (1)
Prerequisite: None.
Study and performance of orchestral musical literature from various periods of musical composition. May be repeated for credit.
3-5 hours rehearsal time

MUS 111 BAND (1)
Prerequisite: Audition
Study and performance of orchestral musical literature from various periods of musical composition. May be repeated for credit.
3-5 hours rehearsal time

MUS 112 INSTRUMENTAL CLASS INSTRUCTION (1)
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.
MUS 112A Piano Class Instruction
MUS 112B Brass Class Instruction
MUS 112C Woodwind Class Instruction
MUS 112D Percussion Class Instruction
MUS 112E String Class Instruction
MUS 112F Guitar Class Instruction

MUS 113, 114* INSTRUMENT-INDIVIDUAL INSTRUCTION (1-1)
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 118, 118* VOICE-INDIVIDUAL INSTRUCTION (1-3)
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)
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)
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 ENSEMBLE (1)
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.
MUS 201A Voice Ensemble
MUS 201B Brass Ensemble
MUS 201C Woodwind Ensemble
MUS 201D Percussion Ensemble
MUS 201E String Ensemble
MUS 201F Guitar Ensemble
MUS 201G Jazz Ensemble
3 hours rehearsal

MUS 202 ENSEMBLE (1)
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.
MUS 202A Voice Ensemble
MUS 202B Brass Ensemble
MUS 202C Woodwind Ensemble
MUS 202D Percussion Ensemble
MUS 202E String Ensemble
MUS 202F Guitar Ensemble
MUS 202G Jazz Ensemble
3 hours rehearsal
MUSIC THEATRE WORKSHOP (1-3)
Prerequisite: Audition or permission of instructor.
A performance in a college, musical or operatic production in a performance capacity or as production crew.

ART SONG REPERTORY I (1)
Prerequisite: Two semesters of voice instruction and permission of instructor.
A performance of representative selections from the standard vocal repertory. Art songs in German, Italian, French and Irish will be sung as well as other vocal literature.

ART SONG REPERTORY II (1)
Prerequisite: Two semesters of voice instruction and permission of instructor.
A performance of representative selections from the standard vocal repertory. Art songs in German, Italian, French and Irish will be sung as well as other vocal literature.

MUSIC FUNDAMENTALS THROUGH EXPERIENCE (3)
Prerequisite: None.
An introduction to musical skills, the mechanics of music, and vocal experiences as a background for teaching music to children. Introduction to playing guitar, recorder, autoharp, as well as singing. Previous musical experience NOT required.

NURSING

TRANSITION NA/PN (2)
Prerequisite: Concurrent enrollment in NUR 123.
A course designed to help the student develop nursing concepts and skills toward eventual functioning as an Associate Degree Nurse.

MEDICATION MATH (1)
Prerequisites: Admission to Nursing Program, or 62% on the Nursing Entrance Test, or Score of >12 in Math Placement Test.

R 120 TRANSITION NA/PN (2)
Prerequisite: Concurrent enrollment in NUR 123.
A course designed to help the student develop nursing concepts and skills toward eventual functioning as an Associate Degree Nurse.

R 121 MEDICATION MATH (1)
Prerequisite: Admission to Nursing Program, or 62% on the Nursing Entrance Test, or Score of >12 in Math Placement Test.
The accurate calculation of drug dosages is an essential skill in nursing. This course will review basic math skills and give the student experience in calculation of drug dosages. Experience is provided in calculation of oral dosages, parenteral dosages, pediatric dosages, solutions, and intravenous flow rates.

R 122* NURSING I (8)
Prerequisite: Admission to the Cochise College Nursing Program.
A course designed to help the student acquire nursing concepts and skills toward eventual functioning as an Associate Degree Nurse.

R 123* NURSING II (10)
Prerequisite: NUR 122, 121, BIO 201, ENG 1C1.
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 in practical nursing or eventual assumption of the role of the Associate Degree Nurse.

R 201* GASTRIC INTUBATION FOR L.P.N.S (1)
Prerequisites:
- Current license to practice as a Licensed Practical Nurse in Arizona.
- The equivalent of one year work experience/practice within the last five years.
- Referral and/or recommendation by current employer.
- 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 gag 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)
Prerequisites:
  a. Current license to practice as a Licensed Practical Nurse in Arizona.
  b. The equivalent of one year work experience/practice within the last five years.
  c. Referral and/or recommendation by current employer/health care agency or facility.
  d. Health care agency and/or facility must submit a nursing policy which indicates:
     1. extended care role of the LPN to perform the procedure.
     2. persons to whom the LPN is responsible.
  e. Must have current liability insurance.
Classroom and clinical instruction in venipuncture techniques designed to provide certification for Licensed Practical Nurse in the skill of blood drawing for diagnostic testing.
1 hour lecture; 3 hours clinic.

NUR 203 UPDATE ON PHARMACOLOGY (3)
Prerequisite: License for administration of medications for one semester of nurses’ (LPN/RN) training.
This course aimed at R.N.s, LPNs and students in those fields, will review basic pharmacology by specific organ systems and body functions. Current medications will be presented and reviewed for actions, interactions, and reactions. Decision making and references in medication usage will be explored.
3 hours lecture.

NUR 220 TRANSITION LPN/RN (1)
Prerequisites: Acceptance into Nursing III - NUR 232. Concurrent class - NUR 232.
This course will provide the challenging, transferring or re-entering Nursing student with an understanding of the philosophy, policies and procedures of the Nursing Program. The emphasis will be on the theory base and use of patient care planning, nursing documentation, care, and therapeutic use of self.

NUR 232-233* NURSING III-IV (9-9)
Prerequisite: For NUR 232 - NUR 122, 123, 121, BIO 201-202, ENG 101, PSY 101.
For NUR 233 - All of the above plus BIO 203, SOC 101 NUR 232 and one controlled elective.
These courses based on nursing practice at the Associate Degree Nurse level associated with common physical and psychosocial health needs/problems throughout the lifespan, the body’s response to stressors, nursing interventions relating to common health needs/problems and alterations in growth and development are presented. Within these areas, nursing care to be explained will include the use of a framework which promotes effective communication, understanding, philosophies of human development and the intervention and evaluation.
5 hours lecture, 12 hours laboratory.

OFFICE ADMINISTRATION
OAD 101* COMPUTER KEYBOARDING (3)
Prerequisite: None.
Specifically designed for (but not limited to) students with no knowledge of touch typing or prior computer experience. Skill development on keyboarding and data entry techniques will be utilized to develop speed and accuracy. Same as CIS 113.
3 hours lecture.

OAD 102* ELEMENTARY DOCUMENT PREPARATION (3)
Prerequisite: OAD 101 or permission of instructor.
Continued development of keyboarding and techniques needed to master letter styles, tabulations, forms and manuscript through individualized units of work with an expected outcome of 40 WPM for three minutes.
3 hours lecture, 1 hour laboratory.

OAD 103* INTERMEDIATE DOCUMENT PREPARATION (3)
Prerequisite: OAD 102 with a grade of C or better or permission of instructor.
Continuation of elementary document preparation. Includes further development of letters, tables, manuscripts, and speed. Expected accuracy drills of 50 WPM for five minutes.
3 hours lecture, 1 hour laboratory.

OAD 104 BUSINESS MATHEMATICS (3)
Prerequisite: MAT 072 or equivalent.
The fundamentals of business mathematics and ability to communicate with the number language of the business world. Cross list with BUS 104.
3 hours lecture.

OAD 111* BUSINESS ENGLISH (3)
Prerequisite: ENG 100 (C or better) or placement in ENG 101 College-level reading.
An in-depth study of the mechanics of English and punctuation required in the workplace for effective communication. Emphasis is placed on grammar, word usage, conciseness, clarity, punctuation and spelling. The rules and recommendations covered are those that should prove most helpful in the business community.
3 hours lecture.
OAD 118* PC SAMPLER (3)
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 a hands-on approach.
3 hours lecture.

OAD 118* LEARN TO USE MICROCOMPUTERS (3)
Prerequisite: None.
A concentrated study of computerized office applications for occupational or instructional use. This lecture-based, hands-on approach leads the student step-by-step through the various stages of the application being presented. Students acquire entry-level job skills in the areas of database management and spreadsheet manipulation.
3 hours lecture.

OAD 148 INTRODUCTION TO ACCOUNTING (3)
Prerequisite: BUS 104 or permission of instructor.
The basic accounting cycle: business transactions, journalizing, posting and financial statements, cash control and banking, payroll preparation, credit and receivable control, inventory control, sources of funds, budgeting and ratio 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)
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)
Prerequisite: ENG 111 or ENG/GIS 179 or permission of instructor.
A study of business compositions prepared in a business organization, typical internal and external communications (letters, memos, and reports) with emphasis on applying English fundamentals, usage, syntax, and methods of organization same as BUS 167 and ENG 167.
3 hours lecture.

OAD 180* COMPUTERIZED ACCOUNTING (3)
Prerequisite: BUS 101 or OAD 146.
Course includes the use of automated accounting software to complete the general ledger, accounts payable, accounts receivable and payroll reports.
3 hours lecture.

OAD 183* CURRENT COMPUTER APPLICATIONS (1)
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 Elementary Keyboarding
OAD 193B Intermediate Keyboarding
OAD 193C Advanced Keyboarding
OAD 193D Beginning Data Entry
OAD 193E Intermediate Data Entry
OAD 193F Advanced Data Entry
OAD 193G MS-DOS I
OAD 193H MS-DOS II
OAD 193I MS-DOS III
OAD 193J Typing Review I
OAD 193K Typing Review II
OAD 193L Shorthand Review
OAD 193M WordPerfect I
OAD 193N WordPerfect II
OAD 193O WordPerfect III
OAD 193P WordPerfect Applications
OAD 193Q Printmaster
OAD 193R Introduction to Computers I
OAD 193S Introduction to Computers II
OAD 193T Introduction to Computers III
OAD 193U Beginning E Mail
OAD 193V Word for Windows I
OAD 193W Word for Windows II
OAD 193X Word for Windows III
OAD 193Y Word for Windows Applications
OAD 193Z Windows - Quick Start
OAD A193 Bookkeeping on Computers I
OAD B193 Bookkeeping on Computers II
OAD C193 Bookkeeping on Computers III
OAD D193 Records Management I
OAD E193 Records Management II
OAD F193 Records Management III
OAD G193 Computerized Accounting I
OAD H193 Computerized Accounting II
OAD I193 Computerized Accounting III
1 hour lecture/laboratory.
OAD 201* ADVANCED DOCUMENT PREPARATION (3)
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)
Prerequisite: OAD 201 with a grade of C or permission of instructor.
A comprehensive study of professional document preparation techniques using the computer and a variety of document preparation software. Students will explore production skills used in today's offices including specialized documents, sophisticated business letters, manuscripts, tabulations, and various forms.
3 hours lecture.

OAD 204* SHORTHAND I (3)
Prerequisite: None.
An intensive study of Alpha Hand speedwriting in order to develop proficiency in taking notes rapidly and easily for personal or vocational use.
3 hours lecture; 1 hour laboratory.

OAD 205* SHORTHAND II (3)
Prerequisite: OAD 204 or equivalent, or permission of instructor, and a minimum speed of 70 wpm.
A comprehensive study of Alpha Hand, a speedwriting system, to develop spelling, punctuation, and speed building skills for vocational transcription.
3 hours lecture; 1 hour laboratory.

OAD 206* RECORDS MANAGEMENT (3)
Prerequisite: 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)
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. Course is designed for prospective office supervisors, training directors, and executive secretaries.
3 hours lecture.

OAD 209 BUSINESS SPEECH COMMUNICATIONS (3)
Prerequisite: None.
A study of the principles of business speech communications, integrating nonverbal skills, vocabulary building, business persuasion, presentations, one-to-one communications, machine dictation, and group communications.
3 hours lecture.

OAD 210* AUTOMATED OFFICE PROCEDURES (3)
Prerequisite: Concurrent enrollment or 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)
Prerequisite: OAD 210, ENG 111 or permission of instructor.
Practice in using transcription equipment, preparing business letters, news releases, and reports. Workflow procedures and standards, and personal grooming techniques will also be reviewed using practice sets in specialized areas: executive, medical, and legal.
3 hours lecture.

OAD 212* TRANSCRIPTION/TERMINOLOGY (3)
Prerequisite: ENG 111 and OAD 213.
A study of complex terminology encountered in medical records, legal documents, or technical business documents with emphasis on machine transcription. Practice sets in medical records, legal documents, or technical documents will be utilized.
3 hours lecture.

OAD 213* WORD PROCESSING (3)
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)
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)
Prerequisite: OAD 213 and OAD 212
A further study of medical terminology encountered in medical records and medical office machine transcription. Practice sets in medical records will be utilized
3 hours lecture

OAD 216* COMPUTERIZED OFFICE MANAGEMENT (3)
Prerequisite: None
An advanced study of computerized office applications including correspondence, mailings, inventory, budgets, personnel, time management, records management, accounts management, software management and space management. Techniques will be taught on the microcomputer. The course is designed to prepare the individual for a better-than-entry level position.
3 hours lecture

OAD 217* ADVANCED COMPUTERIZED OFFICE MANAGEMENT (3)
Prerequisite: OAD 216
A concentrated study of electronic records management for occupational or personal use. This lecture-based, hands-on approach leads the student through various electronic records management programs, systems, technologies, equipment and methods.
3 hours lecture

OAD 224 FIELD EXPERIENCE IN OFFICE TECHNOLOGY (1-8)
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 286* TECHNICAL PRESENTATIONS (3)
Prerequisite: CIS 181 or permission of instructor
A study of the principles of effective communication skills integrating the latest electronic technology in order to prepare and deliver state-of-the-art business and technical presentations
3 hours lecture

OAD 289* ADVANCED CURRENT OFFICE APPLICATIONS (1)
Prerequisite: Permission of Division Advisor
One unit modules designed for personal/professional improvement. Principles and practice of various computer applications, each session 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)
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, realign, 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 101 ELECTRONIC CALCULATOR REPAIR (3)
Prerequisite: OMR 100.
A course designed to make the student proficient in electronic calculator repair. The student will learn the electronic and mechanical theory of operation of all components of the calculator, and how to clean, service, relubricate and perform preventive maintenance inspections. Students will learn how to use hand tools, specialized gauges and test equipment, materials, parts and supplies in performing service procedures, and how to schedule maintenance and allot maintenance task hours, with emphasis on the cost effectiveness of preventive maintenance versus unscheduled maintenance.
3 hours lecture plus individualized laboratory instruction.

OMR 102 BASIC PHOTOCOPIER REPAIR (4)
Prerequisite: OMR 100.
A course designed to make the student proficient in basic photocopier repair. The student will learn the electronic and mechanical theory of operation, and how to troubleshoot and repair by safely using maintenance tools, test equipment, specialized 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.
4 hours lecture plus individualized laboratory instruction.

OMR 104 ELECTRONIC TYPEWRITER REPAIR (3)
Prerequisite: OMR 100.
A course designed to make the student proficient in electronic typewriter repair. The student will learn the electronic and mechanical theory of operation, and how to troubleshoot and repair by safely using maintenance tools, test equipment, specialized 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 105 BASIC MICROCOMPUTER REPAIR (3)
Prerequisite: OMR 100.
A course designed to develop student proficiency in basic microcomputer repair. The student will learn the electronic and mechanical theory of operation, 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.
3 hours lecture plus individualized laboratory instruction.

OMR 202 ADVANCED PHOTOCOPIER REPAIR (4)
Prerequisite: OMR 202.
A course designed to make the student proficient in advanced photocopier repair. The student will learn the electronic and mechanical theory of operation, and how to troubleshoot and repair by safely using maintenance tools, test equipment, specialized test equipment, diagnostic programs, and repair procedures to facilitate board level repairs, and how to schedule maintenance and allot maintenance task hours, with emphasis on the cost effectiveness of preventive maintenance versus unscheduled maintenance.
4 hours lecture plus individualized laboratory instruction.

OMR 106 DICTATING MACHINE REPAIR (3)
Prerequisite: OMR 100.
A course designed to make the student proficient in dictating machine repair. The student will learn the electronic and mechanical theory of operation, and how to troubleshoot and repair by safely using maintenance tools, gauges, materials and supplies, and how to schedule maintenance and allot maintenance task hours, with emphasis on the cost effectiveness of preventive maintenance versus unscheduled maintenance.
3 hours lecture plus individualized laboratory instruction.

OMR 204 ADVANCED PHOTOCOPIER REPAIR (4)
Prerequisite: OMR 202.
A course designed to make the student proficient in advanced photocopier repair. The student will learn the electronic and mechanical theory of operation, and how to troubleshoot and repair by safely using maintenance tools, test equipment, specialized test equipment, diagnostic programs, and repair procedures to facilitate board level repairs, and how to schedule maintenance and allot maintenance task hours, with emphasis on the cost effectiveness of preventive maintenance versus unscheduled maintenance.
4 hours lecture plus individualized laboratory instruction.

OMR 108 DICTATING MACHINE REPAIR (3)
Prerequisite: OMR 100.
A course designed to make the student proficient in dictating machine repair. The student will learn the electronic and mechanical theory of operation, and how to troubleshoot and repair by safely using maintenance tools, gauges, materials and supplies, and how to schedule maintenance and allot maintenance task hours, with emphasis on the cost effectiveness of preventive maintenance versus unscheduled maintenance.
3 hours lecture plus individualized laboratory instruction.

OMR 205 ADVANCED MICROCOMPUTER REPAIR (4)
Prerequisite: OMR 204.
A course designed to make the student proficient in advanced microcomputer repair. The student will learn the electronic and mechanical theory of operation, 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 206 BASIC MICROCOMPUTER REPAIR (4)
Prerequisite: OMR 200.
A course designed to make the student proficient in basic microcomputer repair. The student will learn the electronic and mechanical theory of operation, and how to use specialized test equipment, diagnostic programs, and repair procedures to facilitate board level repairs, and how to safely use maintenance tools, gauges, materials, parts and supplies, with emphasis on how to schedule maintenance and allot maintenance hours in performing repairs of the microcomputer.
4 hours lecture plus individualized laboratory instruction.
OMR 207 MICROCOMPUTER PERIPHERAL EQUIPMENT REPAIR (4)
Prerequisite: OMR 206.
A course designed to make the student proficient in microcomputer peripheral equipment repair. The student will learn the mechanical, electronic and logical theory of operation for each type of peripheral equipment, and the troubleshooting and repair techniques used to perform board level repairs, with emphasis on special diagnostic programs and test equipment, and how to schedule maintenance and allot maintenance task hours to facilitate board level repairs.
4 hours lecture plus individualized laboratory instruction.

OMR 208 ADVANCED TROUBLESHOOTING AND SHOP OPERATIONS (4)
Prerequisite: OMR 204, OMR 207.
A course designed to place the student in a functioning shop operation to concentrate on repair and servicing of electro-mechanical business machines or microcomputers. Students will be responsible for receiving defective machines, scheduling repairs, ordering spare parts, servicing or repairing defective equipment, recording service or repair on history record, completing repair order forms, and scheduling return of the business machine, microcomputer, or microcomputer peripheral to their original location, simulating real world operations.
1 hour lecture plus 3 hours of individualized laboratory instruction.

OMR 224 FIELD EXPERIENCE IN BUSINESS MACHINE REPAIR (1-6)
Prerequisite: Sophomore standing in a declared major or prior approval of Cooperative Education Program Coordinator.
A supervised Cooperative Education work experience involving the combined effort of educators and employer to accomplish career objectives in Business Machine Repair. Variable credit (1-6) is available by special arrangement. May be taken four times for a maximum of 18 credit hours, no more than 6 units in a given semester.
NOTE: Lower- and upper-division Cooperative Education courses may be combined but cannot exceed 16 units.

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

PHI 111 INTRODUCTION TO PHILOSOPHY (3)
Prerequisite: ENG 101 and sophomore standing.
A study of man's interpretation of the nature and meaning of reality, conduct, and of his own being.
3 hours lecture.

PHI 113 INTRODUCTION TO LOGIC AND LANGUAGE (3)
Prerequisite: ENG 020 or equivalency and ENG 101 or equivalency.
Elementary study of formal logic, symbolic logic, logical fallacies, induction, argument and language.
3 hours lecture.

PHI 130 ETHICS (3)
Prerequisite: ENG 101 or permission of instructor.
An introduction to moral philosophy with emphasis on analysis of contemporary ethical problems.
3 hours lecture.

PHI 140 DEATH, DYING, LOSS AND SURVIVAL (3)
Prerequisite: None.
This class introduces students to the experience of others on the topics of death, loss, and survival. It will offer new ways to think about death in a general, as well as one's own death, and those of loved ones. It will also include a metaphysical approach to the question of life after death.
3 hours lecture.

PHI 201 PHILOSOPHIES OF THE EAST (3)
Prerequisite: ENG 101 and sophomore standing.
Hinduism, Buddhism, Taoism, and Confucianism with emphasis on their roles in the modern world.
3 hours lecture.

PHI 202 PHILOSOPHY OF RELIGION (3)
Prerequisite: ENG 101 and sophomore standing.
Introduction to the nature of religion, nature and existence of God and major religious tenets of western thought.
3 hours lecture.

PHI 299 INDIVIDUAL STUDIES (1-4)
Prerequisite: Approval of the division chair 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)
Prerequisite: None.
A survey course in the basic concepts of physics with limited emphasis on mathematical applications.
3 hours lecture, 3 hours laboratory.
OMR 207 MICROCOMPUTER PERIPHERAL EQUIPMENT REPAIR (4)
Prerequisite: OMR 206.
A course designed to make the student proficient in microcomputer peripheral equipment repair. The student will learn the mechanical, electronic and logical theory of operation for each type of peripheral equipment, and the troubleshooting and repair techniques used to perform board level repairs, with emphasis on special diagnostic programs and test equipment, and how to schedule maintenance and allot maintenance task hours to facilitate board level repairs.
4 hours lecture plus individualized laboratory instruction

OMR 208 ADVANCED TROUBLESHOOTING AND SHOP OPERATIONS (4)
Prerequisite: OMR 204, OMR 207.
A course designed to place the student in a functioning shop operation to concentrate on repair and servicing of electromechanical business machines or microcomputers. Students will be responsible for receiving defective machines, scheduling repairs, ordering spare parts, servicing or repairing defective equipment, recording service or repair on 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)
Prerequisite: Sophomore standing in a declared major or prior approval of Cooperative Education Program Coordinator.
A supervised Cooperative Education work experience involving the combined effort of educators and employer to accomplish career objectives in Business Machine Repair. Variable credit (1-6) is available by special arrangement. May be taken four times for a maximum of 16 credit hours, no more than 6 units in a given semester.
NOTE: Lower- and upper-division Cooperative Education courses may be combined but cannot exceed 16 units.

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

PHI 111 INTRODUCTION TO PHILOSOPHY (3)
Prerequisite: ENG 101 and sophomore standing.
A study of man's interpretation of the nature and meaning of reality, conduct, and of his own being.
3 hours lecture.

PHI 113 INTRODUCTION TO LOGIC AND LANGUAGE (3)
Prerequisite: ENG 020 or equivalency and ENG 101 or equivalency.
Elementary study of formal logic, symbolic logic, logical fallacies, induction, argument and language.
3 hours lecture.

PHI 130 ETHICS (3)
Prerequisite: ENG 101 or permission of instructor.
An introduction to moral philosophy with emphasis on analysis of contemporary ethical problems.
3 hours lecture.

PHI 140 DEATH, DYING, LOSS AND SURVIVAL (3)
Prerequisite: None.
This class introduces students to the experience of others on the topics of death, loss, and survival. It will offer new ways to think about death in general, as well as one's own death, and those of loved ones. It will also include a metaphysical approach to the question of life after death.
3 hours lecture.

PHI 201 PHILOSOPHIES OF THE EAST (3)
Prerequisite: ENG 101 and sophomore standing.
Hinduism, Buddhism, Taoism, and Confucianism with emphasis on their roles in the modern world.
3 hours lecture.

PHI 202 PHILOSOPHY OF RELIGION (3)
Prerequisite: ENG 101 and sophomore standing.
Introduction to the nature of religion, nature and existence of God and major religious tenets of western thought.
3 hours lecture.

PHI 299 INDIVIDUAL STUDIES (1-4)
Prerequisite: Approval of the division chair 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)
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)
Prerequisite: MAT 122 or equivalent
Introduction to the general principles of physics in the areas of mechanics and thermodynamics. Special emphasis is placed on algebra to solve word problems.
3 hours lecture; 3 hours laboratory.

PHY 112 GENERAL PHYSICS II (4)
Prerequisite: PHY 111.
Introduction to the general principles of physics in the areas of waves, sound, light, electricity, magnetism, atomic structure, and radioactivity.
3 hours lecture; 3 hours laboratory.

PHY 230-231* PHYSICS WITH CALCULUS (4-4)
Prerequisite: MAT 222. 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)
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)
Prerequisite: None.
A comprehensive introductory study of the nature and practice of politics, focusing mainly on significant political principles and institutions as they relate to American and foreign governments.
3 hours lecture.

POS 110 AMERICAN NATIONAL GOVERNMENT (3)
Prerequisite: None.
A study of the political system of the United States. Emphasis on constitutional development, the political culture, voting, political parties, campaigns and elections, interest groups, public opinion, and the three branches of the national government. Designed to increase the student's awareness and understanding of the political arena. This course fulfills the Federal Constitution requirement for the Arizona Teaching Certificate.
3 hours lecture.

POS 220 NATIONAL AND ARIZONA CONSTITUTION (3)
Prerequisite: Sophomore standing
A study of the government of the United States and Arizona through the interpretation of the Constitution of each political entity. Approved for teacher certification. Teachers needing only Arizona Constitution should enroll in POS 221.
3 hours lecture.

POS 221 ARIZONA CONSTITUTION (1)
Prerequisite: Sophomore standing
A study of the government of Arizona through the interpretation of its Constitution. Approved for teacher certification. Taught concurrently with POS 220.
1 hour lecture.

POS 230 WORLD POLITICS (3)
Prerequisite: POS 110 or permission of instructor
A study of the international political system and nation-state relations, including the development of the international system, the Cold War, state power, the pursuit of national objectives, and the analysis of current international problems.
3 hours lecture.

POS 240 COMPARATIVE POLITICS (3)
Prerequisite: POS 100 or 110 or permission of instructor
Introduction to the study of comparative politics with emphasis on the comparison of political systems, movements, ideologies, and economic development.
3 hours lecture.

POS 299 INDIVIDUAL STUDIES (1-4)
Prerequisite: Approval of the division chair 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)
Prerequisite: Current employment by an electrical power generating plant or permission of instructor. MAT 082 or concurrent enrollment.
A practical introduction to major systems and components of modern electrical power plants; the general responsibilities of a plant operator and plant safety. Additional topics include basic charts and graphs, mathematical calculations and formulas associated with plant operation.
4 hours lecture; 3 hours laboratory.
PPO 111 MAINTENANCE & MECHANICAL I (5)  
Prerequisite: PPO 101 or permission of instructor  
A practical introduction to maintenance practices employing hand, cutting, power and measurement tools. Also includes the study of forklift operating principles and basic rigging practices.  
4 hours lecture, 3 hours laboratory

PPO 112 MAINTENANCE & MECHANICAL II (5)  
Prerequisite: PPO 111 or permission of instructor  
A practical introduction to major power plant equipment including valves, steam traps, thermal insulation and heat exchangers. The student will learn how to perform maintenance procedures and demonstrate an understanding of their operation.  
4 hours lecture, 3 hours laboratory.

PPO 113 MAINTENANCE & MECHANICAL III (5)  
Prerequisite: PPO 112 or permission of instructor  
Further study of the maintenance and mechanical functions of electrical-power generating plant equipment with emphasis on bearings, pumps and alignment.  
4 hours lecture, 3 hours laboratory.

PPO 114 BASIC ELECTRICITY (2)  
Prerequisite: PPO 101 or permission of instructor  
An introduction to basic electrical theory, the main components of a power plant's electrical systems, and various control and protective devices. Specific attention is directed to how voltage is produced and the relationship between voltage and current.  
2 hours lecture.

PPO 121 INSTRUMENTATION & CONTROL I (5)  
Prerequisite: PPO 101 or permission of instructor  
A study of power plant operations with emphasis on basic process control systems, pressure gauges, calibration, liquid level and fluid flow measurement and plant safety. Also includes applied mathematics and graph preparation  
4 hours lecture; 3 hours laboratory.

PPO 122 INSTRUMENTATION & CONTROL II (5)  
Prerequisite: PPO 121 or permission of instructor  
A practical introduction to the operation and functions of major systems and components of pneumatic controller systems and associated equipment. Additional topics include general responsibilities of the plant operator and technician for troubleshooting, testing, calibration and recordkeeping.  
4 hours lecture; 3 hours laboratory.

PPO 123 INSTRUMENTATION & CONTROL III (5)  
Prerequisite: PPO 122 or permission of instructor  
A practical introduction to the operation and function of pneumatic control equipment with emphasis on calibration, tuning methods and troubleshooting. Includes a review of hazardous substances and general safety procedures  
4 hours lecture, 3 hours laboratory.

PPO 131 ELECTRICAL MAINTENANCE I (5)  
Prerequisite: PPO 101 or permission of instructor  
A practical introduction to fundamental electrical concepts, including alternating current, circuits and electromagnetic induction. The use of electrical test equipment, diagram interpretation and safety procedures are also covered.  
4 hours lecture, 3 hours laboratory.

PPO 132 ELECTRICAL MAINTENANCE II (5)  
Prerequisite: PPO 131 or permission of instructor  
A further study of electrical concepts with emphasis on transformer theory, AC motor maintenance, conduit installation, troubleshooting AC systems, switches and fuses, and the care and upkeep of batteries.  
4 hours lecture, 3 hours laboratory.

PPO 133 ELECTRICAL MAINTENANCE III (5)  
Prerequisite: PPO 132 or permission of instructor  
A study of the basic principles of DC motors, troubleshooting techniques, synchronous motor and controller maintenance, maintenance of circuit breakers and switchgears, and principles of high voltage operation  
4 hours lecture, 3 hours laboratory.

PPO 141 PRINCIPLES OF POWER GENERATION I (5)  
Prerequisite: PPO 101 or permission of instructor  
A practical introduction to electrical power generation with emphasis upon energy conservation, pressure, heat, steam and fluid flow as well as piping, pumps, compressors and heat exchangers. Also includes an introduction to power generating efficiency  
4 hours lecture, 3 hours laboratory.

PPO 142 PRINCIPLES OF POWER GENERATION II (5)  
Prerequisite: PPO 141 or permission of instructor  
An introduction to the major operating systems of an electrical-power generating plant, including electrical instrumentation, steam and feedwater systems. Also includes a review of basic electrical theory and principles of instrumentation  
4 hours lecture, 3 hours laboratory.
PPO 143 PRINCIPLES OF POWER
GENERATION III (5)
Prerequisite: PPO 142 or permission of instructor.
An introduction to the basic principles of water chemistry, fossil fuels and boiler operations as well as the related systems and equipment most commonly used in an electrical-power generating facility.
4 hours lecture; 3 hours laboratory.

PPO 211 MAINTENANCE & MECHANICAL IV (5)
Prerequisite: PPO 113 or permission of instructor
Advanced study of the maintenance, mechanical functions and repair of electrical-power-plant generating equipment with emphasis on compressors, boilers, advanced rigging, refractors and sootblowers.
4 hours lecture; 3 hours laboratory.

PPO 212 MAINTENANCE & MECHANICAL V (5)
Prerequisite: PPO 211 or permission of instructor
Advanced study of electrical-power generating plant maintenance procedures with emphasis on safety valves, resurfacing techniques, are welding, basic metallurgy and gears
4 hours lecture; 3 hours laboratory.

PPO 221 ELECTRONICS I (5)
Prerequisite: PPO 123 or permission of instructor
A practical introduction to basic electronic principles and their application to power plant operations. Includes DC and AC circuits, Ohm’s Law, series and parallel circuits, transformers, as well as passive and active circuits and their applications
4 hours lecture; 3 hours laboratory.

PPO 222 ELECTRONICS II (5)
Prerequisite: PPO 221 or permission of 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)
Prerequisite: PPO 222 or permission of instructor
Advanced study of powerplant electronics with emphasis on transistor oscillators, operational amplifiers, electronic control equipment, power supplies and circuit board repair.
4 hours lecture; 3 hours laboratory.

PPO 224 FIELD EXPERIENCE IN POWER PLANT OPERATIONS (1-6)
Prerequisite: Sophomore standing in a declared major and prior approval of Cooperative Education Program Coordinator
A supervised Cooperative Education work experience involving the combined efforts of educators and employers to accomplish career objectives in Power Plant Operations. Variable credit (1-6) is available by special arrangement. May be taken four times for a maximum of 16 credit hours, no more than 6 units in a given semester.
NOTE: Lower- and upper-division Cooperative Education courses may be combined but cannot exceed 16 units.

PPO 231 ELECTRICAL MAINTENANCE IV (5)
Prerequisite: PPO 133 or permission of instructor
An advanced study of electrical equipment maintenance with emphasis on motor operators, design, construction, and operation of high-voltage cables and conductors, and operating principles of AC and DC generators. Includes a review of basic electrical theory, circuits and transformers
4 hours lecture, 3 hours laboratory.

PPO 232 ELECTRICAL MAINTENANCE V (5)
Prerequisite: PPO 231 or permission of 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)
Prerequisite: PPO 232 or permission of instructor
Advanced study of applied electronics with emphasis on operational amplifiers, electronic control systems, specialized electronic devices and plant safety.
4 hours lecture, 3 hours laboratory.

PPO 241 PRINCIPLES OF POWER
GENERATION IV (5)
Prerequisite: PPO 143 or permission of instructor
The study of water treatment systems, water and air pollution control, and steam turbines in the power plant setting. Emphasis on theory, underlying scientific principles and operational processes.
4 hours lecture, 3 hours laboratory.

PPO 242 PRINCIPLES OF POWER
GENERATION V (5)
Prerequisite: PPO 241 or permission of instructor
Advanced study of electrical power generation to include process control systems, principles and operation of generators, three-phase power, transformers, and station service systems. Includes a review of electrical system functions, components and diagrams.
4 hours lecture, 3 hours laboratory.
PPO 243 PRINCIPLES OF POWER GENERATION VI (8)
Prerequisite: PPO 242 or permission of instructor.
A practical analysis of equipment, systems and processes that prevent equipment damage and minimize equipment failure. Includes advanced study of gas turbines, diesel engines and plant safety.
4 hours lecture; 3 hours laboratory.

PPO 290 SAFETY (2)
Prerequisite: PPO 292 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)
Prerequisite: None.
A comprehensive course leading to completion of the FAA Private Pilot Certificate knowledge requirements and preparation for introduction to Commercial Pilot certification requirements.
5 hours lecture.

PFT 102 PRIVATE PILOT PRACTICUM (1)
Prerequisite: PFT 101 or equivalent.
This course serves as a review of the knowledge areas required in the Private Pilot Practical Test Standards.
1 hour lecture.

PFT 103 PRIVATE PILOT REVIEW (1)
Prerequisite: FAA written exam passed, and FAA Private Pilot Airplane experience requirements met by the FAA.
Review all items listed in the Private Pilot Airplane Single Engine Land Test Standards to prepare for Private Pilot Certification.
1 hour individualized instruction.

PFT 111 SOLO FLIGHT PREPARATION (3.5)
Prerequisite: PFT 101.
A course designed to prepare the student to complete the FAA pre-solo flight and knowledge requirements.
3.5 hours lecture and individualized instruction.

PFT 112 CROSS-COUNTRY NAVIGATION (1.5)
Prerequisite: PFT 120.
A course designed to prepare the student to complete the FAA pre-solo cross-country flight and knowledge requirements.
1.5 hours lecture and individualized instruction.

PFT 113 PRIVATE PILOT CERTIFICATION COMPLETION (1)
Prerequisite: PFT 111, 112 or equivalent.
A course designed to provide students who meet FAA solo, and solo cross country requirements, with a means to complete the flight skill and knowledge requirements for FAA Private Pilot Certification.
1 hour lecture and individualized instruction.

PFT 120 AVIATION METEOROLOGY (5)
Prerequisite: None.
A comprehensive study of Aviation Meteorology.
5 hours lecture.

PFT 121 STAGE TWO COMMERCIAL PILOT FLIGHT COURSE (3)
Prerequisite: Completion of PFT 111, 112, 113 with a grade of C or better or possession of a Private Pilot Certificate.
An introduction to commercial pilot flight maneuvers, and completion of one-half of the solo cross country requirements for Commercial Pilot Certification.
1.5 hours lecture; 4.5 hours laboratory.

PFT 122 METEOROLOGY II (1)
Prerequisite: PFT 101 or permission of instructor.
A continuation of the study of aviation weather theory introduced in PFT 101 includes an in-depth study of weather elements, weather hazards, and aviation weather reports and forecasts.
1 hour lecture.

PFT 130 STAGE THREE GROUND SCHOOL (5)
Prerequisite: Completion of PFT 120 with a grade of C or better or possession of a Private Pilot Certificate.
A comprehensive course leading to completion of the FAA requirements for a Commercial Pilot Certificate.
5 hours lecture.

PFT 131 STAGE THREE COMMERCIAL PILOT FLIGHT COURSE (3)
Prerequisite: Completion of PFT 111, 112, 113, with a grade of C or better or possession of a Private Pilot Certificate.
A continuation of the development of the requirements for the Commercial Pilot Certificate.
1.5 hours lecture; 4.5 hours laboratory.
PFT 200 INTRODUCTION TO AVIATION OPERATIONS MANAGEMENT (3)
Prerequisite: None.
An introduction to basic management principles as they apply to aviation-oriented businesses
3 hours lecture.

PFT 204 STAGE IV COMMERCIAL PILOT GROUND SCHOOL (9)
Prerequisite: Completion of PFT 101, 102, 103 Ground Schools
Completion of the knowledge requirements to obtain certification as an Instrument Pilot
5 hours lecture.

PFT 206 AIRCRAFT SYSTEMS (4)
Prerequisite: PFT 101 or equivalent or permission of instructor.
An in-depth study of aircraft systems, to include components, functions, construction, operating theory and practice, applied physics and electrical principles, and systems problem-solving techniques for pilots.
4 hours lecture.

PFT 210 MULTI-ENGINE CLASS RATING GROUND SCHOOL (1)
Prerequisite: Five hours solo in a "complex" airplane.
A comprehensive course leading to completion of the knowledge level requirements for a Multi-engine Land Airplane Class Rating.
1 hour lecture.

PFT 211 MULTI-ENGINE CLASS RATING FLIGHT COURSE (1)
Prerequisite: Five hours solo in a "complex" airplane. Concurrent enrollment or prior completion of PFT 210.
A comprehensive course leading to completion of the FAA requirements for a Multi-Engine Land Airplane Class Rating
1 hour lecture and individualized instruction.

PFT 214 INSTRUMENT FLIGHT NAVIGATION AND AIR TRAFFIC CONTROL PROCEDURES (3.5)
Prerequisite: PFT 204.
A course designed to prepare the student to meet the FAA instrument flight navigation and air traffic control procedures requirements.
3.5 hours lecture and individualized instruction.

PFT 215 INSTRUMENT FLIGHT CROSS-COUNTRY PROCEDURES AND PRACTICAL TEST PREPARATION (1.5)
Prerequisite: PFT 214
A course designed to prepare the student with instrument flight navigation skills to complete the FAA practical test certification requirements
1.5 hours lecture and individualized instruction.

PFT 216 INSTRUMENT PILOT PRACTICUM (1)
Prerequisite: PFT 204 or equivalent
A review of all required areas enumerated in the Instrument Rating Practical Test Standards issued by the FAA
1 hour lecture

PFT 217 INSTRUMENT PILOT REVIEW (1)
Prerequisite: FAA written exam passed and FAA Instrument Pilot Airplane experience requirement met.
Review of all items listed in the Instrument Pilot Airplane Single Engine Land Test Standards to prepare for Instrument Pilot Certification
1 hour lecture and individualized instruction

PFT 218 STAGE V COMMERCIAL PILOT COMPLETION COURSE (1)
Prerequisite: Completion of PFT 215
This course will enable the student to complete the flight skill level requirements for the flight portion of the FAA Commercial Pilot Practical Test
1 hour lecture and individualized instruction.

PFT 219 COMMERCIAL PILOT PRACTICUM (1)
Prerequisite: PFT 121, 130 or equivalent.
A review of the material enumerated in the Commercial Pilot Single Engine Land Practical Test Standards
1 hour lecture

PFT 220 COMMERCIAL PILOT REVIEW (1)
Prerequisite: FAA written exam passed, and FAA Commercial Pilot Airplane experience requirements met
Review of all items listed in the appropriate Commercial Pilot Airplane Land Test Standards to prepare for Commercial Pilot Certification
1 hour lecture and individualized instruction

PFT 230 FLIGHT INSTRUCTOR FUNDAMENTALS OF INSTRUCTION (3)
Prerequisite: PFT 130 and PFT 204 or permission from the instructor
A study of the basic principles and processes of learning and teaching as it relates to the task of conveying aeronautical knowledge and skills to students.

3 hours lecture.

PFT 231 FLIGHT INSTRUCTOR AIRPLANE GROUND SCHOOL (5)
Prerequisite: Completion of PFT 130, PFT 204
A comprehensive course leading to completion of the ground school requirements for an FAA Flight Instructor Airplane Certification.
5 hours lecture.

PFT 232 FLIGHT INSTRUCTOR AIRPLANE FLIGHT COURSE (3)
Prerequisite: Possession of a Commercial Pilot airplane certificate with an Instrument Rating. Concurrent enrollment or prior completion of PFT 231
A comprehensive course leading to completion of the FAA requirements for a Flight Instructor Airplane Certification.
3 hours lecture and individualized instruction.

PFT 233 FLIGHT INSTRUCTOR AIRPLANE REVIEW (1)
Prerequisite: FAA written exam passed and FAA Flight Instructor Airplane experience requirements met by the student
Review of all test items for the Flight Instructor Airplane Certification test as outlined in the Practical Test Standards published by the FAA.
1 hour lecture and individualized instruction.

PFT 234 FLIGHT INSTRUCTOR PRACTICUM (2.5)
Prerequisite: PFT 230 and 231 or equivalent
A review of the knowledge areas enumerated in the Flight Instructor Airplane Single Engine Land Practical Test Standards.
2.5 hours lecture.

PPT 237 INTRODUCTION TO AVIATION RISK MANAGEMENT & INSURANCE (3)
Prerequisite: None
An introductory analysis of aviation risk management and insurance functions, concept and analysis of risk, insurability and risk retention; and analysis and use of insurance contracts as they apply to aviation property, liability, and employee exposure. The course is designed for prospective employees and supervisors in aviation-related business.
3 hours lecture.

PFT 240 MULTI-ENGINE AIRPLANE INSTRUCTOR GROUND SCHOOL COURSE (2)
Prerequisite: Possession of a Flight Instructor Airplane Certificate and Multi-engine Land Airplane Rating
A comprehensive course leading to completion of the FAA requirements for a Multi-engine Flight Instructor Certificate.
2 hours lecture.

PPT 241 MULTI-ENGINE AIRPLANE INSTRUCTOR FLIGHT COURSE (2)
Prerequisite: Flight Instructor Certification and a Multi-engine Airplane Rating. Completion of PFT 240
A comprehensive course designed to complete the requirements for an FAA Multi-engine Instructor Certificate.
1 hour lecture; 3 hours laboratory.

PPT 243 PILOT-IN-COMMAND, TAILWHEEL AIRPLANE (1.5)
Prerequisite: Private Pilot Certificate
Provide individualized instruction to the holder of a pilot certificate in the procedures and operations required by Federal Aviation Regulations 61.111(a)(2) to be pilot in command of a tailwheel airplane.
5 hours individualized instruction and laboratory.

PPT 245 AIR TRANSPORTATION (3)
Prerequisite: None
A survey of the development and operation of the air transportation system, including air carrier regulation, deregulation, economics, and organization.
3 hours lecture.

PPT 247 AVIATION LAW (3)
Prerequisite: Sophomore standing or permission of instructor
An introduction to the legal environment of aviation, including operation of the United States Constitution relating to aviation matters, the Warsaw Convention, legal definitions, worker's compensation liability to others, and crimes as they relate to aviation and aircraft.
3 hours lecture.

PPT 250 FLIGHT INSTRUCTOR INSTRUMENT AIRPLANE GROUND SCHOOL (3)
Prerequisite: Possession of an Airplane Flight Instructor Certificate and Instrument Rating
A comprehensive course leading to completion of the requirements for FAA certification as a Flight Instructor Instrument Airplane.
3 hours lecture.
PPT 251 FLIGHT INSTRUCTOR INSTRUMENT AIRPLANE FLIGHT COURSE (3)
Prerequisite: Possession of an Airplane Flight Instructor Certificate and Instrument Rating. Concurrent enrollment or prior completion of PPT 250.
A comprehensive course leading to completion of the FAA requirements for an Instrument Flight Instructor Airplane Rating.
3 hours lecture and individualized instruction.

PPT 250 AIRLINE TRANSPORT PILOT GROUND SCHOOL (3)
Prerequisite: Possession of a Commercial Pilot Airplane Certificate with an Instrument Rating.
A comprehensive course leading to completion of the FAA requirements for an Airline Transport Pilot Certification.
3 hours lecture.

PPT 261 AIRLINE TRANSPORT PILOT FLIGHT (1)
Prerequisite: Possession of a Commercial Pilot Airplane Certificate with an Instrument Rating.
A comprehensive course leading to completion of the FAA requirements for an Airline Transport Pilot Certification.
1 hour lecture and individualized instruction.

PPT 294 FIELD EXPERIENCE IN PROFESSIONAL FLIGHT TECHNOLOGY (1-6)
Prerequisite: Sophomore standing in a declared major and prior approval of Cooperative Education Program Coordinator.
A supervised cooperative education work experience involving the combined efforts of educators and employers to accomplish career objectives in Professional Flight Technology. Variable credit (1-6) is available by special arrangement. May be taken four times for a maximum of 16 credit hours, no more than 6 units in a given semester.
NOTE: Lower and upper division cooperative education courses may be combined but cannot exceed 16 units.

PSYCHOLOGY

PSY 010* PROBLEM SOLVING SKILLS DEVELOPMENT (3)
Prerequisite: Referral by Developmental Studies Department.
A self-paced individualized course designed to develop independent problem-solving skills. Students are exposed to information needed for problem conceptualization and are required to understand rules and their applications in problem solution. Students also develop attitudes needed for problem mastery such as perseverance and acceptance of negative feedback.
In completing this course students are interviewed and pre-tested to determine their special educational needs and provided with individualized study plans. Because it is self-paced, this course may be repeated and a grade of 'F' will be assigned until course objectives are met with a grade of 'C' or better.
3 hours lecture.

PSY 100 UNDERSTANDING HUMAN BEHAVIOR (3)
Prerequisite: None.
A survey of the major areas in psychology to include behavior, perception, sensation, motivation, learning and memory, maturity and development, personality, and social psychology. Coconino College elective credit unless otherwise designated in degree programs.
3 hours lecture.

PSY 101 INTRODUCTION TO PSYCHOLOGY (3)
Prerequisite: None.
A survey of major topics in psychology to include personality, cognition, motivation and emotion, conditioning and learning, mental abilities, human development, sensation and perception, social interaction. Theories, research findings and their applications are considered. Fields within psychology, research methods, and assessment procedures are also introduced.
3 hours lecture.

PSY 210 SOCIAL PSYCHOLOGY (3)
Prerequisite: PSY 101.
A study of basic concepts, theories and research pertaining to human interaction. Topics include attribution, attitude formation and change, interpersonal interaction, altruism and aggression, environmental psychology and group structure and processes.
3 hours lecture.

PSY 230 PERSONALITY THEORIES AND RESEARCH (3)
Prerequisite: PSY 101, offered spring semester.
Description and appraisal of personality based upon theory and research findings. Topics include personality and life-span development, motivation and emotion, interests and abilities, human performance, social and verbal behavior, physiological responding, personality assessment, normal and abnormal personality, and special applications.
3 hours lecture.
PSY 240 DEVELOPMENTAL PSYCHOLOGY (3)
Prerequisite: PSY 101
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)
Prerequisites: MAT 122, PSY 101 or equivalent
Basic concepts of experimental design, measurement, and descriptive and inferential statistics as applied to psychological variables.
3 hours lecture.

PSY 290 EXPERIMENTAL PSYCHOLOGY (4)
Prerequisites: PSY 101 and PSY 250
Student involvement in the review and analysis of scientific literature, designing and implementing experiments, collecting and analyzing data, interpreting results, and reporting experimental findings using APA format.
3 hours lecture. 3 hours laboratory.

PUBLIC ADMINISTRATION

PAD 101 MANAGEMENT SKILLS (2)
Prerequisite: Sponsorship by a governmental agency
A practical study of public-sector management for the first-line supervisor. Topics include communication techniques, delegation of authority, management by objectives, performance evaluation, discipline, and employee orientation. Student grade assigned on a pass/fail basis.
2 hours lecture.

PAD 102 THE MANAGER AND SYSTEM RELATIONSHIPS (2)
Prerequisite: PAD 101 and sponsorship by a governmental agency
A practical study of the public manager as a member of an organization with emphasis upon the processes and procedures necessary for managerial competence. Topics include management practices, employee motivation, organizational communications, budgetary systems and management, equal employment opportunity, and employee-management relations. Student may elect to take course on a pass/fail basis. A "P" is assigned a grade of "C" or better.
2 hours lecture.

PAD 103 THE MANAGER AND THE WORK GROUP (2)
Prerequisite: PAD 102 and sponsorship by a governmental agency
A practical analysis of the manager as a group/team leader. Topics include group dynamics, behavioral analysis, group problem-solving and decision making, change management, conflict management, and meeting skills. 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 102 APPLICATIONS IN PUBLIC ADMINISTRATION (.5)
Prerequisite: None
A study of a variety of topics, such as the strategic planning process, leadership practices, policy analysis, program evaluation and budgeting, including financial management, information management, organizational design, culture and productivity. May be repeated for credit.
1 hour lecture.

PAD 201 LEADERSHIP AND MANAGEMENT OF ORGANIZATIONS IN THE PUBLIC SECTOR (4)
Prerequisite: Completion of the Arizona Department of Administration Certified Supervisory Management Program, or two years of post-secondary education including nine credit hours of management or related coursework and two years of supervisory experience which includes training in performance evaluation, affirmative action, and related topics.
A practical analysis of the public manager's role. Emphasis upon leadership influence, productivity, evaluation, strategic planning, organizational design and analysis, risk management, administrative liability, public sector budgeting, and quality circles. Includes an introduction to computer use and application. Initial course in the Management Development Program.
4 hours lecture.

PAD 202 SYSTEMS APPROACH TO PUBLIC MANAGEMENT (3)
Prerequisite: PAD 201, two years in a supervisory position, and sponsorship by a governmental agency
A practice analysis of the methodologies, techniques and applications of the systems approach to management. Additional topics include management by objectives as a systems approach and the use of micro-computers for systems analysis. Student may elect to take the course on a pass/fail basis. A "P" is assigned for a grade of "C" or better.
3 hours lecture.
PAD 203 THE DECISION-MAKING PROCESS AND CASE METHOD ANALYSIS (2)
Prerequisite: PAD 202, two years in a supervisory position and sponsorship by a governmental agency
A practical analysis of the managerial decision-making process including situational analysis, problem analysis, and decision analysis. Corresponds to level VI-A in the ASU CPM program. Students may elect to take the course on a pass/fail basis. A "P" is assigned for a grade of "C" or better.
2 hours lecture

READING
RDG 009A ADULT BASIC READING I (3)
Prerequisite: Recommendation from placement testing
An introduction to reading and writing English for native and non-native speakers of English who need an Adult Basic Education approach to the alphabet, English phonetics, and how to read print as well as how to form words into basic English sentences.
3 hours lecture
Students failing to progress beyond the 4.0 reading level and with the recommendation of the instructor will be allowed to enroll in RDG 009B. This class may not be used for graduation credit.

RDG 009B ADULT BASIC READING II (3)
Prerequisite: Recommendation from placement testing
An introduction to reading and writing English for native and non-native speakers of English who need an Adult Basic Education approach to the alphabet, English phonetics, and how to read print as well as how to form words into basic English sentences.
3 hours lecture
Students failing to progress beyond the 4.0 reading level and with the recommendation of the instructor will be allowed to enroll in RDG 009C. This class may not be used for graduation credit.

RDG 009C ADULT BASIC READING III (3)
Prerequisite: Recommendation from placement testing
An introduction to reading and writing English for native and non-native speakers of English who need an Adult Basic Education approach to the alphabet, English phonetics, and how to read print as well as how to form words into basic English sentences.
3 hours lecture
This class may not be used for graduation credit.

RDG 019 TRANSITIONAL READING (3-4)
Prerequisite: ESL 004 of placement test score
A course designed for ESL students beginning regular college classes and for lower-level readers of English. Emphasis on basic literacy, comprehension, vocabulary, building a 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 ELT 019.
3 hours lecture, 1.5 hours laboratory

RDG 020A READING FUNDAMENTALS I (5)
Prerequisite: None
A review of basic reading, spelling, and study skills for college students placing below the 9.5 reading level on the standardized reading placement test. This class emphasizes literal comprehension, rate improvement, vocabulary development, review of phonetics, and spelling rules applied to English dictionary skills, basic study skills, and library use. Students failing to progress beyond the 9.5 reading level and with the recommendation of the instructor will be allowed to enroll in RDG 020B.
5 hours lecture

RDG 020B READING FUNDAMENTALS II (5)
Prerequisite: RDG 020A or permission of instructor
A review of basic reading, spelling, and study skills for college students placing below the 9.5 reading level on the standardized reading placement test. This class emphasizes literal comprehension, rate improvement, vocabulary development, review of phonetics, and spelling rules applied to English dictionary skills, basic study skills, and library use. Students failing to progress beyond the 9.5 reading level and with the recommendation of the instructor will be allowed to enroll in RDG 020C.
5 hours lecture

RDG 020C READING FUNDAMENTALS III (5)
Prerequisite: RDG 020B or permission of instructor
A review of basic reading, spelling, and study skills for college students placing below the 9.5 reading level on the standardized reading placement test. This class emphasizes literal comprehension, rate improvement, vocabulary development, review of phonetics, and spelling rules applied to English dictionary skills, basic study skills, and library use.
5 hours lecture

RDG 021 POWER READING (3)
Prerequisite: Placement test score of permission of instructor
A continuation of RDG 020. Emphasis on literal literal comprehension, rate building, vocabulary development, and textbook strategies.
3 hours lecture
RDQ 110 COLLEGE STUDY SKILLS (3)
Prerequisite: None
Analysis of motivation and goals. Emphasis on reading and listening skills, study skills and review strategies. Use of the library. Orientation to College resources
3 hours lecture.

RUSSIAN

RUS 101 ELEMENTARY RUSSIAN (4)
Prerequisite: None
Comprehension of the spoken and written language, proper pronunciation, usage of proper grammar, oral reading skills, composition and conversation.
4 hours lecture; 1 hour laboratory.

RUS 102 ELEMENTARY RUSSIAN (4)
Prerequisite: RUS 101
Continuation of RUS 101. Comprehension of the spoken and written language, proper pronunciation, usage of proper grammar, oral reading skills, composition, and conversation.
4 hours lecture; 1 hour laboratory.

RUS 115 CONVERSATIONAL RUSSIAN I (3)
Prerequisite: None
Essentials of Russian for conversational situations. Designed for students who wish to use Russian for business, pleasure, or travel. May be used for elective credit toward the AA degree, but is transferable to a four-year institution only upon satisfactory performance in a proficiency examination.
3 hours lecture.

RUS 116 CONVERSATIONAL RUSSIAN II (3)
Prerequisite: RUS 115
Continuation of RUS 115 with emphasis on role playing and use of everyday vocabulary and conversational phrases. Additional practice in reading, writing, speaking and understanding the language with short stories to enrich the student's vocabulary. May be used for elective credit toward the AA degree, but is transferable to a four-year institution only upon satisfactory performance in a proficiency examination.
3 hours lecture.

SOCIAL SERVICES

SSV 103 MANUAL COMMUNICATIONS I (SIGN LANGUAGE) (3)
Prerequisite: None
Principles, methods and techniques of communicating manually with the deaf and other persons with communication disabilities. May be repeated for Cochise College elective credit.
3 hours lecture.

SSV 104 MANUAL COMMUNICATIONS II (SIGN LANGUAGE) (3)
Prerequisite: SSV 103 or permission of instructor
Intermediate level principles and techniques of communicating manually with the deaf and other persons with communication disabilities, emphasizing development of speed, accuracy and conversational skills.
3 hours lecture.

SSV 105 SUBSTANCE ABUSE: CAUSES AND TREATMENT (3)
Prerequisite: None
A practical and theoretical introduction to psychological and sociocultural aspects of substance abuse.
3 hours lecture.

SSV 194 EARLY CHILDHOOD DEVELOPMENT: CONCEPTION TO SIX YEARS (3)
Prerequisite: PSY 101
This course is designed to address issues, questions and problems germane to professional human service practice. Specifically, study will include consideration of materials and information across the multiple axes of early childhood development. Practical implications for child care will also be addressed.
3 hours lecture.

SSV 210 LOSS, GRIEF AND DYING (3)
Prerequisite: None
An exploration of grief, dying and the loss of loved persons as universal human experiences, with focus upon coping skills of affected persons and helping skills of others and study of values, behaviors and intervention strategies in cultural, medical, social and legal contexts.
3 hours lecture.

SSV 224 FIELD EXPERIENCE IN SOCIAL SERVICES (1-6)
Prerequisite: Sophomore standing in a declared major and prior approval of Cooperative Education Program Coordinator
A supervised Cooperative Education work experience involving the combined efforts of educators and employers to accomplish career objectives in social services. Variable credit (1-6) is available by special arrangement. May be taken four times for a maximum of 16 credit hours, no more than 6 units in a given semester.
SSV 270 INTERPERSONAL COMMUNICATIONS (3)
Prerequisite: Second year standing in AAS Program or COM 102 and permission of instructor
A course to develop self-awareness and insight into interpersonal relationships with emphasis upon the development of communication skills and techniques for one-on-one professional communication (Identical with COM 220)
3 hours lecture

SSV 271 COMMUNICATIONS IN SMALL GROUPS (3)
Prerequisite: SSV 270 or COM 270 or permission of instructor
A continuation of SSV 270 refining skills and techniques learned first semester and adding analysis and presentation with emphasis on small-group communication processes (Identical to COM 271)
3 hours lecture

SSV 272 SOCIAL SERVICES SEMINAR (3)
Prerequisite: PSY 101 or SOC 101
A survey course covering the processes of group work and community organization Designed for the student enrolled in the AAS Social Services Program
3 hours lecture

SSV 273 DETERMINANTS OF HUMAN BEHAVIOR (3)
Prerequisite: Sophomore Standing Social Work AAS Program
Selected behavioral theories presented as the base for understanding adaptive and maladaptive behavior, examined in the context of social, cultural and ethnic differentials with implications for social work and counseling practice
3 hours lecture

SOCIOLOGY

SOC 100 A FAMILY PORTRAIT (3)
Prerequisite: None
A telecourse consisting of thirty one-half hour lessons that introduces students to objective, sociological and psychological views of marriage, families, and alternate life styles in contemporary America. Emphasis upon personal awareness, growth, and interpersonal relationships
Cochise College elective credit only unless otherwise designated in degree programs (Identical with HEC 101)
Limited to students having access to Desert Cable
3 hours lecture

SOC 101 INTRODUCTION TO SOCIOLOGY (3)
Prerequisite: None
A course presenting sociology as a science that explores its methods and studies various aspects of group behavior, social change, social institutions and the existing social system and that develops a perspective on the individual's role in the formation of society
3 hours lecture

SOC 160 ETHNIC GROUPS AND MINORITIES (3)
Prerequisite: SOC 101 or permission of instructor
An overview of minority group relations from a sociological viewpoint focusing upon the Mexican, Black, Asian, and the Indian-American
3 hours lecture

SOC 202 SOCIAL PROBLEMS (3)
Prerequisite: SOC 101 and ENG 101 recommended
Topics covered include social inequalities affecting women, racial and ethnic minorities and the aged. In addition, inequalities dealing with social education and financial institutions. Also considered are problems of drug and alcohol abuse, physical and mental health care, crime and sexual deviance. The course is designed to provide students with the ability to assess social problems and propose resolutions in a logical and scientific manner
3 hours lecture

SOC 207 INTRODUCTION TO SOCIAL WELFARE (3)
Prerequisite: None
An introduction to the welfare and social insurance systems. Designed to acquaint the student with the various programs available to the general public through regulation and private means
3 hours lecture

SOC 210 MARRIAGE AND THE FAMILY (3)
Prerequisite: None
Courtship, mate selection, marital adjustment, parenthood and family living from sociological and psychological points of view (Identical to HEC 210)
3 hours lecture

SOC 299 INDIVIDUAL STUDIES (1-4)
Prerequisite: Approval of the division chair and instructor
Completion of a research project 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 chairperson. Notation of the study may be repeated for credit.
SPANISH

SPA 011 SPANISH ORTHOGRAPHY (1)
Prerequisite: None
A concentrated study of Spanish spelling with emphasis on a step-by-step procedure from the simplest to the most complex words in Spanish. Special attention given to the accent mark, colloquial and common errors and to areas of special spelling problems.
1 hour lecture.

SPA 025 SPANISH FOR TEACHERS (3)
Prerequisite: None.
A course especially designed for the classroom teacher who needs a basic familiarity with Spanish in order to effectively communicate with his/her Spanish-speaking pupils and their parents.
3 hours lecture.

SPA 026 SPANISH FOR MEDICAL PERSONNEL (3)
Prerequisite: None.
A course especially designed for doctors, nurses, and all other medical personnel who wish to effectively communicate with their Spanish-speaking patients and their families.
3 hours lecture.

SPA 092 SPANISH FOR OCCUPATIONS (1)
Prerequisite: Concurrent enrollment in SPA 102 or permission of instructor.
Intensive practice with Spanish vocabulary and specialized terminology useful in the workplace.
2 hours laboratory.

SPA 094 INTRODUCTION TO TRANSLATION AND INTERPRETATION (1)
Prerequisite: Concurrent enrollment in SPA 216 or 202 or permission of instructor.
An introduction to basic concepts and procedures useful in translation and interpretation between Spanish and English. Experience working with both general language and materials in the student’s occupational specialty.
2 hours laboratory.

SPA 101 ELEMENTARY SPANISH (4)
Prerequisites: None.
Comprehension of the spoken language, proper pronunciation, usage of proper grammar, oral reading skills, composition and conversation.
4 hours lecture; 1 hour laboratory.

SPA 102 ELEMENTARY SPANISH (4)
Prerequisite: SPA 101
Comprehension of the spoken language, proper pronunciation, usage of proper grammar, oral reading skills, composition and conversation.
4 hours lecture; 1 hour laboratory.

SPA 115 CONVERSATIONAL SPANISH (3)
Prerequisite: None
Essentials of Spanish for conversational situations, designed for students who wish to use Spanish for business, pleasure or travel. SPA 115, 116, 215 may be transferable to a four-year institution only upon satisfactory performance of a proficiency examination.
3 hours lecture.

SPA 116 CONVERSATIONAL SPANISH (3)
Prerequisite: SPA 115 or permission of instructor.
Continuation of SPA 115 with emphasis on role playing and use of everyday vocabulary and conversational phrases. For credit and transfer requirements see course description for SPA 115.
3 hours lecture.

SPA 102 SPECIAL TOPICS IN LANGUAGE, LITERATURE & CULTURE (.5-1)
Prerequisite: None
A rotating forum/seminar emphasizing linguistic development and change, regional literature, literary styles, folklore and related topics. Topics will vary in accordance with changes in student need and interest. Cochise College elective credit only unless otherwise designated in degree programs.
1/2-1 hour credit depending upon the length of the seminar.

SPA 201 INTERMEDIATE SPANISH (4)
Prerequisite: SPA 102 or two years of high school Spanish with a grade of 'C' or better or competency based on travel and experience demonstrated to the satisfaction of the instructor.
A review of grammar, pronunciation and development of patterns of speech in Spanish with additional practice in reading, writing, speaking and understanding the language, supplemented by essays and short stories to enrich the student's vocabulary.
4 hours lecture.
SPA 202 INTERMEDIATE SPANISH (4)
Prerequisite: SPA 201 or three years of high school Spanish with a grade of 'C' or competency based on travel and experience demonstrated to the satisfaction of the instructor.
A review of grammar, pronunciation, and development of patterns of speech in Spanish with additional practice in reading, writing, speaking and understanding the language with essays and short stories to enrich the student's vocabulary.
4 hours lecture

SPA 203 SPANISH FOR NATIVE SPEAKERS I (4)
Prerequisite: Placement by interview and/or writing sample.
Intensive work in speaking, reading and writing standard Latin American Spanish for native and bilingual speakers of Spanish; special attention will be given to regional and stylistic variations.
4 hours lecture

SPA 215 CONVERSATIONAL SPANISH (3)
Prerequisite: SPA 116 or permission of instructor.
Continuation of SPA 115 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 218 CONVERSATIONAL SPANISH (3)
Prerequisite: SPA 215 or permission of instructor.
A continuation of SPA 115, 116, and 215. Essentials of Spanish for conversational situations, designed for students who wish to use Spanish for business, pleasure, or travel. SPA 115, 116, 215 and 216 may be transferable to a four-year institution only upon satisfactory performance of a proficiency examination.
3 hours lecture.

SPA 220 INTRODUCTION TO SPANISH LITERATURE (3)
Prerequisite: SPA 202 or completion of equivalent course with permission of instructor.
A survey of the development of Spanish literature emphasizing the development of the literary genres with relation to the historical and social backgrounds of Spain. The beginnings of Spanish literature to 1700.
3 hours lecture.

SPA 221 INTRODUCTION TO SPANISH LITERATURE (3)
Prerequisite: SPA 202 or completion of equivalent course with permission of instructor.
A survey of the development of Spanish literature emphasizing the development of the literary genres with relation to the historical and social backgrounds of Spain after the 18th century with emphasis on the generation of 1898 and after.
3 hours lecture.

SPA 224 INTRODUCTION TO MEXICAN LITERATURE (3)
Prerequisite: SPA 202 and permission of instructor or completion of course similar to SPA 202 or Mexican schooling above 6th grade or four years of high school Spanish.
An introduction to the works of representative Mexican authors and a historical look at the literature of Mexico during the Colonial period and the period of Independence. Conducted in Spanish.
3 hours lecture.

SPA 225 INTRODUCTION TO MEXICAN LITERATURE (3)
Prerequisite: SPA 202 or completion of equivalent course with permission of instructor.
An introduction to the works of representative Mexican authors whose genius reflects a historical and literary perspective during times of national stress after Mexico's independence from Spain and its revolution of 1910.
3 hours lecture.

SPA 227 SPANISH BUSINESS COMMUNICATIONS (3)
Prerequisite: SPA 202 or equivalent placement.
A study of business compositions prepared in a business organization-typical internal and external communications (letters, memos, and reports) with emphasis on applying Spanish fundamentals, usage, syntax, and methods of organization.
3 hours lecture.

SPA 275 INTERMEDIATE SPANISH CONVERSATION AND COMPOSITION (3)
Prerequisite: SPA 202 or completion of equivalent course with permission of instructor.
A study of short excerpts from Hispanic literature to promote topic-centered discussions and compositions in Spanish conducted principally in Spanish. Review and application of Spanish grammar rules and building of Spanish vocabulary.
3 hours lecture.
SPA 276 INTERMEDIATE COMPOSITION AND CONVERSATION (3)
Prerequisite: SPA 275 or equivalent; proficiency as assessed by the instructor.
Continuation of SPA 275, conducted in Spanish. Further readings and discussions of short stories, articles, and other pertinent materials to provide continued exposure to new vocabulary and enhance usage of the Spanish language.
3 hours lecture

SPA 290 FUNDAMENTALS OF TRANSLATION AND INTERPRETATION (3)
Prerequisite: ENG 167 and SPA 267 or permission of instructor based on prescribed proficiency tests; concurrent enrollment in LIN 180 preferred.
An introduction to translation and interpretation theory and practice. Emphasis on application: translation of representative texts chosen from general and commercial contexts, interpretation of representative discourse chosen from a variety of social and interpretation practices, ethics and technology. Identical with LIN 290.
3 hours lecture

SPA 299 INDIVIDUAL STUDIES (1-4)
Prerequisite: Approval of the division chair and instructor.
Completion of a research problem or an outlined course of study under the direction of a faculty member with contact 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 native speakers designed to provide a basic speaking understanding facility in Spanish language. Eight units of college credit is available in the summer program which is equivalent to Spanish 101 and 102.

THEATRE ARTS (DRAMA)

THE 101 ACTING (3)
Prerequisite: None
Introduction to the theories of dramatic art and practice in acting situations. This is an intensive course in learning about deportment, how to deal with the demands of the theater, how to comport oneself on the stage, how to enter, exit, to steal attention. The method is the use of basic acting techniques.
3 hours lecture plus performance

THE 102 ACTING (3)
Prerequisite: None
Through class discussion, directed reading, pantomime, improvisation, and performance of play cuttings, the student will gain understanding and skill in the creative process of acting.
3 hours lecture

THE 103 INTRODUCTION TO THEATRE (3)
Prerequisite: None
History and tradition of western theatre with analysis and discussion of representative drama, classical to contemporary.
3 hours lecture

THE 104 PRINCIPLES AND TECHNIQUES OF PLAY PRODUCTION (3)
Prerequisite: None
Introduction to the theory and practice of directing, set design, costumes, stage lighting, make-up and production organization.
3 hours lecture

THE 105 THEATRE DANCE (1)
Prerequisite: None
Study and practice in stage movement and choreography for theatrical production. Designed for students in musical theatre productions. Meets one day a week for three hours. (Not intended for transfer credit.)
One three hour rehearsal each week plus performance

THE 110 THEATRE WORKSHOP (1-3)
Prerequisite: Permission of instructor/audition
Actual participation in a college dramatic production either in an acting or production role. No student will be awarded more than four such credits.

THE 299 INDIVIDUAL STUDIES (1-4)
Prerequisite: Approval of the division chair 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)
Prerequisite: None.
Safety practices, set-up and operation of oxyacetylene welding equipment. Welding in flat, horizontal and overhead positions of standard alloys of steel, brazing and soldering of ferrous and non-ferrous metals.
1 hour lecture; 4 hours laboratory

WLD 106* ARC WELDING (3)
Prerequisite: WLD 105 or permission of instructor.
Safety practices, set-up and operation of arc welding equipment. Techniques of joining metals in all positions by electric arcs with the use of the electrode.
1 hour lecture; 4 hours laboratory

WLD 102* WELDING SURVEY (4)
Prerequisite: None.
Theory and application of all major welding processes, including parameters, advantages and limitations, applications, equipment, health and safety. Introductory welding metallurgy, weldment design and inspection, and practical application of SMAW, Oxyacetylene, brazing, GTAW and GMAW.
4 hours lecture; 1 hour laboratory

WLD 207* MIG AND TIG WELDING (3)
Prerequisite: WLD 105 and 106.
Safety practices, 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)
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 hours laboratory

WLD 209* GAS TUNGSTEN ARC WELDING (GTAW) (3)
Prerequisite: WLD 105 and 106.
Safety practices, set up and operation of gas tungsten arc welding (GTAW) equipment, using ferrous and nonferrous metals.
2 hours lecture; 3 hours laboratory

WLD 210* PIPE AND PLATE WELDING (3)
Prerequisite: WLD 105 and 106.
Continuation of WLD 106 Arc Welding to include out of position welding, pipe and plate welding and welding of medium carbon and high sulfur steels.
2 hours lecture; 3 hours laboratory

WLD 211* PIPE FITTING AND WELDING (3)
Prerequisite: WLD 105, 106, 210.
Continuation of WLD 210 Pipe 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, oxyacetylene, TIG or MIG welding.
2 hours lecture; 3 hours laboratory

WLD 218* WELDING DESIGN AND FABRICATION (3)
Prerequisite: WLD 105, 106, 210.
Described for students with demonstrated welding skills, to learn proper methods of design, layout and fabrication for welding. A specific project will be selected by the student or assigned by the instructor. The project will be constructed by use of electric arc, oxyacetylene, TIG or MIG welding.
2 hours lecture; 3 hours laboratory

WLD 217* PIPE LAYOUT AND FITTING (3)
Prerequisite: WLD 211.
Continuation of WLD 211 Pipe Welding to include methods of layout, fittings and welding of pipe of various sizes and types.
2 hours lecture; 3 hours laboratory

WLD 224 FIELD EXPERIENCE IN WELDING TECHNOLOGY (1-6)
Prerequisite: Sophomore standing in a declared major and prior approval of Cooperative Education Program Coordinator.
A supervised Cooperative Education work experience involving the combined efforts of educators and employers to accomplish career objectives in welding technology. Variable credit (1-6) is available by special arrangement. May be taken four times for a maximum of 16 credit hours, no more than six units in a given semester

ZOOLOGY
Please see Biological Sciences
ADMINISTRATION

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

Mr. 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. Joe Gilliland, Interim Vice President for Instruction
University of Texas, B.A., M.A.
Arizona State University, Ph.D.

Dr. 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
Duke University, B.A.
Emory University, M.A.T.

Dr. Mark von Densnon, Dean, Student Services,
Sierra Vista Campus
University of Arizona, B.A., M.Ed., Ph.D.
FACULTY AND PROFESSIONAL STAFF

FACULTY EMERITI

Dr. Joe Gilliland,
University of Texas, B.A., M.A
Arizona State University, Ph.D.

Mr. George Huncovsky,
University of North Dakota, B.S., M.S.

Dr. Donald R. Johnson,
San Francisco State College, B.A
Los Angeles State College, M.A
Arizona State University, Ph.D.

Dr. Dan W. Rehurek,
University of South Dakota, B.S
University of Northern Colorado, M.A
Nova University, Ed.D.

Mr. Thomas Waddoup,
University of Idaho, B.S.
Arizona State University, M.S.

Dr. John Doty,
University of Southern California, A.B., M.S
California State University at L.A., M.A
University of Michigan, D.A.

Barbara Adams, Campus Nurse (1981)
College College, A.A

William Akem, Instructor, Computer Information
Management (1995)
San Francisco State University, B.A

Daniel Neidert, Assistant Professor, Financial Aid
Veterans Affairs, Coordinator (1998)
Grand View College, B.A

University of Arizona, M.A

Robert Atkinson, Instructor, Biological Science, History (1999)
Arizona State University, B.A

University of Notre Dame, M.A.

Chicago State Teacher's College, B.A
Northern Illinois University, M.S

Norman Bates, Instructor, English (1994)
United States Military Academy, B.S
University of Massachusetts, M.A.

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

Lisa Bennett, Assistant Math Instructor/Instructor (1990)
Cornell University, B.S.

Neil Bennett, Director, Business Services (1987)
University of New Mexico, B.A.

Elizabeth R. Benefield, Financial Coordinator (1993)

Paul T. Blagg, Instructional Computer Lab Coordinator (1993)

Trudy J. Berry, Coordinator, ASED/ALGED (1994)
University of Northern Iowa, B.A
University of Arizona, M.A

Martha Bordeau, Instructor, Spanish (1990)
Manana Galsk Foreign Language Institute, B.A
University of Hawaii, M.S.

Paul Hoover, Instructor, E.S.I. (1982)
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EQUAL EDUCATIONAL OPPORTUNITY POLICY

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