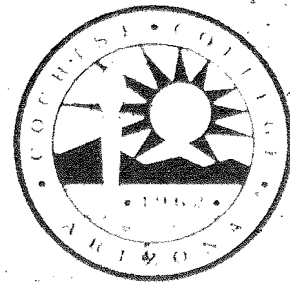
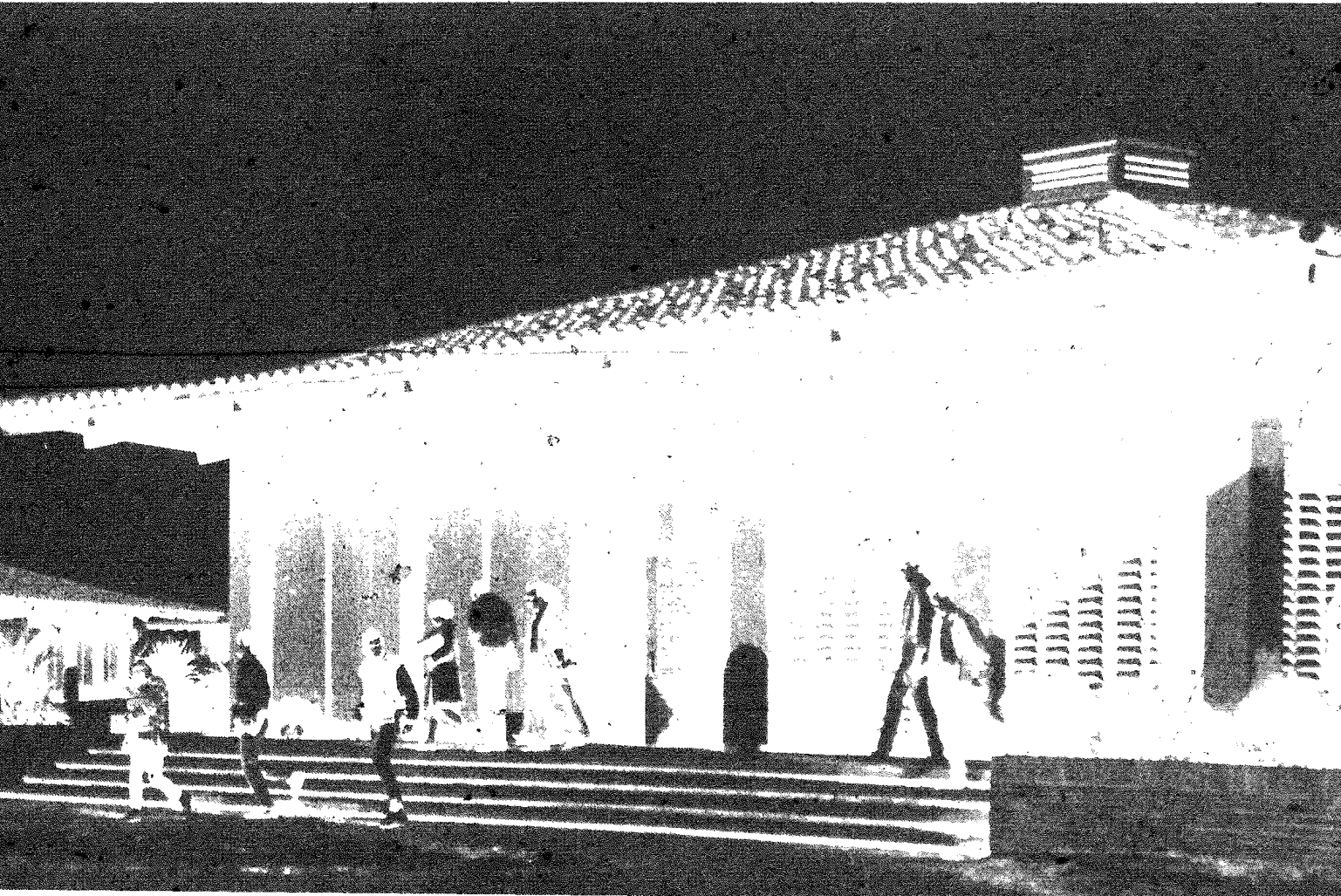


COCHISE COLLEGE CATALOG



1969-70



**CATALOG and
ANNOUNCEMENTS**

Academic Year 1969-70

Cochise College

A Junior College

Douglas, Arizona 85607

Cochise College is accredited by
The North Central Association of
Colleges and Secondary Schools

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COCHISE COLLEGE CALENDAR

1969-70

FALL SEMESTER

| | |
|--------------------|--|
| Aug. 11 - Sept. 12 | Fall Counseling and Registration |
| September 12 - 13 | Orientation |
| September 15 | Classes begin |
| September 19 | Last day for adding classes |
| October 3 | Last day to drop classes without penalty |
| November 3 - 7 | Mid-semester exams |
| November 11 | Veterans Day — holiday |
| November 27 - 30 | Thanksgiving recess |
| Dec. 20 - Jan. 4 | Christmas recess |
| January 5 | Classes resume |
| January 19 - 23 | Final examinations |

SPRING SEMESTER

| | |
|------------------|--|
| Dec. 8 - Jan. 30 | Spring Counseling and Registration |
| February 2 | Classes begin |
| February 6 | Last day for adding classes |
| February 20 | Last day to drop classes without penalty |
| March 16 - 20 | Mid-semester examinations |
| March 21 - 29 | Spring recess |
| March 30 | Classes resume |
| May 25 - 28 | Final examinations |
| May 30 | Commencement |

GENERAL INFORMATION

History

Cochise College, a community college, was the second college organized under the act of the Twenty-Fourth Arizona State Legislature providing for district or county junior colleges. The establishment of the college district in 1961 and the funding for construction of the facility in 1962 represented a dedicated effort on the part of the citizens of Cochise County.

The College was first opened to students in September 1964. Unlike many community colleges, Cochise serves both commuter and resident students by offering residence hall facilities, thus making it a service institution to the entire state.

The college campus is situated along Highway 80 approximately 16 miles east of the Bisbee-Lowell-Warren area and 7.5 miles west of Douglas. The fifteen-building campus is located on a 540-acre site.

The College district is controlled by the seventeen-member Arizona State Board of Directors for Junior Colleges and by a five-man Governing Board elected from precincts in Cochise County. It is financed by legislative appropriation and a county-wide levy.

Accreditation

Cochise College is accredited by the Arizona State Board of Directors for Junior Colleges. Students who complete appropriate lower division courses with a grade of 3 or better are accepted with full credit on transfer to the University of Arizona, Arizona State University, Northern Arizona University, all the University of California campuses and other universities and colleges in the nation.

The college holds memberships in the American Association of Junior Colleges, the Council of North Central Junior Colleges, and is a candidate for membership status with North Central Association of Colleges and Secondary Schools.

Philosophy of Education

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

The quality and effectiveness of instruction offered by the college is important to those interested in higher education — students, teachers, administrators, alumni, and the general public. The administration of the college facilitates instruction and leads its staff and students to personal and group fulfillment in their educational endeavors. Free communication, a free flow of ideas and feelings among the administration, the faculty, the students, the Governing Board, and the community is essential for the realization of personal and institutional goals.

Aims and Objectives

The main aims and objectives of Cochise College are:

1. To provide a program of general education which encompasses the common knowledge, skills and attitudes needed by each individual to be effective as a person, a member of a family, a worker, and a citizen in our democratic society.
2. To assist each student to orient himself to adult and college life by providing a program of counseling which enables him to discover his aptitudes and interests, and helps him in the choice of a vocation or further formal education.
3. To provide educational opportunity in several occupations for those students who wish to prepare for immediate employment upon completion of the appropriate program. The programs are designed to enable students to achieve occupational competence and to provide them with opportunities for achieving skills for living in a contemporary society.
4. To offer studies during the first two full years of college which may be used in transfer for the purpose of securing a bachelor's degree (the candidate for a bachelor's degree can transfer to the institution of his choice with full junior standing, after having successfully completed appropriate lower division studies during the first two full years of college).
5. To provide for the educational needs of mature and receptive adults whose interests and requirements lie in both cultural activities and occupational fields.

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

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

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

Degree

By the authorization of the Arizona State Board of Directors for Junior Colleges, Cochise College may confer the Associate in Arts degree on those students completing 60 or more units in prescribed courses with a 3.000 or better average. In addition to the degree programs, special certificated programs are offered which require less than two years of studies.

Advisory Committees

In order that curricula leading directly to employment be developed in accordance with the needs of business, industry, and the professions, Cochise College has invited a number of leaders in enterprises related to these curricula to advise the college staff on (1) the nature and extent of employment needs, (2) course content, (3) facilities and equipment needed, and (4) the appropriateness of the curriculum content and the quality of the students receiving the degree or certificate.

To date the curriculum recommendations of several different citizen advisory committees have been implemented (see list under "Occupational Programs"). As additional needs are identified new advisory committees will be formed to assess the appropriateness, for Cochise College, of programs to meet these needs.

Continuing Education

For those who wish to continue their education and training, but are unable to attend regular daytime classes, Cochise College offers evening classes and extension classes each semester. Detailed announcements concerning extension classes are made

at the beginning of each semester through special publications. Evening and extension classes parallel day courses in prerequisites, course content, time devoted to preparation of assignments, and examinations.

Students attend evening classes to prepare for a vocation, to gain a better education, and to satisfy requirements for university transfer. Professors gear their teaching methods to adults and their problems, but the course content and requirements remain the same for day and evening classes. Some day students take a portion of their class load in the evening.

In addition to guidance through individual contacts with faculty members during their office hours, the evening program provides specialized counseling and academic advisement. Information and appointments may be arranged by telephone. High school and college transcripts and/or counseling examinations are required for admission to a number of classes.

The requirements for the Associate degree are the same for part-time students as for full-time students; namely, 60 units in the prescribed courses with a grade point average of 3.000 or better. Physical education and Psychology 1, however, are not required. Certificated programs have specialized requirements.

Community Services

As a community college, Cochise College wishes to extend its educational services to the needs of the entire county. Community Services is that phase of the educational program which provides educational, cultural, and recreational services over and beyond formalized classroom instruction.

The College is a community center — a gathering place for many community functions; it often serves as a catalyst for cultural development of the community. In accordance with the policies of the Governing Board, the College facilities are made available for use by authorized community groups when such use does not interfere with the College educational program.

With this in mind Cochise College provides a number of community services: a College speaker's bureau, offering faculty lectures without charge; a program of public events and cultural activities including lectures and forums; art exhibits, film series, and a program of non-credit courses.

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

ADMISSION PROCEDURES AND POLICIES

Prospective students are encouraged to visit the campus and discuss their educational objectives with the Director of Admissions. The Office of Admissions, located in the Student Personnel Office on the west side of the campus, is open throughout the year, Monday through Friday, 9:00 AM to 5:00 PM. Admissions counseling is also available on Saturday mornings, but by appointment only.

All high school graduates are admitted to Cochise College. Non-high school graduates 19 years of age or older who demonstrate to the satisfaction of College authorities that they are able to profit by the instruction may also be admitted.

A Letter of Admission is sent to each applicant after the College has received and approved the following:

| | |
|---|--|
| _____ 1. Application for Admission | 1, 2, 3, & 4 Are Required of All Applicants for Full-time Admission. |
| _____ 2. High School Graduation Transcript | |
| _____ 3. ACT Scores | |
| _____ 4. Medical — Cochise College Form | |
| <hr/> | |
| _____ 5. \$40.00 Room Reservation Deposit | 5, 6, & 7 Are Required if They Apply to You. |
| _____ 6. College Transcript(s) if Transfer Student | |
| _____ 7. \$5.00 Application Fee for Out-of-State and Foreign Students | |

1. APPLICATION FOR ADMISSION — The Application for Admission should be sent to the College immediately, so that the admission and counseling folder can be prepared for your credentials, which will usually arrive later. Superior seniors in high school may be admitted for one course per semester upon the recommendation of the high school principal.

An application blank may be obtained from your high school counselor or by writing or calling the College Admissions Office. Applicants should submit applications and transcripts well in advance of the beginning date of the semester for which they wish to be admitted.

2. HIGH SCHOOL TRANSCRIPT — Request your high school to send your graduation transcript directly to the Director of Admissions at Cochise College. June graduates can expect their transcript to reach the College by July 1.

3. ACT SCORES — The American College Test is a college admission and counseling test, administered nationally on specific test dates in the months of October, December, February, April, and July. See your local high school counselor and make arrangements to take the test before you graduate. Many test centers do not give the test in July, and a July test will delay your admission until September. You will not pass or fail the ACT. Rather, you should consider it a valuable counseling tool to be used in planning your academic program. Your ACT scores will be sent directly to Cochise College, if you so indicate (Cochise College code number is 0089) on the test form.

4. MEDICAL — The Cochise College Medical Form is to be completed by your family doctor and signed by you. In addition, if you are under 21, the Form must also be signed by your parent or guardian. The form may be obtained from the College or Cochise County high school counselors.

5. \$40.00 ROOM RESERVATION DEPOSIT — All single students under the age of 21 are required to live in campus residence halls and have their meals in the College dining hall, if they are not commuting from the home of parents, legal guardian or relative. Applicants for admission who will be living on campus are required to submit a \$40.00 Room Reservation Deposit with the Application for Admission. Please make checks payable to Cochise College. **The deposit is refunded only after a student has completed a full semester or semesters. Any room damage is deducted from the deposit.**

6. COLLEGE TRANSCRIPT IF TRANSFER STUDENT — Students who have previously attended another college will request that a transcript(s) of all previous college work be sent directly to the Director of Admissions at Cochise College. Students with a cumulative grade point average below 3.000 (C or 2.000 on a four-point scale) will be admitted on Academic Probation. Transfer students who have been placed on Academic Suspension or Dismissal in June are not eligible to enter Cochise College until the following February.

7. \$5.00 APPLICATION FEE FOR OUT-OF-STATE STUDENTS — A non-refundable application fee is required of out-of-state and foreign students. Please make check payable to Cochise College. You may combine the application fee and room reservation deposit in one check for \$45.00.

AVIATION AND NURSING PROGRAMS — Since there are usually more applicants than spaces, admission to the College does not guarantee admission to these programs. After admission to the College, applicants are interviewed in mid-July, and then informed of admission to the aviation and nursing programs.

FINANCIAL AIDS (See also "Financial Aids" in Index) — Students applying for financial aids, which includes scholarships, loans, grants and campus jobs, will submit the following to the

Financial Aids Officer of Cochise College by the deadline of March 1:

- _____ 1. Application for Admission
- _____ 2. Financial Aids Application — Arizona College Form
- _____ 3. ACT Family Financial Statement
- _____ 4. Seventh Semester High School Transcript

If you apply for financial aids, you need not send a second Application for Admission to the Director of Admissions. However, your high school graduation transcript must be sent to the Director of Admission in June. Secure the necessary financial aids application forms from your high school counselor in December, so you can meet the March 1 deadline.

PART-TIME STUDENTS — College housing and financial aids are not available for part-time students. The ACT and medical are not admission requirements for part-time students.

Admission **requirements** are similar for both full-time and part-time students. However, students wishing to enroll for part-time classes only follow different admission **procedures** and should secure a **Schedule of Classes** for detailed instructions.

Readmission

Any student who previously attended Cochise College and who is returning to the College after an absence of one semester or more must arrange for an appointment with an Admissions counselor. If a student has attended any other educational institution since previous attendance at this College, transcripts must be supplied for all academic work for which the student enrolled in the period since last attending Cochise College.

Registration

Counseling and registration take place during the month prior to the opening of classes of each semester (see the Calendar at the front of the catalog). Students register only after receiving program approval from a counselor. Registration after the first week of instruction will not be permitted. See the **Schedule of Classes** for detailed information.

SUMMER NEWSLETTER — The College sends a Summer Newsletter and The Schedule of Classes to new and returning students in mid-August, and they contain detailed information on counseling, registration, housing, activities and items of interest.

COLLEGE ADDRESS — Send admissions communications to:
Director of Admissions
Cochise College
Douglas, Arizona 85607
Douglas Phone: (602) 364-3451
Bisbee Phone: (602) 432-5737

Residence Requirements

Residence In Local High School District

Students whose residence is in one of the high school districts comprising the Cochise College District are qualified to enroll at Cochise College according to "Admission Procedures and Policies," above.

Residence In High School Districts Not Maintaining A Junior College

Students who reside in a county not maintaining a junior college are eligible to attend Cochise College. Students from such areas must complete a residence statement at the time of registration; their tuition will be paid by the county of residence.

Residence In Districts Maintaining A Junior College

Students residing in counties in Arizona that maintain a junior college may enroll in Cochise College but must pay the tuition established by the State Board of Directors for Junior Colleges.

Out-of-State Students

Out-of-state students may enroll in Cochise College but must pay the tuition established by the State Board of Directors for Junior Colleges for non-residents and an application fee of \$5.

Foreign Students

Foreign students are welcome at Cochise College. To be admitted, foreign students should provide evidence of the equivalent of high school graduation, demonstrate adequate proficiency in English to profit from regular college classes, and show evidence of sufficient funds to pay all expenses for one academic year, including out-of-state tuition.

Veterans

Cochise College has been approved for veterans training under all federal and Arizona laws. The Director of Admissions acts as the veterans' coordinator. Veterans should confer with Director of Admissions at the time of registration concerning educational benefits. Petition for evaluation of military experience may be filed with the Office of the Dean of Student Personnel Services following completion of a minimum of 12 units in attendance at Cochise College.

FEES

All semester fees will be paid in full at the time of registration, except that arrangements may be made to pay the room and board fee on a half-semester basis.

Semester Tuition Schedule*

- A. Full-time Students (12 or more units):
- | | <i>Per Semester</i> |
|---|---------------------|
| Residents of Cochise County | No Charge |
| Military personnel and their dependents living in Cochise County | No Charge |
| Residents of counties other than Graham, Maricopa, Pinal, Yavapai, Yuma (home county pays Cochise College \$419.00 per semester) | No Charge |
| Residents of Graham, Maricopa, Pinal, Yavapai and Yuma Counties (these counties have their own two-year college) | \$419 |
| Residents of other states & foreign countries | \$435 |
- B. Part-time Students (1-11 units):
- | | |
|---|------------------|
| County residents including military personnel and their dependents | No Charge |
| Residents of other countries, states & foreign countries: | |
| 1 - 6 units | No Charge |
| 7 - 11 units | \$27.50 per unit |
- C. Summer Session
- | | |
|--|---------------|
| | \$15 per unit |
|--|---------------|

*See "REFUNDS" concerning Refund Schedule.

Semester Room and Board

- | | |
|---|-------|
| Room and Board | \$380 |
| <p>All full-time resident students who are single and under 21 years of age are required to live in college housing and have their meals in the college dining hall. This does not apply to the commuting student who lives in his own home or with legal guardian or relatives. College housing is not available for part-time students.</p> | |
| Room Deposit | \$40 |

The room deposit of \$40, which does not apply toward room and board fees,

should accompany the Application for Admission of those who plan to live in college housing.

Room and Board Payments

Students may make the full Room and Board payment for the semester at the time of registration or may pay on a half-semester basis as follows:

- (a) One-half of the room and board payment due upon registration for classes.
- (b) Second half of the room and board payment due on or before the Monday of the Sixth (6th) week of college scheduled classes.

The board payment provides a seven (7) day meal ticket for the semester with twenty (20) meals each week when classes are in session.

Other Fees and Charges

Student Services Fee

- A. Full-time Students (12 or more units):\$50
- B. Part-time Students (1-11 units):
 - 1 - 6 units\$15
 - 7 - 11 units\$30

Educational Services Fee

- A. All students taking seven or more units\$10
- B. All students taking fewer than seven unitsNo Charge

Graduation

Every candidate for an Associate degree is required to pay a graduation fee of \$10; portions of this fee are used to cover the diploma and academic costume charges. Those completing certificate programs are not required to pay the \$10 fee.

Miscellaneous Fees

- Out of State Application fee**\$ 5.00
(This fee must accompany the Application for Admission)
- Late Registration** 5.00

| | |
|--|-------|
| Late Payment of fees | 5.00 |
| Change of Course fee | 5.00 |
| ACT (Residual testing) | 12.00 |
| Late Aptitude test | 5.00 |
| Late Final Examination Fee, in any course | 3.00 |
| (Only when permission of instructor is granted in advance) | |
| Greens fee (Per Semester) | 10.00 |
| Bowling fee (Per Semester) | 20.00 |
| Credit by Examination (Per Semester Hour) | 5.00 |
| Transcript fee—First Free, Each Additional | 1.00 |
| Returned-check fee (for each return) | 5.00 |
| Flight Training fees (See Contract) | |

All refunds and deposits due students for any reason will be forfeited unless written application is submitted on or before June 15 of the academic year in which they are due.

Refunds

Tuition Refunds

The following graduated scale for refunding of Tuition Fees for students who officially withdraw or are dismissed from the College applies to all students. The refund schedule is:

- 75% if withdrawal is prior to the seventh (7th) day after college scheduled classes commence.
- 50% if withdrawal is between the eighth (8th) and fourteenth (14th) day after college scheduled classes commence.

Student Services Fee Refund

Student services fees are non-refundable after the first day of classes.

- 50% if withdrawal is prior to the first (1st) day of college scheduled classes; no refund thereafter.

Room and Board Refund

Students who officially withdraw from the college before the completion of a semester will receive a pro rata refund of the unused portion of the payment as per the following schedule:

| <i>Withdrawal prior to Friday of:</i> | <i>One-Half Semester Payment 190.00</i> | <i>Full Semester Payment 380.00</i> |
|---|---|---|
| 1st Week | 159.00 | 349.00 |
| 2nd Week | 128.00 | 318.00 |
| 3rd Week | 97.00 | 287.00 |
| 4th Week | 66.00 | 256.00 |
| 5th Week | 35.00 | 225.00 |
| 6th Week | None | 194.00 |
| 7th Week | None | 163.00 |
| 8th Week | None | 132.00 |
| 9th Week | None | 101.00 |
| 10th Week | None | 70.00 |
| 11th Week | None | 39.00 |
| 12th Week | None | None |

Room Deposit Refund

The \$40.00 room deposit is a guarantee against cancellation of the housing application and is not refundable unless the full semester(s) residency is completed and all financial obligations to the College have been met. Charges for damages will be deducted from the deposit refund. The room deposit is forfeited if there is:

Failure to give notification of room cancellation by the date specified:

Fall Semester

All students—thirty days before classes begin.

Spring Semester

New students—thirty days before classes begin

Continuing students—Saturday prior to beginning of classes

Failure to follow formal and prescribed check-out procedures when departing from assigned residence hall.

STUDENT PERSONNEL SERVICES

Financial Aids

Cochise College offers a variety of financial aids to full-time students. Types of financial aids available are scholarships, grants-in-aid, educational opportunity grants, campus employment, Cochise College loans, United Students Aid Fund Loans, Federally Insured Student Loans, National Defense Loans, Law Enforcement Loans and Grants, and out-of-state tuition waivers. Eligibility for assistance is based on financial need, academic promise and leadership qualities.

APPLICATION PROCEDURE: To apply for any type of financial aid students should:

1. Complete Application for Admission to Cochise College, including filing of all required transcripts with the Office of Admissions.
2. Complete the Arizona Financial Aid Application and return it to the Cochise College Financial Aids Officer. Only one application need be submitted for all types of financial aid. Priority will be given to applications received by March 1st. Applications for all types of financial aid will be accepted and evaluated after March 1st only insofar as available funds permit.
3. Complete the Family Financial Statement (FFS) of the American College Testing Program (ACT). Designate Cochise College as a recipient. Send it directly to ACT with the appropriate fee for processing. Allow three weeks for FFS processing. These forms may be obtained from your local high school counselor or from the American College Testing Program, P. O. Box 767, Iowa City, Iowa 52240.

FINANCIAL AIDS COMMITTEE: The committee is composed of eight members including the Financial Aids Officer, the Director of Admissions, a fiscal officer from the Office of Business Affairs, two faculty members, and two students appointed by the Student Senate. It is the function of this committee to screen applications and determine recipients of awards with the exception of grant-in-aid and out-of-state tuition waivers.

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

These criteria are used in determination of scholarship recipients:

1. Stipulations of the donor take precedence in all cases.
2. Grade averages and academic rank are of primary importance. In no instance will the grade average be less than 3.00 or academic rank be less than the top 2/5 of class.
3. Financial need will be of importance in the awarding of all scholarships with the exception of Cochise County Valedictorian-Salutatorian Scholarships.

GRANTS-IN-AID: Cochise College has a number of grants-in-aid available in the areas of athletics and music. Athletic grants are administered by the Director of Athletics. Recipients of music grants are selected by the Division of Humanities & Fine Arts and awards administered through the Financial Aids Officer.

EDUCATIONAL OPPORTUNITY GRANTS: Cochise College awards Federal Educational Opportunity Grants to a limited number of students who exhibit exceptional financial need.

Grants range from \$200 to \$800. They are administered as part of a financial aids "package" and must be matched by scholarships, loans, or earnings from campus employment.

CAMPUS EMPLOYMENT: Jobs are available in various areas. Applications are screened by the Financial Aids Officer. Students are then referred to department heads for interviews and final selection. ALL students employed on campus must complete the financial aids application procedure, including step 3.

Cochise College participates in the government-sponsored College Work-study Program which is underwritten partially by Federal Funds.

COCHISE COLLEGE LOANS: The fund makes loans available to full-time students. Eligibility includes maintenance of a 3.00 average. These loans are short-term and an interest charge is assessed after one year.

UNITED STUDENT AID FUND LOANS: These are low cost, long-term loans and are guaranteed by the USAF corporation. Full-time students who show evidence of academic promise are eligible. Up to \$1000 a year may be borrowed through a participating bank. Repayment begins the first day of the 10th month after the student leaves school. The student pays 7% simple interest.

FEDERAL INSURED STUDENT LOANS: Regardless of family income, any student desiring to pursue a post-secondary education is eligible to apply for a FISL provided he or she:

1. Is enrolled and in good standing, or has been accepted for enrollment in an eligible school.
2. Is a citizen or national of the United States or is in the United States for other than temporary purposes.

The maximum loan amount is \$1000. During the student's in-school period, the federal government pays the total interest up to 7% for students whose adjusted gross income is less than \$15,000 per year. During the loan repayment period the student pays 7% simple interest on the unpaid principal balance.

Repayment by installments begins not earlier than nine months nor later than one year after graduation or withdrawal.

To apply, a student obtains an application form from his bank or Cochise College. After completing Part A, the Financial Aids Officer at the college will verify enrollment or acceptance on Part B and return the form to the student. The student completes Part C and submits the application to the bank for approval.

NATIONAL DEFENSE STUDENT LOANS: An eligible undergraduate may borrow up to \$600 each academic year. He need not begin repayment until nine months after he leaves college, nor does interest begin until then. Interest on the loan is 4% a year. Repayment may be extended over a 10-year period.

If a borrower becomes a full-time teacher in a public or other nonprofit elementary or secondary school, or in an institution of higher education in the United States, up to 50% of the loan may be cancelled or "forgiven" at the rate of 10% for each year of teaching service. An additional 50% may be cancelled at the rate of 15% a year for such teaching service in designated "hardship" schools.

LAW ENFORCEMENT LOANS AND GRANTS: Loans are available to students enrolled in programs directly related to Law Enforcement. The loans bear 3% interest up to 10 years. The loans can be cancelled at the rate of 25% for each year of full-time employment in a public Law Enforcement agency.

Grants up to \$300 per semester may be made for full or part-time enrollment in Law Enforcement. To be eligible, beneficiaries must be full-time employees of a public Law Enforcement agency, and agree to remain employed for 2 years after completion of the course of study.

TUITION WAIVERS: A limited number of tuition waivers of two types are available to out-of-state students:

1. Academic—Selected by the Director of Admissions.
2. Athletic—Selected by the Director of Athletics.

Counseling

Each entering student is assigned a counselor who will assist him in planning his educational program and in his general growth and adjustments to college life. Career choice and related course sequence is of particular concern. Careful attention is offered each student to aid him in implementing the program of his choice.

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

Group Dynamics

All entering full-time freshmen students are required to enroll in Group Dynamics. The purpose of the course grows out of the need for students to effect a responsible transition between high school and college, and through small group participation to become aware of human interaction as it relates to their responses in the social and educational environment.

Testing

As a supplement to the American College Testing (ACT) entrance tests, the student and counselor may decide additional individual testing is needed. Although educational and vocational testing do not constitute the final answer, testing is useful in helping the student explore educational and vocational choices as well as helping the student gain personal insight into individual strength and abilities. To supplement the group and individual counseling, Cochise college has a testing program in the areas of academic ability, aptitude, achievement, skill, interest and personality.

Occupational Information Services

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

The main body of this service consists of job descriptions and related information for more than 36,000 occupations. Included are job descriptions, work performed, working conditions, training requirements, personal qualifications, method of entry, employment outlook, earnings, social and psychological factors and references for further information.

Health Services

The college contains a well-equipped campus health center directed by a full-time registered nurse who is under the supervision of a regularly licensed physician. In cases of illness or injury, students are referred to the local doctor of their choice for diagnosis and treatment. Consultation with the home-town family doctor of resident students is also afforded.

Housing

Housing is an integral part of the student's total educational experience at Cochise College. The College considers it important that all students live in an atmosphere which stimulates academic achievement and provides the opportunity for meaningful experiences for all students.

The College maintains campus housing for resident students. Each residence hall is under the supervision of a qualified resident director who is assisted by trained student proctors. All resident students have the opportunity of participating in student government activities as provided by each residence hall council.

Each room is comfortably furnished and includes wall-to-wall carpeting, individual room air conditioning and heating controls, shower, lavatory, desk, chair, study lamp, dressers, closet, and communication system with the main desk. In addition, each residence hall has a television lounge, study rooms, lounge areas, washing and ironing rooms and conference room.

Housing Regulations

General

All students under the age of 21 are required to live in college residence halls or in the home of parents, guardians, or relatives, if they are commuting students.

Students living in college residence halls are required to carry an academic load of twelve or more units.

All residence hall students are required to participate in the college food service facilities, and must sign a room and board contract. (If students are under 21, parent or guardian must also sign.) Three (3) meals are served each day except Sunday, when only two (2) meals are served.

A student must submit a room deposit of \$40.00 with the Application for Admission and be admitted to the college before a room assignment may be made.

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

The college holds no responsibility for the loss, theft, or damage to the personal effects of resident students.

The college reserves the right to:

- (a) deny or cancel room assignments in the interest of health, discipline, or academic standards.
- (b) cancel housing applications when all residence hall rooms have been assigned to earlier applicants.
- (c) hold residence hall students financially responsible for all losses and damage in assigned rooms.

Student Union

The "living room" of the campus offers an opportunity for students to socialize with fellow students, faculty and administrators in an informal atmosphere. Meeting rooms, as well as comfortable lounges, a billiard room and various dining facilities augment the services to the student by the college. The offices of the Associated Student officers, in addition to the office of the Director of the Student Union, are located in this building.

The "dining room" services provided by the Cochise College Student Union include a "Rathskeller"-style snack bar, a private dining room, and a large well-equipped dining room capable of seating 500. Resident students are offered a well-balanced menu featuring popular foods. Festive "goodies," steak night and other unique monotony-breakers create a "second home" atmosphere in our Student Union.

Student Activities

The college encourages participation in extra-curricular activities, campus organizations, and intramural and intercollegiate athletics to promote leadership, student relationship experience, and social development.

Organizations

Student organizations attempt to appeal to and satisfy every student's needs and interests. Students of similar interests may get together and form a club in which fellow students can participate in a specialized activity.

Organizations include Adventure Club, Beta Phi Gamma (Journalism Honorary), Campus Guides, Cheerleaders, Chess Club, Delta Epsilon (DECA), Drama Club, El Recuerdo (Yearbook), Freshman Class Officers, Forensics, Future Spanish Teachers, Gymnastics Club, Heliograph (Newspaper), Newman Club, Nurses Club, Residence Hall Councils, Rifle and Pistol Club, Red Key Club (Scholastic Honorary), Rodeo Club, Skydivers Club, Songleaders, Sophomore Class Officers, SNEA, Student Orientation Core (SOC), Women's Recreation Association (WRA), and YMCA.

The Interclub Council (ICC), a unique branch of the Student Senate, helps coordinate and articulate club activities.

Activities

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 students.

Student activities include Apache Day, Athletic Events, Band, Baby Bowl, Choir, Billiards Tournaments, College Hour Programs, College Rodeo, Cultural Film Series, Drama Productions, Freshman-Sophomore Bonfire, Hawaiian Luau, ICC Carnival, Informal Dances, Intramural sports, Parents Day, Public Events Series, Red and White Ball, Senior Day, Student Orientation Program.

Cultural Programs

College Hours provide an opportunity for students to see and hear visiting lecturers and recital groups in addition to student performances and open forums on today's problems. Also during College Hours students may hold club meetings and activities. Sunday night movies present Hollywood productions, and Public Events expose students to pop music, classical recitals,

art shows and famous speakers. The college also encourages the student to attend the Douglas Community Concert Association presentations.

Placement

The Placement Officer of the college will assist graduates in meeting contacts and arranging interviews with prospective employers in their field of specialization, or in making application or admission to a four-year college or university if they have completed a transfer program.

ACADEMIC PROCEDURES AND POLICIES

Academic Council

The enforcement, interpretation, and waiving of academic regulations are a responsibility of the Academic Council. Membership includes the Executive Dean of Instruction, the Dean of Occupational Education, the Dean of Student Personnel Services, appointed faculty members and two students appointed by the Student Senate. The president of the college is an ex-officio member. Student petitions for the waiver of academic regulations may be presented to the Academic Council through the student's counselor.

Classification of Students

| | |
|----------------------------|--|
| FRESHMEN: | Students with fewer than 28 passing units of college credit. |
| SOPHOMORES: | Students with 28 or more passing units of college credit. |
| FULL-TIME STUDENTS: | Students carrying 12 or more units during the semester. |

Grading System

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

| | |
|-----------------------|--|
| 1 - SUPERIOR | |
| 2 - GOOD | |
| 3 - AVERAGE | |
| 4 - POOR | |
| 5 - FAILURE | |
| W5 - WITHDREW FAILING | Indicates withdrawal from the class after Friday of the week following mid-semester examinations with below a 3 in the course. A grade of 'W5' is computed in the student's grade point average as a 5, or failure |

W0 - WITHDREW

from the course before Friday of the week following mid-semester examinations or that he was earning a grade of "3" or better if the withdrawal was after the Friday defined above. A grade of "W0" is not computed in the student's grade point average.

N0 - INCOMPLETE

Indicates that for a justifiable reason (serious illness, etc.) the student failed to complete all requirements for the course. Failure to make up an incomplete during the succeeding semester will result in change from the grade of "N0" to a "5" on the permanent record. The grade of "N0" is not computed in the student's grade point average.

AUDIT -

Courses may be taken for audit at the discretion of the appropriate dean.

Grade Points

Semester grades are assigned grade points as follows:

- 1 - 1 grade point per unit earned
- 2 - 2 grade points per unit earned
- 3 - 3 grade points per unit earned
- 4 - 4 grade points per unit earned
- 5 - 5 grade points per unit earned
- W5 - 5 grade points per unit earned

Thus, a three-unit course with a grade of "4" would earn (3x4) 12 grade points.

The total grade points accumulated by a student are divided by the total of units attempted (exclude "W0" and "N0" grades) and the result is known as the student's cumulative grade point average, or GPA. Each time a course is taken both the units attempted and the grade points are included in computing the cumulative grade point average.

Scholastic Honors

High Honors are awarded to graduating students who receive a grade point average of 1.5 or better in all work taken at Cochise College, and Honors are awarded to those whose grade point average is between 1.51 and 2.0.

Unit Load Limitations

The maximum class load for a beginning freshman is 17 units, and 19 units for second semester freshmen. Students wishing to exceed these limitations may petition the Academic Council.

Academic Probation

All students who have attempted nine or more units at Cochise College and have not attained a cumulative grade point average of 3.000 or better are placed on Academic Probation by the Academic Council.

Removal from Academic Probation

A student will be returned to academic good standing when his cumulative grade point average is 3.000 or better.

Academic Suspension or Dismissal

1. A student who has attempted nine or more units may be academically suspended from the college for one semester if his cumulative grade points at the end of any semester are more than ten below the number required for a 3.00 average without a period of probation.
2. A student while on Academic Probation may be academically suspended if his cumulative grade points are more than ten below the number required for a 3.000 average.
3. All available factors having a bearing upon the academic record of the student will be evaluated by the Academic Council before academic suspension.
4. A student required to leave the college a second time for academic reasons will be dismissed.
5. Exceptions may be made by the Academic Council when evidence of significant academic improvement is made by the student during his period of academic probation; such students must continue to show improvement to remain in this special probationary status.

Readmission Following Academic Suspension or Dismissal

A student who has been academically suspended for the first time may return after a period of one regular semester has elapsed, excluding summer sessions. A student who has been

academically dismissed may petition the Academic Council for readmission.

A student readmitted following academic suspension or dismissal will be placed on CONTINUED PROBATION.

Transfer Students

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 4 or 5 (D or F) will not be accepted for credit.
2. Students with a GPA below 3.000 may be admitted upon a petition to the Academic Council and, if admitted, will be placed on academic probation.
3. Students academically dismissed from another college may not attend Cochise for one full semester after said dismissal.
4. In determining academic standing at Cochise College, the GPA of a transfer student is computed on the basis of units attempted at Cochise College only and will not include units and grade points earned at another college.

Credit by Examination

A student enrolled for credit at Cochise College may establish credit by examination by obtaining the application form from the administration, securing permission from the department involved, paying in advance the required non-refundable fee of \$5.00 per semester hour, and successfully completing the examination. A student may not petition to challenge a course a second time.

Some departments may have additional qualifications which must be met before a course may be challenged.

Individual Studies

Under "Course Offerings," and for most subjects, will be found a course description called Individual Studies. This course, No. 99 in all cases, is designed to accommodate particular needs of students capable of independent study. The number of units granted depends on the nature of the work undertaken. The

transfer value depends also on the nature of the work and its acceptability by the institution to which the student transfers.

Grade Report

Each student receives a progress report at mid-semester and a grade report at the completion of the semester. Only final semester grades are recorded on the student's permanent record.

The grade reports of unmarried students under 21 years of age are mailed to parents or guardians. Grade reports of other students are mailed to their home address. A second copy of the grade report is also available to each student in the Student Personnel Office.

A copy of the semester grade report of freshmen students under 21 years of age is mailed to the high school from which the student graduated.

Final Examinations

Final examinations are given in most courses and students are personally responsible for taking all assigned final examinations as they are listed in the examination schedule. Final examinations normally will not be given in advance of the scheduled time.

Change of Grade

A grade once reported to the Student Personnel Office may be changed only upon authorization of the faculty member issuing the grade.

Repetition of Courses

1. If a student earns a grade of 4 or 5, he may repeat the course and receive a new grade; however, the listing of the original grade remains as part of the permanent record. The units of the original course are not counted for graduation but are included in computing the cumulative point average.
2. 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.
3. Repetition of high school courses is permitted only if required by the college.
4. A student may not repeat a course in which he has received a grade of 3 or better.

Change of Program

Students are expected to carefully arrange their academic schedule and maintain this schedule throughout the semester. Necessary program changes are to initiate with the student's counselor. The student must attend all classes in which he originally enrolled until the change has been authorized by his counselor, the professors involved, and the Student Personnel Office.

Courses may not be added to a program after the first week of classes. When a course is added after registration and during the first week of classes, a \$5 fee will be assessed for each course added unless it is determined that the change is due to administrative reasons.

A course may be dropped at any time during the first three weeks without penalty and the grade assigned will be "W0", withdrew. Courses dropped after Friday of the week following mid-semester examinations will also receive a grade of "W0" if the student has a 3 or better average at the time of the drop, but if the average at the time of the drop is 4 or 5, the final grade will be "W5" (Withdrew Failing).

Withdrawal from College

A student who withdraws from the college before the end of the semester must consult with his counselor in order to obtain a proper dismissal. A student will receive a "W5" in all courses if he does not officially withdraw.

Transcripts

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

Transcripts are forwarded by the Registrar's office only on the written request of the student. Transcripts to educational institutions will be sent directly by mail. Transcripts given directly to students are classified as "unofficial." The first transcript is issued without charge with additional transcripts being issued at \$1 each.

Transfer of Credit

Students from approved institutions of higher education ordinarily will be given credit, hour for hour, for work done in those institutions insofar as it applies to the requirements of the curriculum pursued at Cochise College. A grade of 4, earned at another institution, will not be accepted.

Students who have registered in other colleges and universities shall not disregard their records in such institutions in order to make application for admission solely on the basis of their high school records. Failure to report previous college attendance at the time of registration shall be sufficient cause for cancellation of the student's enrollment, or any credit earned, or both.

Attendance Policy

Attendance policies at Cochise College are based on the belief that maximum benefits can accrue to the student only if his attendance is regular and his assignments are prepared promptly and adequately. A student is expected to be in attendance at all times in classes, laboratories, and orientation assemblies unless there is a compelling reason for absence. Professors set an attendance policy for each class and it is the student's responsibility to know and comply.

Registration for Physical Education

The Board endorses the philosophy of required physical education. In instituting this policy, the following requirements are set forth:

1. A full-time student shall be enrolled in a physical education activity course each semester of attendance until he has acquired a maximum of four semester credits of physical education. Only one credit per semester may be earned to fulfill this requirement.
2. A student who is physically unqualified for participation in physical education as certified by a licensed physician (such certification by a physician shall be renewed each semester) shall be exempt from physical education activity. Physically handicapped students will enroll in a Personal Health course, or a special adaptive physical education course.
3. A student who is 24 years of age or older at the time of registration shall be exempt from physical education courses.
4. Honorably discharged servicemen with a minimum of two years of active duty, married men and women, and men and women who are heads of households are exempt from the requirement of four units of physical education.

Graduation Requirements

Cochise College grants the degree of Associate in Arts to all graduates of a two-year curriculum.

Requirements for graduation with the Associate Degree are:

1. Completion, with a cumulative GPA of 3.000 or better, of at least sixty passing units.
2. A minimum of fifteen units, with a grade average of 3.000 or better, must be taken at Cochise College.
3. Registration at Cochise College (not necessarily full-time) when graduation requirements are completed except that a student who has met all other requirements and has earned up to 56 units at Cochise may, within one year, transfer from another institution a maximum of 4 units to complete the degree requirements at Cochise College.
4. Fulfillment of the following basic requirements:
At Cochise College the General Education courses are organized within the areas of English, Humanities, Natural Science, Social Science, and Physical Education. The number of required units in General Education courses may vary slightly according to the specific program a student selects.

The General Education requirement for the Associate in Arts Degree is twenty-three hours, to be distributed as follows:

| | |
|-------------------------------------|----------------|
| Group Dynamics* | 1 unit |
| Communications: English 3, Speech 3 | 6 units |
| Social Science | 6 units |
| Natural Science | 3 units |
| Humanities or Fine Arts | 3 units |
| Physical Education | 4 units |
| | <hr/> 23 units |

A full-time student must be enrolled in a mathematics course until he has completed at least Math 1X or has demonstrated competence at this level.

Students in occupational programs, as well as students in pre-professional science programs whose General Education requirements are somewhat different, should consult with their program advisors for appropriate requirements.

Students may be exempted from specific General Education courses on the basis of advanced placement.

* For all full-time first-semester students.

INSTRUCTIONAL PROGRAMS

College-Parallel Programs

For the student who wishes to extend his education further to include a bachelor's (four-year) degree, Cochise College offers the first two years of the four-year program. In addition he may remove any high school grade or subject deficiencies which are required for entrance to the four-year college or university of his choice.

Students who plan to transfer to Arizona universities, or to other colleges and universities, should consult the specific catalog with the aid of their counselors to determine lower division requirements for junior standing. Catalogs of major universities and colleges are available in the Library or the Student Personnel Office.

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) He must clear up any entrance deficiencies in grades or subject matter if the senior college to which he expects to transfer requires it;
- (2) He must fulfill the general requirements of the senior college which are prescribed for all students;
- (3) He must fulfill his own pre-major requirements, i.e., the lower division requirements for his upper division major;
- (4) He must earn a cumulative grade point average of 3.000 or better.

Under the provisions of the ROTC Vitalization Act of 1964, junior college men are now eligible to immediately enter the Advanced ROTC Program when they transfer to a four-year college or university. Information relative to this program may be secured from the Dean of Student Personnel Services.

Occupational Programs

Occupational programs at Cochise College are intended for the student who wishes to extend his education by completing two years of college.

Occupational programs in Middle Management, Law Enforcement, Practical Nursing, Office Careers, Medical Secretar-

ial Studies, Medical Record Technology, Drafting Technology, Electronics, Airframe and Power Plant Technology and Professional Pilot Training are offered at Cochise. Each occupational program has been developed with the aid of business and industrial advisory committees to insure the student of quality instruction and to enhance his opportunities for successful employment. (Information relating to additional occupational curricula may be secured through the Office of Admissions.)

Upon completion of the required two years of studies, the student will receive an Associate in Arts degree. The College Placement Bureau will assist graduates in finding permanent full-time positions in fields of specialization.

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

The curricula, outlined in the following pages, include general education courses intended to broaden the student's understanding of himself and his world. It is assumed that through such courses the student will develop a sense of personal and social responsibility and understanding appropriate to his vocation and community affairs.

INDUSTRIAL TECHNOLOGIES

Aviation Technology

AVIATION ADMINISTRATION:

Graduates of this program will enter the aviation industry as mid-management trainees with airlines, aircraft sales or in airport management. The programs include general education, business management and aviation courses of study. (Refer to Mid-Management Curriculum Guide).

PROFESSIONAL PILOT:

Academic and technical studies combined with flight training qualify the student for positions requiring professional pilots. All phases of flight training are available which will enable the students to complete the Airman Certification Requirements of the Federal Aviation Administration.

| FIRST YEAR | | | |
|-------------|---------------------------|-------------|---------------------|
| First Sem. | | Second Sem. | |
| AT 80 | Basic Flight | AT 82 | Intermediate Flight |
| | General Education | | General Education |
| | Physical Education | | Physical Education |
| | Business | | Business |
| | Cr. | | Cr. |
| | 6 | | 6 |
| | 6 | | 6 |
| | 1 | | 1 |
| | 3 | | 3 |
| | <hr/> | | <hr/> |
| | 16 | | 16 |
| SECOND YEAR | | | |
| First Sem. | | Second Sem. | |
| AT 84 | Advanced Flight | AT 86 | Instrument Flight |
| | General Education | | General Education |
| | Physical Education | | Physical Education |
| | Business | | Business |
| | Cr. | | Cr. |
| | 6 | | 6 |
| | 3 | | 3 |
| | 1 | | 1 |
| | 6 | | 6 |
| | <hr/> | | <hr/> |
| | 16 | | 16 |
| OPTIONAL | | | |
| | AT 88-A Multi-Engine | | 3 |
| | AT 88-B Flight Instructor | | 3 |

AIRFRAME & POWERPLANT TECHNICIAN:

This curriculum, approved by the Federal Aviation Administration, consists of the theory and practical experience involved in disassembling, inspecting, overhauling and repairing aircraft powerplants and accessories including ignition, fuel systems, lubrication, propellers, powerplant overhaul and maintenance, jet engine and turbo-prop theory, instruments and aircraft systems in compliance with F.A.A. procedures.

| FIRST YEAR | | |
|-------------|--------------------------------------|-------|
| First Sem. | | Cr. |
| AT | 11 Aircraft Materials and Processes | 4 |
| AT | 12 Applied Aero Math | 3 |
| AT | 20 Basic Aircraft Powerplants | 11 |
| ENG | 8 Written Communications and Reports | 3 |
| | | <hr/> |
| | | 21 |
| Second Sem. | | Cr. |
| AT | 21 Aircraft Propeller Systems | 3 |
| AT | 14 Aerophysics | 3 |
| AT | 30 Adv. Aircraft Powerplants | 11 |
| | | <hr/> |
| | | 17 |
| SECOND YEAR | | |
| First Sem. | | Cr. |
| AT | 42 Aircraft Elec. Systems | 4 |
| AT | 15 Aeronautics Drafting | 4 |
| AT | 40 Basic Airframe Struct. | 5 |
| AT | 50 Adv. Airframe Structures | 6 |
| | | <hr/> |
| | | 19 |

| Second Sem. | | Cr. |
|-------------|---|----------|
| AT | 16 Theory of Flight and Instrumentation | 4 |
| AT | 17 Shop Management Principles | 3 |
| AT | 53 Hydraulic and Pneumatic Systems | 5 |
| AT | 52 Aircraft Assembly, Rigging, and Inspection | 7 |
| | | <hr/> 19 |

Business and Office Technologies

Middle Management

The Mid-Management program is designed to serve individuals having diverse occupational objectives. The primary objective of the program is to prepare students for full-time employment upon graduation from Cochise College. Participation in the program does not preclude the student from entering a four-year institution of higher learning. Career plans are often altered and not infrequently in a direction requiring further education. The Mid-Management student who does decide to continue his schooling will find that the majority of the course work will be accepted for transfer credits.

| Freshman Year | | Total Hours | Sophomore Year | | With Internship | Without Internship |
|--------------------------------------|--|-------------|---|--|-----------------|--------------------|
| General Education Requirements | | 15 | General Education Requirements | | 6 | 15 |
| Business Administration Requirements | | 9 | Business Administration Requirements | | 6 | 9 |
| Mid-Management Core: | | | Mid-Management Core: | | | |
| Principles of Marketing | | 3 | Problems of Distribution | | 3 | 3 |
| Merchandising | | 3 | Seminar: Trends & Practices in Marketing & Management | | 3 | 3 |
| | | | *Internship | | 12 | 0 |
| Total Units | | <hr/> 30 | Total Units | | <hr/> 30 | <hr/> 30 |

At least 60 units required for graduation.

*Internship (on-the-job) training may be taken on a full-time basis during the student's fourth semester (total 12 hours + 3 hr. Seminar) or during the student's third and fourth semester. The two semester internship is dependent upon the student being placed locally in order that he (or she) may also attend classes on campus at Cochise College. During the two semester internship, the student would receive 6 hours credit each semester for on-the-job training.

The Mid-Management courses can be designed to accommodate students who have specific occupational goals. Two such options are as follows:

HOTEL-MOTEL MANAGEMENT

Second year students in the Mid-Management program who are interested in the field of hotel-motel management will concentrate on studies of a specialized nature. Arrangements will be made for the student to enroll in correspondence courses from the Kellogg Institute at Michigan State University designed by the Hotel-Motel Institute. Successful completion of these requirements would also result in a diploma from the American Hotel-Motel Institute. These studies are coordinated with normal courses of study within the Mid-Management program.

AVIATION ADMINISTRATION

Graduates of this program will enter the aviation industry as middle management trainees with airlines, aircraft sales or in

airport management. Special studies in aviation and related fields will be coordinated within the middle management curriculum.

Secretarial Studies

Recent advances in business have opened a variety of opportunities in office careers. Interesting secretarial positions are available in government, foreign service, transportation, television, manufacturing, banking, and professional areas.

In accordance with the recommendations of office administrators the curriculum stresses mastery of office skills, English usage, and desirable personal traits.

In the program outlined, the student is advised to enter the skill classes which mark the present level of their proficiency in these fields. This career program is open to both men and women.

Suggested Sequence

| First Semester | | | | Cr | Second Semester | | | | Cr |
|----------------|----|--------------------------|--|----|-----------------|----|------------------------|--|----|
| Bus | 7 | Intermediate Typing | | 3 | Bus | 8 | Advanced Typing | | 3 |
| Bus | 10 | Elementary Shorthand | | 3 | Bus | 11 | Intermediate Shorthand | | 3 |
| Bus | 18 | Calculating Machines | | 2 | Bus | 62 | Office Procedures | | 3 |
| Engl | 1 | English Composition or | | | Engl | 2 | English Composition or | | |
| Engl | 8 | Written Communications | | | Spch | 3 | Fundamentals of Speech | | 3 |
| | | & Reports | | 3 | PE | 2 | Physical Education | | 1 |
| Psych | 1 | Psychology | | 1 | | | Fine Arts Elective | | 3 |
| PE | 1 | Physical Education | | 1 | | | | | |
| | | Social Science Elective | | 3 | | | | | |
| | | | | 16 | | | | | 16 |
| Third Semester | | | | Cr | Fourth Semester | | | | Cr |
| Bus | 4 | Business Math or | | | Bus | 31 | Business Law | | 3 |
| Bus | 1a | Principals of Accounting | | 3 | Bus | 64 | College Secretarial | | |
| Bus | 12 | Advanced Shorthand | | 3 | | | Procedures | | 3 |
| Engl | 8 | Written Communications | | | Bus | 23 | Personnel Psychology | | 3 |
| | | & Reports or Elective | | 3 | PE | 4 | Physical Education | | 1 |
| PE | 3 | Physical Education | | 1 | | | Elective | | 3 |
| | | Elective | | 3 | | | Science Elective | | 3 |
| | | Social Science | | | | | | | |
| | | Elective | | 3 | | | | | |
| | | | | 16 | | | | | 16 |

At least 60 units required for graduation.

BILINGUAL SECRETARY

A demand for the properly educated bilingual secretary exists in Southern Arizona. Special courses have been developed which will provide interested students with secretarial skills in English and Spanish. Law offices, insurance and real estate firms, government agencies and other employers are continually searching for secretarial graduates with this type of background.

Secretarial Studies Certificate Program

For those who wish to spend a shorter time in preparation for a clerical or stenographic career, Cochise College offers a one-year secretarial studies certificate program. The student receives training in typewriting, English skills, chooses from a number of

business areas and selects from a large number of other courses in acquiring a background for a beginning position in the business office.

Required Core Program — Areas A and B required. Select one area from C, D, or E.

| | Course | Cr | | or | | |
|--|---------------------------|----|----|---|-----------|--|
| A. | Bus 6 Elementary Typing | | D. | Bus 10 Elementary Shorthand | | |
| | Bus 7 Intermediate Typing | 6 | | Bus 11 Intermediate Shorthand | 6 | |
| | Bus 8 Advanced Typing | | | Bus 12 Advanced Shorthand & Transcription | | |
| B. | English X | | | | | |
| | English 8 | 3 | | | | |
| C. | Bus 4 Business Math | | E. | Bus 4 Business Math | | |
| | Bus 1a Accounting | 6 | | Bus 18 Calculating Machines | 6 | |
| | Bus 1b Accounting | | | Bus 62 Office Procedures | | |
| TOTAL UNITS in Core Program | | | | | 15 | |
| Elective Program—Select units from other Business, English, or Economics courses not taken in Core Program | | | | | 15 | |
| TOTAL Units in Program | | | | | <u>30</u> | |

Note: Curricula for Medical Secretary and Medical Record Technician are in Health Technology section.

Health Service Technologies

Health service and its related technologies is the fifth largest industry in the U. S. Many areas of employment are open to those interested in the health occupations. Each area is interesting and unique, yet all departments are interrelated. Development of a core curriculum at Cochise College serves as a base from which special technologies may depart.

Practical Nursing

The Practical Nursing program requires three semesters of study (or the equivalent thereof) and is designed to prepare the student to function in a wide range of technical nursing skills under the supervision and guidance of the physician and professional nurse. Classes are held on campus and in local hospitals, and are closely interrelated to aid the students in developing and understanding nursing principles and skills. Upon completion of the program the student is eligible to take the state board examination for becoming a licensed practical nurse. This career program is open to men and women.

| First Semester | Units | Second Semester | Units |
|-----------------------------------|-----------|---|-----------|
| Zoo 20 Human Anatomy & Physiology | 3 | Pnur 16 Mental Health | 3 |
| Pnur 12a Fundamentals of Nursing | 6 | Pnur 14a Medical-Surgical Nursing | 9 |
| Math 1x Fundamentals of Math | 3 | Pnur 10 Professional-Vocational Relationships | 1 |
| Engl 1 English composition | 3 | Elective | 3 |
| PE 1 Physical Education | 1 | Physical Education | 1 |
| | <u>16</u> | | <u>17</u> |

Summer Session (Tucson Medical Center)

| | |
|---|----------|
| Pnur 14c Maternal-Child Nursing | 8 |
| Pnur 18 Advanced Professional Relationships | 1 |
| | <u>9</u> |

Medical Secretary

With continued expansion and improvement of health care for people of all ages, opportunities for medical secretaries are increasing.

The student who selects this career program will increase her basic secretarial competencies while studying medical terminology and medical transcription, personal hygiene, anatomy, and general education subjects. The second year student will serve an internship in a large hospital. Graduates may find employment as medical secretaries or related workers with insurance companies, hospitals, or medical clinics.

| Suggested Sequence | | | | | | | |
|--------------------|----|----------------------------|----|-----------------|----|---------------------------------|----|
| First Semester | | | Cr | Second Semester | | | Cr |
| Engl | 1 | English 1 | 3 | Spch | 2 | Speech | 3 |
| Zoo | 20 | Human Anatomy & Physiology | 3 | *Hlth | 42 | Hygiene | 3 |
| Bus | 7 | Intermediate Typing | 3 | *Bus | 11 | Intermediate Shorthand | 3 |
| PE | 1 | Physical Education | 1 | PE | 2 | Physical Education | 1 |
| Psych | 1 | Psychology | 1 | Bus | 4 | Business Math or | |
| BHT | 1 | Basic Health Technology | 3 | Bus | 1a | Principles of Accounting | 3 |
| | | | | Bus | 81 | Medical Terminology | 3 |
| | | | 14 | | | | 16 |
| Third Semester | | | Cr | Fourth Semester | | | Cr |
| Bus | 62 | Office Procedures | 3 | Bus | 95 | Internship as Medical Secretary | 16 |
| Bus | 23 | Personnel Psychology | 3 | | | | |
| Soc | 1 | Introduction to Sociology | 3 | | | | |
| | | Fine Arts Elective | 3 | | | | |
| PE | 3 | Physical Education | 1 | | | | |
| Bus | 83 | Medical Transcription | 3 | | | | |
| | | | 16 | | | | |

*Shorthand, Hygiene suggested, but not required.

At least 60 units required for graduation.

Medical Record Technician

One of the most important members of the hospital team is the medical record technician, the historian of patient care. She assists in organizing and controlling the mass of reports, which, once assembled, accurately state in uniform, scientific language, life's most anxious moments. The need for qualified people in this specialized field far exceeds the supply. Second year students will serve an internship in cooperation with the Tucson Medical Center.

| First Semester | | | Cr | Second Semester | | | Cr |
|----------------|-----|----------------------------|----|-----------------|-----|---|----|
| Engl | 1 | English 1 | 3 | Spch | 2 | Speech | 3 |
| Zoo | 20 | Human Anatomy & Physiology | 3 | Hlth | 42 | Hygiene | 3 |
| Bus | 7 | Intermediate Typing | 3 | PE | 2 | Physical Education | 1 |
| PE | 1 | Physical Education | 1 | Bus | 81 | Medical Terminology | 3 |
| Psych | 1 | Psychology | 1 | Bus | 85a | Medical Record Science I | 3 |
| BHT | 1 | Basic Health Technology | 3 | Bus | 72 | Intro to Data Processing | 3 |
| | | | 14 | | | | 16 |
| Third Semester | | | Cr | Fourth Semester | | | Cr |
| Soc | 1 | Introduction to Sociology | 3 | Bus | 97 | Internship as Medical Record Technician | 16 |
| Bus | 62 | Office Procedures | 3 | | | | |
| | | Fine Arts Elective | 3 | | | | |
| PE | 3 | Physical Education | 1 | | | | |
| Bus | 83 | Medical Transcription | 3 | | | | |
| Bus | 85b | Medical Record Science II | 3 | | | | |
| | | | 16 | | | | |

Shorthand, Hygiene suggested, but not required.

At least 60 units required for graduation.

Drafting Technology

The complexity of American industry and building construction requires that ideas, sketches and verbal instructions be neatly and accurately recorded in the form of drawings or documents. The curriculum in Drafting Technology is designed to prepare the student with a variety of skills and related knowledge necessary to perform as efficient draftsmen, capable of transferring ideas from engineers and designers to the finished product. Graduates may be employed by manufacturing industries, construction companies, mines, utilities or architectural planners. Preparation for this career includes technical drafting skills and a knowledge of mechanical components and devices, basic mathematics, materials and processes of industry.

FRESHMAN YEAR

| | | |
|---|-----|--------------|
| General Education Requirements | | |
| Mathematics Requirement (Minimum of 7 hours of General Education total) | | 16 hrs |
| Other Technical Subjects: | | |
| Calculating Machines | | 2 hrs |
| Drafting Technology Core: | | 12 hrs |
| *Mechanical Drawing | (3) | |
| Technical Drafting | (3) | |
| Applied Descriptive Geometry | (3) | |
| Drafting & Design for Electricity-Electronics | (3) | |
| | | <hr/> 30 hrs |

SOPHOMORE YEAR

| | | |
|---------------------------------|-----|--------------|
| General Education Requirements | | 8 hrs |
| Other Technical Subjects: | | 3 hrs |
| Elective | (3) | |
| Drafting Technology Core: | | 19 hrs |
| Machine Drawing | (3) | |
| Technical Design | (3) | |
| Structural Drafting | (3) | |
| Architectural Drafting & Design | (3) | |
| Topographical Drafting | (3) | |
| (May be taken as an elective) | | |
| Individual Studies | (4) | |
| | | <hr/> 30 hrs |

*Only for those students who have not had Mechanical Drawing in high school. Those having had at least one year of drafting in high school may enroll in Technical Drafting as the first course.

Electronics Technology

Electronics has made a significant contribution to the scientific age in which we live. The electronics technician plays a very important role in this exciting and rapidly-growing industry.

The electronics program at Cochise College is designed for young men and women who are interested in becoming technicians and a part of the scientific team which will meet the demands and challenges of this interesting industry. The program provides the student with a thorough foundation in electronics, supported by a knowledge of mathematics, English and basic sciences. In modern laboratories the student practices experi-

mental techniques and develops technical competence with the use of test equipment and trainers that are designed to reinforce and apply the student's knowledge of theory. The objective of the total program is to produce a competent electronics technician who may work individually, or be capable of working and communicating directly with engineers and production personnel in his specialized work. He will be capable of satisfactorily performing work for his employer and of growing into positions of increasing responsibility. The electronics field provides excellent employment opportunities for students who are interested in working as a team with engineers in research and development, and installation and servicing of electrical and electronic devices.

Major employers are computer manufacturers, aerospace industries, nuclear installations, communication equipment manufacturers, automated industrial manufacturing companies and government organizations which are involved in many areas of the electronics field. There will also be increasing demands in the fields of oceanography, medical electronics, satellite communication and education electronics.

FRESHMAN YEAR

| | |
|---|--------|
| General Education Requirement: | 15 hrs |
| Electronic Mathematics Requirement (Minimum of 6 hrs of General Education Total) | |
| Other Technical Subjects: | 3 hrs |
| Drafting for Electronics Technicians | |
| Electronics Technology Core: | 15 hrs |
| ET 1 Introduction to Electronics (6) | |
| ET 22 Semiconductors and Transistors (4) | |
| ET 25 Electronic Circuits and Systems (5) | |
| | <hr/> |
| | 33 hrs |

SOPHOMORE YEAR

| | |
|---|--------|
| General Education Requirements: | 11 hrs |
| Science Requirement (Minimum of 3 hrs of General Education Total) | |
| Electronics Technology Core: | 22 hrs |
| ET 31 Pulse Circuits (5) | |
| ET 33 Digital Computers (4) | |
| ET 45 Communications Electronics (4) | |
| ET 42 Microwave Circuits (5) | |
| ET 47 Communications Electronics (4) | |
| | <hr/> |
| | 33 hrs |

Law Enforcement

The magnitude and complexity of today's law enforcement and rehabilitation activities dictate the need for educated law enforcement personnel. The program at Cochise College is designed to prepare the student for the challenging and demanding opportunities which exist in public service and private industry. Failure to meet proper requirements may exclude persons from acceptance into the programs.

Private industry offers positions in protective services, insurance investigation and personnel checking for employment

and security. City, county and state law enforcement agencies offer positions in patrol, identification, public relations, research, statistical analysis and juvenile problems. Women are finding careers in law enforcement challenging, too, especially in youth and investigative work. The value of a college education cannot be overemphasized for the alert young man or woman who plans to make a career in law enforcement.

LAW ENFORCEMENT (Pre-Service Students)

| | | |
|--------------------------------|-------------------------------------|----------------|
| General Education Requirements | | 22 units |
| Law Enforcement Core: | | 38 units |
| LE 20 | Introduction to Law Enforcement | (3) |
| LE 22 | Police Patrol Functions I | (3) |
| LE 22a | Police Field Training | (1) |
| LE 24 | Police Patrol Functions II | (3) |
| LE 24a | Police Field Training | (1) |
| LE 26 | Police Organization & Admin. I | (3) |
| LE 26a | Police Field Training | (1) |
| LE 30 | Juvenile Procedures | (3) |
| LE 32 | Procedural Law I | (3) |
| LE 34 | Procedural Law II | (3) |
| LE 36 | Crime Scene Sketching & Photography | (3) |
| LE 38 | Criminal Investigation | (3) |
| LE 40 | Criminal Investigation | (3) |
| LE 42 | Police Arsenal & Weapons Training | (2) |
| LE 46 | Police Community Relations | (3) |
| | | <hr/> 60 units |
| Law Enforcement Electives | | |
| *LE 28 | Police Organization & Admin. II | (3) |
| *LE 28a | Police Field Training IV | (1) |
| *LE 44 | Police Combat Training | (2) |
| LE 48 | Police Report Writing | (3) |
| LE 50 | Defensive Tactics | (2) |
| LE 52 | Accident & Disaster Training | (3) |
| LE 54 | Psychology in Law Enforcement | (3) |
| LE 56 | Criminology | (3) |

*Qualified Students selected by the Department of Law Enforcement

NOTE: A minimum of 60 units is required for graduation.

LAW ENFORCEMENT (In-Service Students)

| | | |
|--------------------------------|---|----------------|
| General Education Requirements | | 15 units |
| Law Enforcement Core: | | 49 units |
| LE 22 | Police Patrol Functions I | (3) |
| LE 24 | Police Patrol Functions II | (3) |
| LE 26 | Police Organization & Admin. I | (3) |
| *LE 28 | Police Organization & Admin. II | (3) |
| LE 30 | Juvenile Procedures | (3) |
| LE 32 | Procedural Law I | (3) |
| LE 34 | Procedural Law II | (3) |
| LE 36 | Crime Scene Sketching & Photography | (3) |
| LE 38 | Criminal Investigation I | (3) |
| LE 40 | Criminal Investigation II | (3) |
| **LE 42 | Police Arsenal & Weapons Training (Basic) | (2) |
| LE 44 | Police Combat Training | (2) |
| LE 46 | Police Community Relations | (3) |
| LE 48 | Police Report Writing | (3) |
| LE 52 | Accident & Disaster Training | (3) |
| LE 54 | Psychology in Law Enforcement | (3) |
| LE 56 | Criminology | (3) |
| | | <hr/> 64 units |

*Requirement for police supervisors only

**Not required for those who demonstrate capability

COURSE OFFERINGS

Numbering of Courses

Courses designated 1 through 99 carry college level credit. The number to the left of the title of the course is the identification number of the course, viz. 1a General Biology.

Courses carrying a letter designates X, viz. 1X Fundamental Mathematics and Y1, viz. 1Y Reading Fundamentals may be used to complete graduation requirements toward the Associate Degree but may not be counted as transfer courses.

Credit Value

The number to the right after the course title indicates the number of units of credits given for the semester. The number of lecture and laboratory hours per week is given in some cases at the conclusion of each course description. When laboratory work is not indicated, the course is considered to be a lecture; the word "lecture" does not imply that class discussion or participation is not an essential part of the course work.

Prerequisites

The prerequisites as shown in the description for each course must be met before enrollment in the course is permitted. Prerequisites stated are intended to insure that the student will have sufficient preparation to assure a reasonable chance of success.

Schedule of Classes

The College reserves the right to make additions or deletions to the list of course offerings during the year, or to cancel those sections in which enrollment is not great enough to justify continuance. The Semester Schedule, published each Fall and Spring, is the official list of courses offered.

Anthropology

1

INTRODUCTION TO ANTHROPOLOGY

3 UNITS

Prerequisite: None.

This introductory course offers both theoretical and practical insight into the origin and antiquity of man. The student will gain understanding of concepts and principles which are a vital part of the field of anthropology. The lectures, texts and outside readings emphasize both research and discussion of the subject. These materials are supplemented with class discussions, colored slides and other visual illustrations.

- 2 INTRODUCTION TO ANTHROPOLOGY 3 UNITS**
Prerequisite: None.
 An introductory course in which the student will learn how man advanced from a cultureless way of living to the complex cultural world of today. The student will gain further understanding of anthropological concepts and principles necessary to the field of anthropology. Lectures, texts, outside reading, colored slides, artifacts, and other visual materials will be used to help the student better understand his way of life.
- 10F ARCHAEOLOGICAL FIELD SESSION 4 UNITS**
Prerequisite: Permission of the Director.
 The student will participate in the excavation of a prehistoric Indian site. Through excavation of the site the student can gain a practical knowledge of Southwestern prehistory, archaeological concepts, techniques, and methods. Experience in classification, preservation, and laboratory work is part of the course. May be repeated for a maximum of 6 units for credit.
- 10T TOUR THROUGH INDIAN COUNTRY 3 UNITS**
Prerequisite: Permission of the Director.
 This conducted tour through the Indian Country will give the student first hand information about the Indians of the Southwest. Lectures will be given by the director, Indian traders, Indians, National Park Service personnel and tribal leaders, etc. Villages and homes will be visited by the group, and various demonstrations and ceremonies will be observed along the tour.
- 25 CULTURAL ANTHROPOLOGY 3 UNITS**
Prerequisites: Anth. 1, 2, or Soc. 1, 2; or Permission of Instructor.
 This course is designed to give the student a perspective of the influence of culture upon man's way of life so that they will better understand the people and the world in which they live. By concentrating on our own culture, the student will learn basic anthropological principles which apply to any other culture throughout the world. Lecture, texts, outside reading, visual aids, and field trips will be used to help the student better understand the world about him.

26**CULTURAL ANTHROPOLOGY****3 UNITS**

Prerequisites: Anth. 1, 2, or Soc. 1, 2;
or Permission of Instructor.

A course in which the student studies various types of cultures found throughout the world. Both primitive and advanced peoples will be the topics of discussion. In this course the student can see the implications and results of cultural spread, loss and reformation—the social disorganization, reorganization and stability—and their influence on man's way of life. Lectures, reading, visual aids, and field trips all emphasize these implications.

35**INTRODUCTION TO
ARCHAEOLOGY****3 UNITS**

Prerequisites: Anth. 1 and 2, or
Permission of Instructor.

This introductory course offers the student both theoretical and practical experience in the field of archaeology. The student will learn how archaeologists reconstruct human history from the past through materials which they find in the field. Such materials will be examined in class and laboratory. This course employs relevant data, techniques and services which are important tools to the archaeologist. Lectures, reading, audio-visual equipment, field trips and laboratory experience emphasize this approach.

36**INTRODUCTION TO
ARCHAEOLOGY****3 UNITS**

Prerequisites: Anth. 35, or
Permission of Instructor.

Archaeology 36 emphasizes practical experience in the field. The student will read reports of excavations and descriptions of life in prehistoric times which he will judge in the light of current scientific procedure and belief. Experience in the field and laboratory will allow the student to use archaeological techniques and methods. Lectures, audiovisual aids, field trips, laboratory work and site excavation are geared to the practical approach in this field.

85**PREHISTORIC INDIANS OF THE
SOUTHWEST****2 UNITS**

Prerequisite: None.

This course is a non-technical study of the prehistoric Indians of the Southwest. The student will become acquainted with basic theory, method and concepts, as

they apply to Southwestern archaeology. The study will give the student an insight into ancient Indian ways of life through lectures, audiovisual media, and field trips.

86 MODERN INDIAN TRIBES OF 2 UNITS
THE SOUTHWEST

Prerequisite: None.

Anthropology 86 is a non-technical study of modern and historic Southwestern Indian groups. Basic method, theory and concepts, as they apply to Southwestern ethnology, are problems which the student will be concerned about in this course. Lectures, audio-visual aids, and field trips are designed to give the student an insight into the modern Indian way of life. The student will gain a better understanding of the Indians' present day problems.

99 INDIVIDUAL STUDIES 1-4 UNITS

Prerequisite: Approval of Division Chairman and the professor.

The student will solve a problem under the direction of a faculty member with the approval of the Division Chairman. May be repeated for credit.

Art

3 BASIC DESIGN 3 UNITS

Prerequisite: None.

Through lecture, demonstration and studio experiences the student will acquire a knowledge of the basic elements of visual perception and organization, and he will demonstrate this knowledge and ability in two-and three-dimensional media. Lecture 2 hours, Studio 4 hours.

6 BASIC DRAWING 3 UNITS

Prerequisite: None.

Through lecture, demonstration and practical studio experiences the student will develop an understanding of and proficiency in representational drawing and expressive pictorial design.
Lecture 2 hours, Studio 4 hours.

7**SURVEY OF WORLD ART****Prerequisite: None.**

Through lecture and demonstration, using slides, motion pictures, museum reproductions and other media the student will learn to analyze and to develop an appreciation for the art and architecture of Western civilization from pre-historic times through the Gothic era. He will demonstrate his ability to recognize and criticize major artists, sculptors, and schools of architecture of this period.

Lecture 3 hours.

8**SURVEY OF WORLD ART****3 UNITS****Prerequisite: None.**

Through lecture and demonstration, using slides, motion pictures, museum reproductions and other media the student will learn to analyze and to develop an appreciation of the art and architecture of important Eastern cultures and Western civilization from the Renaissance to the present age. He will demonstrate his knowledge and awareness of the major national styles and movements.

Lecture 3 hours.

30**TWO DIMENSIONAL DESIGN****3 UNITS****Prerequisite: Art 3.**

Through lecture and studio experiences, utilizing a variety of materials, the student will learn to manipulate, control, and structure pictorial space. The student will be expected to demonstrate his knowledge of both historical and contemporary approaches to composition and design.

Lecture 2 hours, Studio 4 hours.

31**THREE-DIMENSIONAL DESIGN****3 UNITS****Prerequisite: Art 3.**

Through lecture and studio experiences, the student will inquire into the use of volume and mass relationships as they exist in space, and he will experiment with the use of various materials and produce work demonstrating his ability to establish visually meaningful relationships.

Lecture 2 hours, Studio 4 hours.

45**BEGINNING FIGURE DRAWING 3 UNITS****Prerequisite: Art 6 or permission of professor.**

The student will practice drawing of the human figure, with the emphasis on the organic form, relationships,

motion, rhythm, and gesture, with a secondary emphasis on the figure in its environment.
Studio 6 hours.

65 BEGINNING COMMERCIAL DESIGN 3 UNITS

Prerequisite: Art 3.

Through lecture and studio experiences the student will study the principles of commercial design and the techniques of advertising layout, concentrating on practical application. He will demonstrate his ability in various commercial design problems and his understanding of the tools and materials in various fields of advertising.

Lecture 2 hours, Studio 4 hours.

80 BEGINNING PAINTING 3 UNITS

Prerequisite: Art 3, Art 6, or permission of the instructor.

Through lecture and studio experience the student will examine the principles and techniques of oil, water color, casein, and fresco painting, and he will demonstrate his ability and knowledge of these techniques by producing finished pictorial work in the above media.
Studio 6 hours.

99 INDIVIDUAL STUDIES 1-4 UNITS

Prerequisite: Approval of Division Chairman and the professor.

The student will solve a problem under the direction of a faculty member with the approval of the Division Chairman. May be repeated for credit.

Aviation Technology

11 AIRCRAFT MATERIALS AND PROCESSES 4 UNITS

Prerequisite: Permission of Department

In this course the common as well as the newer and more sophisticated metals of the aviation industry are studied. The processes necessary in manufacture of the component parts and the final products are studied along with an initial introduction to the methods and techniques of on-the-spot repair of same. Extensive laboratory experience is given in the use of hand and machine tools to reinforce learning of the initial manufacturing processes and repair methods. As in other

courses, the Federal Air Regulations are integrated into the course whenever pertinent. This course serves as a general foundation course for practices and techniques which will be refined during the subsequent three semesters.

12 APPLIED AERO MATH 3 UNITS

Prerequisite: High School Algebra and Plane Geometry.

This mathematics course covers a rather rapid review of high school algebra, plane geometry and arithmetic manipulation of numbers. The remainder of the course emphasizes particular problems that have been developed over the years which are likely to be encountered by the aviation maintenance technician. Problems dealing with quantities, volumes, percentages, ratios, stress factors, weight and balance, and power output are studied in depth. Particular emphasis is given to the relationship existing between the problems and the regulations of the Federal Aviation Agency pertinent to the area being studied. Extensive practice is given in the solution of various weight and balance changes brought about by modification and alteration to an airframe or engine.

14 AERO PHYSICS 3 UNITS

Prerequisite: High School Algebra and Plane Geometry.

This course is tailored for the aviation technician who recognizes that, at an early stage in training, he must have a good working knowledge of the fundamentals of electricity. This course is primarily a practical introduction with numerous problems dealing with all phases of electricity and magnetism. Also, a firm fundamental understanding of various kinds of cells and batteries is provided along with pertinent servicing techniques and F.A.R. requirements. Included is an introduction to AC and DC generators and motor theory. Particular emphasis is also given to current-carrying capacity of various wire material and sizes in numerous complete load situations. Extensive practice is given in the application of the cable charts provided by the F.A.A. for determining wire sizes.

15 AERONAUTICS DRAFTING 3 UNITS

Prerequisite: Admission to Airframe & Powerplant Curriculum

By means of listening, discussing and participating in practical problem-solving exercises, the student de-

velops basic skills in drafting as they relate to the airframe and powerplant mechanic. Students develop abilities in sketching multi-view and pictorial representations, sections, auxiliary views, dimensions, threads and fasteners as they apply to aircraft repair or modification. He will learn to read, interpret and apply blueprint information as related to modifications, repairs, installations, service and maintenance.

16 THEORY OF FLIGHT AND INSTRUMENTATION 4 UNITS

**Prerequisite: A.T. 50 and A.T. 42,
or permission of department.**

The aircraft maintenance technician must understand the theory of flight in order to intelligently study and practice correct installation of instrumentation. Also, this course serves as a foundation for A.T. 52. The latest in types of flight instrumentation and the proper location and installation are studied and practiced in laboratory situations. Proper installation of radio and other electronic gear is studied, along with pertinent Federal regulations. The theory of operation of all instruments is studied excluding repair procedures.

17 SHOP MANAGEMENT PRINCIPLES 3 UNITS

**Prerequisite: Enrollment in Aviation
Technology Program.**

This course is designed to give the student insight into the fundamental principles of management and the problems he is likely to encounter if employed in a supervisory capacity. Solutions to real-life, actual labor and management problems are studied in lecture discussion type classes. The course requires the student to investigate a problem situation and write a report with alternate solutions. Special emphasis is given to labor relations and dealing with union organizations. The psychology of dealing with people is considered a necessary facet of this course.

20 BASIC AIRCRAFT POWERPLANTS 11 UNITS

**Prerequisite: Admission to Aviation
Technology Program.**

This course is designed as an introduction to heat engines and their application in airborne vehicles. This basic course is designed to acquaint the student with

the parts of various engines and the relationship one to another and the function of each part. There is extensive use of audio visual aids including movies, slides, etc., and a lecture session three times a week along with extensive laboratory experience with engines. The laboratory work includes complete disassembly, cleaning and micro inspection. No actual repairs are made during this course other than those necessary to put the engines back into good running condition. The engines are reassembled and test run. Particular emphasis is given to sophisticated methods of inspection which includes magnetic particle, ultrasonic, X-ray and dye-penetrant methods. This basic course gives the student experience with both small reciprocating and large radial engines and an introduction to turbine engine theory. The systems study approach is used in lecture, discussions and laboratory experience. The systems studied include the mechanical, ignition, lubrication, carburetion, induction and electrical.

21 AIRCRAFT PROPELLER 3 UNITS
SYSTEMS

Prerequisite: Enrollment in Aviation Technology Program or consent of department.

The student will study the complex nature of sophisticated propeller systems as used on modern aircraft, including the propellers used with turbine power. Not only is the theory of operation studied but actual repair procedures are completed in the laboratory. The Federal Air Regulations pertinent to propeller systems are also emphasized.

30 ADVANCED AIRCRAFT 11 UNITS
POWERPLANTS

Prerequisite: A.T. 20 or consent of department.

This course is a continuation of A.T. 20 with special emphasis on the more complex and modern powerplants. The radial engine and various turbine engines (jets) are studied in depth. The laboratory experience is concentrated on actual perfection of repair procedures. Also the engine, both radial and turbine, will be run and adjusted to perfect operation. F.A.A. regulations concerning these powerplants will be studied in depth.

40 BASIC AIRFRAME STRUCTURES 5 UNITS

Prerequisite: Enrollment in Aviation Technology Program or consent of department.

This course is an introduction to the actual airframe

itself. The student will learn the various types of structures and the engineering principles involved. The student will also study the various portions of the structure and how each relates to the other. The laboratory experience will be largely concerned with fundamentals of repair and inspection. F.A.R.'s relative to the airframe will be studied at great length.

42

AIRCRAFT ELECTRICAL SYSTEMS

4 UNITS

Prerequisite: A.T. 12 and A.T. 14, or their equivalent.

The student will learn the complex electrical systems common to modern aircraft. The laboratory experience will include disassembly of components as well as trouble-shooting electrical systems as a whole. F.A.A. regulations pertinent to aircraft electrical systems will be studied in depth, both for meaning and application. Modern techniques and equipment will be emphasized throughout the course.

50

ADVANCED AIRFRAME STRUCTURES

6 UNITS

Prerequisite: A.T. 40 or consent of department.

This course is a continuation of A.T. 40 in which more sophisticated repair to larger aircraft is emphasized. Heli-Arc welding is introduced as are bonding techniques and honeycomb structural repair. Complex and exotic finishing techniques are also studied and practiced in the laboratory. Control systems are also studied in depth, including actual repairs made in controlled laboratory situation. Common, recurring, repair procedures are practiced to perfection.

52

AIRCRAFT ASSEMBLY, RIGGING AND INSPECTION

7 UNITS

Prerequisite: Completion of three semesters of Aviation Technology Program or consent of department.

This course offers the student the opportunity to perform the final work and inspection on an aircraft prior to its return to service after receiving required maintenance. The theory of assembly and rigging is studied in a classroom setting with actual performance in a laboratory setting. All work will be done on active aircraft. This course will round out the experience requirement and F. A. R. knowledge required for licensing. Inspection procedures will involve latest methods and equipment.

- 53 HYDRAULIC AND PNEUMATIC 5 UNITS**
SYSTEMS
Prerequisite: Completion of three semesters of Aviation Technology Program or consent of department.
The complex hydraulic and pneumatic systems in large, modern aircraft are studied through the use of manufacturers' manuals. Laboratory experience with the various components is accomplished on aircraft which are for laboratory use. The available components for laboratory use are kept up-to-date through constant liaison with prime manufacturers.
- 80 BASIC FLIGHT 6 UNITS**
Prerequisite: None.
The student will solo the aircraft. He will learn to navigate cross-country both by pilotage and radio. He will learn to read and understand weather reports, and will learn the Federal Aviation regulations pertaining to the private license.
- 82 INTERMEDIATE FLIGHT 6 UNITS**
Prerequisite: A.T. 80
The student will become proficient in all of the basic maneuvers and familiar with radio navigation. Commercial maneuvers will be introduced and the student will take the cross-country required for a commercial license.
- 84 ADVANCED FLIGHT 6 UNITS**
Prerequisite: A.T. 82
The student will become proficient in all the commercial maneuvers and in controlling the aircraft solely by reference to instruments. He will be introduced to instrument approaches. Commercial rating will be awarded upon successful completion of A.T. 84, and the F.A.A. written and flight test.
- 86 INSTRUMENT TRAINING 6 UNITS**
Prerequisite: A.T. 84.
The student will become proficient in ILS, VOR, DME, ADF, and radar approaches. He will become proficient in cross-country navigation by reference to instruments. He will become proficient in air traffic control procedures and emergency procedures.

88-A MULTI-ENGINE 3 UNITS

Prerequisite: A.T. 86

The student will become proficient in piloting multi-engine aircraft. He will learn all the emergency procedures pertaining to a multi-engine airplane. He will learn the problems and advantages of operating a multi-engine aircraft.

88-B FLIGHT INSTRUCTOR 3 UNITS

Prerequisite: A.T. 86

Through intensive study and practice in the art of teaching flight maneuvers the student will develop the teaching skills necessary to become a Certified Flight Instructor. A useful working knowledge of pertinent F.A.R.'s will be gained by study in depth and repeated use.

99 INDIVIDUAL STUDIES 1-4 UNITS

Prerequisite: Approval of Division Chairman and professor.

The student will solve a problem under the direction of a faculty member with the approval of the Division Chairman. May be repeated for credit.

Biology

1a-1b GENERAL BIOLOGY 4-4 UNITS

Prerequisite: 1a is a prerequisite for 1b.

By means of lectures and laboratory work involving instruments and observation of representative plants and animals, the student will learn the principles and concepts of biology and its historical development, with reference to organization, function, heredity, evolution and ecology. Lecture 3 hours, Laboratory 3 hours.

**12 FOUNDATIONS OF SCIENCE:
BIOLOGY 3 UNITS**

Prerequisites: Chemistry 12 and Physics 12 or equivalent courses.

The student will use microscopes, models and living and preserved biological materials to understand the basic concepts of both plants and animals, with emphasis on the processes and interrelationships of living things with each other and their surroundings. Lecture 2 hours, Laboratory 3 hours.

Prerequisite: Approval of Division Chairman and the professor.

The student will solve a problem under the direction of a faculty member with the approval of the Division Chairman. May be repeated for credit.

Botany

1**GENERAL BOTANY****4 UNITS**

Prerequisites: Chemistry 12 or high school chemistry.

By observing and comparing living and preserved plants and microscope slides, supplemented by lectures and readings, the student will learn the basic concepts of botany as illustrated by plants, with emphasis on morphology and physiology. A basic course in botany for students of plant or animal science. Lecture 3 hours, Laboratory 3 hours.

Business

1a-1b**PRINCIPLES OF ACCOUNTING 3-3 UNITS**

Prerequisite: 1a is a prerequisite for 1b.

The student will demonstrate his understanding of the accounting procedures necessary for the recording of transactions, the theory of debit and credit, the classification of accounts and the preparation and interpretation of financial statements as applied to sole proprietorships, partnerships and corporations. Various questions, problems and examinations will be given. Lecture 3 hours, Laboratory 2 hours.

3a-3b**INTERMEDIATE ACCOUNTING 3-3 UNITS**

Prerequisites: Business 1a and 1b.

The student will learn basic process and concepts of accounting: form and content of income statements and balance sheets, accounting for stockholder's equity, theory and problems involved in accounting assets and liabilities, income determination, analysis and interpretation of financial statements. Lecture 3 hours, Laboratory 2 hours.

4**BUSINESS MATH (Programmed) 3 UNITS**

Prerequisite: None.

The student will listen, observe and perform in order to demonstrate, an understanding of the fundamentals of business mathematics and the ability to communi-

cate with the "number language" of today's business world. This course is programmed learning in which the student advances at his own rate, benefitting from increased speed and efficiency of learning, higher achievement levels, possible enrichment of his work and an opportunity to gain complete and thorough mastery of subject matter.

5 TYPING REVIEW 1 UNIT

Prerequisite: Prior typing experience.

Through individualized instruction, case problems, and production work, the student will review skills and and mechanical functions of the typewriter, review letter format, and practice tabulation and manuscripts.

Lecture-Laboratory 3 hours for 8 weeks.

6 ELEMENTARY TYPING 3 UNITS

Prerequisite: None.

Student will develop basic typewriting skills and techniques. He will demonstrate a knowledge of letter styles and forms, tabulations and manuscript writing through individual case problems and production projects. Students who have had typing in high school should enroll in Business 5 or 7.

Lecture-Laboratory 4 hours.

7 INTERMEDIATE TYPEWRITING 3 UNITS

Prerequisite: Business 6, or high school typing, or permission of the professor.

The student will show improvement of typewriting skills, including technique and accuracy in problem typing, as well as demonstrating an increase in words per minute in timed writings. Production work would include styles of business letters and business forms.

8 ADVANCED TYPING 3 UNITS

Prerequisite: Business 7 or permission of the professor.

Student will demonstrate additional typewriting skills in special, more demanding problems in business letters, manuscripts, tabulation and various business forms. He will be introduced to actual business situations and demands faced by office typists. Additional speed will also be acquired.

Lecture-Laboratory 3 hours.

- 9 SURVEY OF AMERICAN BUSINESS (Programmed) 3 UNITS**
Prerequisite: None.
 The student will demonstrate his understanding of the fundamental characteristics and functions of modern business, with emphasis on possible career opportunities.
 An extensive course outline will be given to the student with questions and programmed terminal performance tasks.
- 10 ELEMENTARY SHORTHAND 3 UNITS**
Prerequisite: Business 6 or equivalent, a minimum grade of 3 in English, or permission of the professor.
 The student will be able to write Gregg shorthand, dictated at a maximum speed of 60 words a minute. Taking dictation of familiar material and transcribing it accurately will demonstrate this ability.
- 11 INTERMEDIATE SHORTHAND 3 UNITS**
Prerequisite: One year of shorthand in high school, or Business 10 with a grade of 3 or better, or permission of the professor.
 The student will have developed dictation speed to a minimum of 80 words a minute on new material. This ability will be demonstrated by accurate transcription of new material at this speed and above.
- 12 ADVANCED SHORTHAND AND TRANSCRIPTION 3 UNITS**
Prerequisite: Business 11, with a grade of 3 or better, or two years of shorthand in high school, or permission of the professor.
 The student will have further developed his ability to write dictated new material at a minimum speed of 100 words a minute. This ability will be shown by transcription into mailable, typewritten copy.
- 13 SHORTHAND REVIEW 1 UNIT**
Prerequisite: Previous shorthand experience, approximately one year; Ability to communicate in written English.
 The student will redevelop and enforce previous ability to write shorthand, through the review of principles and theory of Gregg shorthand and become acquainted with Diamond Jubilee shorthand changes, and will be able to transcribe practiced material at 60 words a minute for admission to Business 11.

14 BILINGUAL SHORTHAND-TYPING I (English-Spanish) 3 UNITS

Prerequisite: Spanish proficiency at the second year level, or by permission of the instructor, and have finished or currently enrolled in Business 7 or 8 and/or 11 and 12. It is also recommended that the student have completed or be enrolled in Spanish 75a.

Programmed instruction for students interested in qualifying as a bilingual (English-Spanish) stenographer. The student will demonstrate the ability to take dictation in both English and Spanish shorthand, and transcribe it into mailable copy in both English and Spanish. Minimum dictation rate will be 60 words a minute, typing rate of 40 words a minute, with transcription speed of 15 words a minute.

15 BILINGUAL SHORTHAND-TYPING II (English-Spanish) 3 UNITS

Prerequisite: Business 14 and have finished or are currently enrolled in Spanish 75a or 75b.

Continuation of programmed Business 14. The student will further develop his speed and accuracy. The student will also demonstrate proficiency in the correct typing of forms, telegrams, reports, minutes of a meeting, and manuscript in Spanish.

18 CALCULATING MACHINES 2 UNITS

Prerequisite: None.

The student will develop a fundamental skill in operating rotary calculators, key-driven calculators, ten-key and printing calculators, and electronic computation equipment. Assessment of student development will be ascertained by observation and student production. Lecture-Laboratory 2 hours.

19 BUSINESS STATISTICS 3 UNITS

Prerequisite: Business math or permission of the professor.

The student will demonstrate an understanding of descriptive statistics, averages, dispersion, elementary statistical inference, index numbering, time series, correlations, chi-square testing, point and interval estimation, and apply them to business and economic problems in workbook assignments and tests.

- 21 TAXATION PRINCIPLES AND PROCEDURES 3 UNITS**
Prerequisites: Business 1a, 1b or permission of the professor.
 Tax laws accounting procedures and preparation of required United States and Arizona Income Tax Returns as they apply to individuals and business. This course is intended for those who do not anticipate specialization beyond the junior college level, but is of college level and may in some cases be accepted for transfer. Lecture 3 hours.
- 23 PERSONNEL PSYCHOLOGY 3 UNITS**
Prerequisite: None.
 The student will develop an elementary understanding of human behavior as it occurs in business and industry, by analyzing psychological views as they pertain to selection, training, evaluation, promotion, and supervision of employees. The student will evaluate consumer behavior through various methods in an attempt to better realize the effects of consumer research, advertising, and selling.
- 31 BUSINESS LAW 3 UNITS**
Prerequisite: None.
 Emphasis will be on the concepts and elements of contracts. In the areas of partnerships, corporations and Arizona Court procedures, practicing lawyers and judges proficient in the field will lecture. The student, through case analysis and information from lawyers, will acquire a sound, workable knowledge of basic legal principles involved in laws of contracts, negotiable instruments, and property and business organizations to assist him in meeting daily problems of management, ownership, or employment in business.
- 51 INSURANCE 3 UNITS**
Prerequisite: None.
 Principles and practices of insurance including coverage available, buying methods, procedures for settling claims, and analysis of contracts and forms purchased by the average individual. Lecture 3 hours.
- 52 MERCHANDISING 3 UNITS**
Prerequisite: Bus. 55 or permission of professor.
 By means of listening, discussing, observing and preparing projects, the student will gain an understanding of buying motives and habits, the importance of

the sales and the sales management function, the importance of sales promotion and inventory control. The student will develop the ability to successfully complete a sale and a sales promotion effort. The student will exhibit a knowledge of sound product planning, development, promotion and distribution policies.

53 SALESMANSHIP 3 UNITS

Prerequisite: None.

Career opportunities in sales work, practical and psychological factors in selling, development of desirable sales personality, current techniques in conducting sales campaigns. Members of the class will engage in practical sales demonstrations.
Lecture 3 hours.

55 PRINCIPLES OF MARKETING 3 UNITS

Prerequisite: Approval of mid-management professor.

The student will listen, discuss, observe and prepare projects in order to gain an understanding of the marketing function in the U.S. economy and international affairs. He will demonstrate his ability to apply this understanding to the specific marketing areas of: (1) making buying decisions, (2) initiating and improving operational procedures, (3) conducting market research, (4) determining the requirements of occupying a liaison position on the management team, (5) selecting channels of distribution and (6) interpreting trends in the field of marketing.

57 PROBLEMS OF DISTRIBUTION 3 UNITS

Prerequisite: Bus 52 and 55 or permission of professor.

By means of listening, discussing, observing, interviewing, writing and developing projects, the student will gain an understanding of personal development and the management function. The student will understand the abilities required to obtain a position in mid-management and to advance therein, develop an understanding of the "why" and "how" of company operations and will demonstrate their ability to analyze and solve marketing strategies using proper decision-making procedures.

59 PRINCIPLES OF ADVERTISING 3 UNITS

Prerequisite: None.

Role of advertising in distribution, including advertising media, advertising organizations, advertising copy, layout, and production.
Lecture 3 hours.

62**OFFICE PROCEDURES****3 UNITS**

Prerequisite: Business 6, or high school typing, or permission of the professor.

The student will learn and experience general office procedures, including duties of office workers, staff members, and management. Personal qualifications, systems of filing, preparation of reports, handling mail, using the telephone, and operations of duplicating and calculating machines most commonly found in business offices will be stressed. Case problems, projects, and actual machine operation will be observed and evaluated to determine student development.

Lecture-Laboratory 3 hours.

64**COLLEGE SECRETARIAL PROCEDURES****3 UNITS**

Prerequisite: Business 11 or permission of instructor.

The student will be able to function as a member of an office staff, and will have acquired a knowledge of office organization and layout, workflow, procedures, standards, personnel policies, and supervision procedures through progressive job situations. Completion of the jobs will demonstrate secretarial ability.

70**KEY PUNCH****1 UNIT**

Prerequisite: Business 6, or high school typing, or permission of the professor.

The student will learn to operate the key punch machine. He will demonstrate job entry level skill as an operator.

72**INTRODUCTION TO DATA PROCESSING****3 UNITS**

Prerequisite: None.

The student will gain an overview of data processing, including the history and use of tabulating machines and electronic computers. He will be expected to define the role of the punched card, describe the functions of various machines, and design elementary procedural flow charts and programs for electronic computers.

Lecture 3 hours.

81**MEDICAL TERMINOLOGY****3 UNITS**

Prerequisite: Permission of the professor.

The student will become familiar with terms frequently encountered in medical records through the study of prefixes, suffixes and the principles for combining

the two to make compounds followed by a comprehensive study of a list of diagnostic, operative, symptomatological and drug terms and abbreviations.
Lecture 3 hours.

83 MEDICAL TRANSCRIPTION 3 UNITS

Prerequisite: Business 8.

The student will be able to transcribe histories, physicals, admission and discharge notes, and surgical dictation through extensive practice on transcription equipment. (Students will be expected to visit the operating rooms to observe surgery during this time.)
Lecture-Laboratory 4 hours.

85a MEDICAL RECORD SCIENCE I 3 UNITS

Prerequisite: Zoology 20.

The student will become oriented to medical record-keeping theory and practice through participation in a study of the history of medicine, hospitals and medical records; a breakdown of professional ethics and personal conduct; a development of securing, evaluating and using medical records; and quantitative and qualitative analysis of the medical record. The student will prepare records used and pertinent reports.

Lecture 3 hours.

85b MEDICAL RECORD SCIENCE II 3 UNITS

Prerequisite: 85a.

The student will demonstrate an understanding of the principles involved in numbering, filing and preservation of medical records; compiling statistics for hospitals; preparation of daily census reports; analysis of hospital service; special reports and classification of diseases.

The student will process and file forms and records used.

Lecture 3 hours.

91ab INTERNSHIP IN MARKETING 12 UNITS

Prerequisite: Bus. 52-55-57. (Bus. 57 may be taken concurrently with Bus. 91a.) All students enrolled in Bus. 91ab must have prior approval of mid-management professor.

The student will work in a planned program of independent research, observation, study, and paid occupational training in selected business establishments. He will exhibit the ability to apply knowledge gained

in the classroom to internship experiences. The student will participate in selecting the type of business in which the internship will take place. Businesses selected will include, but not be limited to, retail, wholesale, and service establishments such as department stores, supermarkets, warehouse and store operations, airport management, airline management, hotel-motel management, direct sales, and other areas of professional sales work.

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| 93 | SEMINAR-TRENDS AND PRACTICES IN MARKETING AND MANAGEMENT | 3 UNITS |
|-----------|---|----------------|

Prerequisite: Bus. 52-55-57 or by permission of professor.

The student will listen, discuss, observe and develop projects in order to gain an understanding of (1) human and supervisory relations, (2) the procedures involved in establishing training programs and (3) the principles involved in the management of people, capital, merchandise, and time. He will apply supervisory relations techniques through on-the-job practice and/or simulated situations in the classroom. The student will demonstrate his ability to adapt to actual business conditions through this culminating effort of the mid-management program.

| | | |
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| 95 | INTERNSHIP AS MEDICAL SECRETARY | 16 UNITS |
|-----------|--|-----------------|

Prerequisite: Business 81, 83.

Students will dovetail theory and practice with experience in a hospital business office and discussion of problems encountered in hospital training stations. Lecture-Laboratory experience at Tucson Medical Center or other medical facility.

**97 INTERNSHIP AS MEDICAL RECORD
TECHNICIAN 16 UNITS**

Prerequisite: Business 81, 83.

The student will dovetail theory and practice with experience in a hospital business office and discussion of problems encountered in hospital training stations. Lecture-Laboratory experience at Tucson Medical Center or other medical facility.

99 INDIVIDUAL STUDIES 1-4 UNITS

Prerequisite: Approval of Division Chairman and the professor.

The student will solve a problem under the direction of a faculty member with the approval of the Division Chairman. May be repeated for credit.

Chemistry

2a-2b GENERAL CHEMISTRY 4-4 UNITS

Prerequisites: For 2a, one year of high school chemistry, or Chemistry 12 or Math 20 (or concurrent enrollment). 2a is a prerequisite for 2b.

The student will be introduced to the basic theory and general principles of chemistry through a quantitative approach requiring numerous problem-solving techniques. He will attain certain manipulative and observational skills by means of various laboratory experiences involving written and oral communication. Chemistry 2b is the continuation of Chemistry 2a in which the student becomes acquainted with the descriptive chemistry of selected elements and compounds. He will also utilize certain principles and theories in a brief scheme of qualitative analysis. Ionic equilibria are studied and related to the laboratory work.

Lecture 3 hours, Laboratory 3 hours.

12 FOUNDATIONS OF SCIENCE: Chemistry 3 UNITS

Prerequisites: Math 12 and Physics 12 or equivalent.

Through lectures, the student will learn the basic theory of general chemistry. Problems will be introduced shortly after a concept has been developed so that the student may test his understanding. The laboratory experiments are designed to build the student's techniques and concepts of chemistry step by step. Techniques acquired by the student will include the use of the bunsen burner, glass working, weighing, preparation and identification of compounds, distillation, and titration. The keeping of a journal helps the student to develop his thinking into a reasonably precise expression of the facts he has discovered during the experiment.

Lecture 2 hours, Laboratory 3 hours.

20 QUALITATIVE ANALYSIS 4 UNITS

Prerequisites: Chem 2b and Math 20.

The student will spend considerable time in the laboratory developing new techniques and becoming familiar with many aspects, both theoretical and practical, of solution chemistry by utilizing a detailed scheme of qualitative analysis.

Lecture 2 hours, Laboratory 6 hours.

30 QUANTITATIVE ANALYSIS 4 UNITS

Prerequisites: Chem 2b and Math 20.

The student will be expected to understand certain concepts and principles applicable to a number of stoichiometric and equilibrium relations. Volumetric and gravimetric analysis will be emphasized, with stress on student laboratory technique involving a high level of proficiency. The student will also become acquainted with certain instrumental analysis procedures.

Lecture 2 hours, Laboratory 6 hours.

40a-40b ORGANIC CHEMISTRY 4-4 UNITS

Prerequisite: Chem 2b.

The student will, through lectures and laboratory, acquaint himself with the properties and preparations of carbon compounds. Structural formulae, nomenclature, synthesis and the relations between different classes of organic compounds will be studied and mastered by the individual student.

Lecture 3 hours, Laboratory 3 hours.

99 INDIVIDUAL STUDIES 1-4 UNITS

Prerequisite: Approval of Division Chairman and the professor.

The student will solve a problem under the direction of a faculty member with the approval of the Division Chairman. May be repeated for credit.

Drafting Technology

10 MECHANICAL DRAWING 3 UNITS

Prerequisite: None.

By means of listening, discussing, observing and problem-solving activities, the drafting student will practice the following behaviors: he will develop abilities in lettering, construction of geometric applications,

multi-view projection, pictorial representation, basic dimensioning, sectioning and blueprint reading. He will demonstrate basic drafting skill, technique, and instrumentation. The course is offered for those who have not had high school mechanical drawing.

22 TECHNICAL DRAFTING 3 UNITS

Prerequisites: DT 10 or at least one year of high school mechanical drawing.

By means of listening, discussing, observing and problem-solving activities the drafting student will practice the following behaviors: he will develop skill in the solving and delineation of auxiliary views, threads and fasteners, developments and intersections, dimensioning, piping diagrams and axonometric projections. Students will demonstrate the use of the latest techniques, instruments and equipment in performing practical applications that vary in difficulty and progression, from simple representation to more complex, industry-oriented problems.

23 APPLIED DESCRIPTIVE GEOMETRY 3 UNITS

Prerequisite: DT 22.

By means of listening, discussing, observing and problem-solving activities the drafting student will practice the following behaviors: Students will solve (1) typical three-dimensional space problems through application of the principles of multi-view projection; (2) problems offering practical exercises in the solving of true length lines, true size and shape of planes (3) approximate development of plane, warped and double-curved surfaces and (4) other related applications.

31 DRAFTING AND DESIGN FOR ELECTRICITY-ELECTRONICS 3 UNITS

Prerequisite: DT 22.

By means of listening, discussing, observing and problem-solving activities the drafting student will practice the following behaviors: he will develop skill in mechanical drafting as it applies to electricity and electronics. He will demonstrate the ability to effectively delineate electronic component symbols, block diagrams, wiring diagrams, schematics and miniaturized circuitry.

34**MACHINE DRAWING****3 UNITS****Prerequisite: DT 22.**

By means of listening, discussing, observing and problem-solving activities the drafting student will practice the following behaviors: he will demonstrate the ability to accurately represent detailed machine parts by preparing industrial production drawings. The student will draw details, assemblies, gears, cams, illustrations and apply the principles of precision dimensioning and tolerancing. He will develop the ability to use ASA standards, MIL standards and industrial catalogs; perform tolerance studies; complete revisions and do checking.

45**TECHNICAL DESIGN****3 UNITS****Prerequisite: DT 34**

By means of listening, discussing, observing and problem-solving activities the drafting student will practice the following behaviors: The student will apply various principles and applications involved in machine and tool designing. He will solve problems related to drill jigs, milling fixtures, machine parts and assemblies, and fabrication procedures. The student will use industrial catalogs, ASA and MIL standards and perform dimensioning and tolerancing for production.

46**ARCHITECTURAL DRAFTING AND DESIGN****3 UNITS****Prerequisite: DT 22.**

By means of listening, discussing, observing and problem-solving activities the drafting student will practice the following behaviors: He will complete detailed plans necessary for construction methods, materials, procedures and apply these functional principles in his planning. The student will understand function and design with respect to area planning, elevations, site orientation, mechanical services and construction details.

47**STRUCTURAL DRAFTING****3 UNITS****Prerequisite: DT 22.**

By means of listening, discussing, observing and problem-solving activities the drafting student will demonstrate the following behaviors: the student will analyze and solve problems related to structural steel, timber, and concrete, and the applications of these materials

to commercial buildings, bridges, and other structures. He will perform basic calculations and draw details and construction plans.

49 TOPOGRAPHICAL DRAFTING 3 UNITS

Prerequisite: DT 22.

By means of listening, discussing, observing and problem-solving activities the drafting student will practice the following behaviors: he will interpret surveyor's notes, complete topographical map drawings, land parcels, sub-division layouts, area calculations, profiling, contouring, sectioning and vertical curve analysis.

99 INDIVIDUAL STUDIES 1-4 UNITS

Prerequisite: Approval of Division Chairman and the professor.

The student will solve a problem under the direction of a faculty member with the approval of the Division Chairman. May be repeated for credit.

Drama

1-2 ACTING 3-3 UNITS

Prerequisite: Drama 1 is prerequisite for Drama 2, or Permission of professor.

Through class discussion, directed readings, pantomime, improvisation and performance of play cuttings, the student will gain understanding and skill in the creative process of acting.

3-4 PRINCIPLES AND TECHNIQUES OF PLAY PRODUCTION 3-3 UNITS

Prerequisite: Drama 3 is prerequisite for Drama 4, or permission of professor.

Through experimentation, discussion, directed readings and practical workshop experiences in stage lighting, make-up, costume and set construction, the student will acquire the principles and techniques of play production.

10 THEATER WORKSHOP 1 UNIT

Prerequisite: Permission of the professor (audition)

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

Economics

- 2 PRINCIPLES OF ECONOMICS (Programmed) 3 UNITS**
Prerequisite: None.
The student will demonstrate his understanding of the fundamental characteristics of American capitalism, the basic areas of economics analysis, the economic theories and practical applications to current economic problems.
The student will be given an extensive course outline with various questions and programmed terminal performance tasks.
Lecture 3 hours.
- 3 PRINCIPLES OF ECONOMICS (Programmed) 3 UNITS**
Prerequisite: Economics 2.
The student will demonstrate his understanding of price theory for the product market models, agricultural economics, monopolistic competition, the distribution of income, labor economics, the problems of poverty and insecurity, the public sector and taxation, the international economy and gold and current balance of payments problems, the economics of change and comparative economics.
The student will be given an extensive course outline with various questions and programmed terminal performance tasks.
Lecture 3 hours.
- 99 INDIVIDUAL STUDIES 1-4 UNITS**
Prerequisite: Approval of Division Chairman and the professor.
The student will solve a problem under the direction of a faculty member with the approval of the Division Chairman. May be repeated for credit.

Education

- 11 INTRODUCTION TO EDUCATION 3 UNITS**
Prerequisite: Sophomore standing or permission of the professor.
The significance of our educational institutions in the development of our society; an introduction to the cultural and social influences on educational theory and practice. Lecture 3 hours.

Electronic Technology

- 1 INTRODUCTION TO ELECTRONICS 6 UNITS**
Prerequisite: E. T. 10 or equivalent (E.T. 10 may be taken concurrently)
By means of listening, observing, and problem solving, the student will develop an understanding of the fundamentals that form the basis for the study of advanced applications of electronics. The student will develop skill in solving problems related to Direct Current Circuits, magnetism, networks inductance, capacitance, resistance and alternating circuits. The student will demonstrate his knowledge of fundamentals by constructing, analyzing and testing direct and alternating current circuits. Lecture 4 hours, Laboratory 6 hours.
- 10 MATHEMATICS FOR ELECTRONIC TECHNICIANS 3 UNITS**
Prerequisite: One year of high school algebra or equivalent
By means of listening, observing and problem solving, the student will discover and apply fundamental math operations to the solving of typical electronic problems. Emphasis is placed on application of arithmetic and algebra fundamentals to direct current circuits. Lecture 3 hours.
- 20 ADVANCED MATHEMATICS FOR ELECTRONICS 3 UNITS**
Prerequisite: E. T. 10 or equivalent.
By means of listening, observing and problem solving, the student will discover mathematical operations and apply these to the solving of typical electronics problems. The student will gain a working knowledge of basic trigonometric relationships, with the emphasis placed on network problems and the analysis of alternating current circuits. Lecture 3 hours.
- 22 BASIC TRANSISTORS 4 UNITS**
Prerequisite: E.T. 1 and concurrent enrollment in E.T. 20
By means of listening, discussing, observing and problem solving, the student will practice the following behaviors; he will gain a knowledge of basic semicon-

ductors and diodes, their characteristics, parameters and methods of measurements, equivalent circuits, characteristic curves and audio amplifiers. The student will demonstrate his ability to construct, analyze and test practical semiconductor circuitry. Lecture 3 hours, Laboratory 3 hours.

25

ELECTRONIC CIRCUITS AND SYSTEMS

5 UNITS

Prerequisite: E.T. 10, concurrent enrollment in E.T. 20 or equivalent

By means of listening, observing, and problem solving, the student will gain a knowledge of electronic circuits that are common to all areas of the electronic field. He will learn how circuits are developed, analyze their action and apply the function of various components involved. The student will demonstrate theory of rectifier circuits, audio, video and radio frequency amplifiers, oscillators, modulation, demodulation and wave-shaping circuits by applying the theoretical concepts to practical application in the laboratory. Lecture 3 hours, Laboratory 6 hours.

31

PULSE CIRCUITS

5 UNITS

Prerequisite: E.T. 22

By means of listening, observing and problem solving, the student will gain a knowledge of circuits that are fundamental to many of the specialities in which he may be involved in, on the job. The student will develop skills in analyzing wave forms, networks, passive pulse circuitry, transistor switching, non-linear wave-shaping, gating, multivibrators, timebase oscillators, generators and transient analysis. The student will apply concepts by constructing, testing and analyzing practical pulse circuitry. Lecture 3 hours, Laboratory 6 hours.

33

DIGITAL COMPUTERS

4 UNITS

Prerequisite: E.T. 20 and E.T. 25

By means of listening, observing and problem solving, the student will discover the concepts and methods essential for developing a working knowledge of Boolean Algebra, digital circuits, multivibrators, oscillators, and the various working parts of a computer. Lecture 3 hours, Laboratory 3 hours.

42

MICROWAVE CIRCUITS

5 UNITS

Prerequisite: E.T. 1 and E.T. 25

By means of listening, discussing, observing and problem solving, the student will practice the following be-

haviors: he will develop a knowledge of video and intermediate frequency amplifiers, Klystrons, cavity resonators, wave guides and radio wave propagation. The student will develop special techniques and become proficient in the use of test equipment which are applicable to microwave circuitry. Lecture 3 hours, Laboratory 6 hours.

45 COMMUNICATION 4 UNITS
ELECTRONICS

Prerequisite: E.T. 20 and E.T. 22 (E.T. 20 may be taken concurrently)

By means of listening, observing and problem solving, the electronics student will practice the following behaviors: he will analyze and solve problems related to resonant circuits, amplifiers, oscillators, modulation, receiver, transmitters, transmission lines and antennas. Lecture 3 hours, Laboratory 3 hours.

47 COMMUNICATION 4 UNITS
ELECTRONICS

Prerequisite: E.T. 20 and E.T. 22 (E.T. 20 may be taken concurrently)

By means of listening, observing and problems solving, the electronics student will practice the following behaviors: the student will demonstrate his knowledge of theory by applying the concepts of circuit analysis to practical applications of receivers and transmitters. The student will become proficient in the use of test equipment such as oscilloscopes, signal generators and frequency meters that are used in analyzing communication equipment. Lecture 3 hours, Laboratory 3 hours.

English

X ENGLISH FUNDAMENTALS 3 UNITS

Prerequisite: None.

By means of objective tests, oral and written reports and class participation the student will demonstrate fundamental proficiency in structural grammar, English language history, word formation, diction, use of the dictionary, literary analysis, and the mechanics of punctuation and spelling. A grade of 3 or better is required for entrance to English 1. English Y1, Reading Fundamentals, must be taken in conjunction with English X. Placement determined by English-reading placement tests.

CONVERSATIONAL ENGLISH 1X, 2X, 3X, AND 4X 3 UNITS

Prerequisites: A desire to speak English clearly. Some proficiency in reading English is helpful.

The class provides text and explanation; the language laboratory offers individual practice, recording and tutoring. The class recites individually and in concert according to its level of conversational proficiency. For example, students in 1X learn the Vietor triangle of vowel formation. Students in 2X learn basic sentence patterns. Students in 3X learn intonation and its relation to meaning. Students in 4X study idiomatic expressions.

The language laboratory provides tape recordings of the text material, records of selected portions of the text, and tapecards which allow immediate recording, listening, and correcting of pronunciation.

The student should be in the laboratory two hours a week, and in class three hours a week.

Y1 READING FUNDAMENTALS 2 UNITS

Prerequisites: None.

Students taking English X will develop optimum reading efficiency through viewing timed Tachomatic films, taking timed comprehension checks on prose selections, reviewing phonics, syllabication, roots and affixes and using both dictionary and reference sources. Participation in actual lab assignments in study-skills and the keeping of an adequate vocabulary improvement list will add to his word power. College reading rates, comprehension, and vocabulary will be tested weekly in addition to Nelson-Denney evaluation.

1 COMPOSITION 3 UNITS

Prerequisite: Counseling placement or a grade of 3 or better in English X.

The student will demonstrate his comprehension of essays and short stories and his ability to apply basic techniques of exposition and literary interpretation through his oral participation and the writing of approximately six thousand words. In writing a documented essay, the student will show his ability to organize his research into a coherent unity and to handle the form and style of a research paper. Placement determined by English-reading placement tests.

2 COMPOSITION 3 UNITS

Prerequisite: English 1.

Through lecture- discussion, oral and written exercises

and examinations, and the study of logic, the techniques of argument and persuasion, and fallacious reasoning, the student will develop a competence in the composition of argumentative and persuasive essays. In small and large group discussions and through written analyses, the student will demonstrate his ability to interpret selected works of poetry, with emphasis on connotations, structure, symbol, and ambiguity.

4 INTRODUCTION TO LITERATURE 3 UNITS

Prerequisite: English 1 and 2 or permission of the instructor.

Through oral and written analysis, using films, tapes, and records as well as literary selections, the student will demonstrate his understanding of various literary genres—poetry, drama, essay, novel, and short story—and the significant characteristics of each.

6 CRITICAL EVALUATIVE READING 2 UNITS

Prerequisites: 40th percentile on the ACT test or complete English X.

The student will develop techniques of critical-evaluative reading by criticizing literary prose and poetry, reading library references on literary criticism, locating inferences, generalizations, assumptions, and supporting details in both inductive and deductive paragraphs, taking timed readings with comprehension checks, using a systematic approach to vocabulary development including a review of foreign roots and affixes. Students will be prepared for reading in the professions at the university level. Weekly quiz scores and Nelson-Denney scores will be used for evaluation.

7 CREATIVE WRITING 3 UNITS

Prerequisites: English 1 and permission of the professor.

In discussion, workshop and individual conference, by means of oral and written critical evaluation and the composition of poetry, short story, essay and description, the student will demonstrate his ability in creative expression.

8 WRITTEN COMMUNICATIONS AND REPORTS 3 UNITS

Prerequisites: Counselor placement or a grade of 3 or better in English X.

Through writing and discussion the student will develop the skills of effective written communication,

with emphasis on the organization of factual and statistical materials, basic report style and format and functions of formal business communications.

20 BRITISH LITERATURE 3 UNITS

Prerequisites: Six units of freshman English or permission of professor.

Through oral report, recitation and discussion, written interpretation, research, the use of records and tapes and examination, the student will indicate his comprehension of periods, genres, and individual works of British literature from the Age of Chaucer to the Age of Johnson.

21 BRITISH LITERATURE 3 UNITS

Prerequisite: Six units of freshman English or permission of professor.

Using the techniques of English 20, the student will demonstrate his understanding of periods, genres and selected works of British literature of the 18th, 19th and 20th centuries. English 20 is not a prerequisite to English 21.

24 AMERICAN LITERATURE 3 UNITS

Prerequisites: Six units of freshman English or professor's permission.

The student, through oral and written interpretation and evaluation, as well as objective and essay examination, will demonstrate his familiarity with selected prose and poetry in America from the Colonial Period to 1860.

25 AMERICAN LITERATURE 3 UNITS

Prerequisite: Six units of freshman English or professor's permission.

Using the same evaluative procedures as in English 24, the student will demonstrate his familiarity with selected American prose and poetry from 1860 to the present. English 24 is not a prerequisite to English 25.

26 WORLD LITERATURE 3 UNITS

Prerequisite: Six units of freshman English or permission of professor.

By means of oral and written reports, written examinations, and participation in class discussions, the student will reveal his appreciation of some of the master works of literature through the Renaissance, including selections by Homer, the Greek tragic writers, Virgil, Dante, Chaucer, Cervantes, and Shakespeare.

27 WORLD LITERATURE 3 UNITS

Prerequisite: Six units of freshman English or permission of professor.

The student will demonstrate his understanding of ten major literary works from the Renaissance to the present by oral and written reports and examinations and participation in class discussion. Works will include selections by Voltaire, Goethe, Stendahl, Austen, Dickens, Dostoevsky, Turgenev, Flaubert, and a twentieth century novelist. English 26 is not a prerequisite to English 27.

99 INDIVIDUAL STUDIES 1-4 UNITS

Prerequisite: Approval of Division Chairman and the professor.

The student will solve a problem under the direction of a faculty member with the approval of the Division Chairman. May be repeated for credit.

French

1x, 2x, 3x, & 4x ELEMENTARY CONVERSATIONAL FRENCH 2-2-2-2 UNITS

Prerequisites: 1x for 2x, 2x for 3x, 3x for 4x, or the satisfactory performance upon a written and oral exam in lieu of any one of the courses in the series.

The student goals are the same as for French 1a and 1b; however classes will meet fewer hours per week and as a result will cover less material in a semester. 1x and 2x will be considered the equivalent of 1a, 3x and 4x the equivalent of 1b. Credit will be transferred upon the completion of 4x.

1a & 1b ELEMENTARY CONVERSATIONAL FRENCH 4-4 UNITS

Prerequisite: 1a for 1b or 1x and 2x for 1b.

Through dialogue, discussion, and oral drill, the student will demonstrate his ability to converse in French. The student will demonstrate his reading and comprehension abilities by taking dictation, writing compositions, and responding orally to printed material and oral instruction. Through study of French culture, and selected literary works, he will develop an understanding of French traditions, customs, and thought. Class discussion 4 hours and Laboratory 2 hours.

50a & 50b INTERMEDIATE CONVERSATIONAL FRENCH 4-4 UNITS

Prerequisites: French 1a and 1b or the equivalent in the judgment of the professor.

The student will gain additional skill in the compre-

hension and usage of French grammar and construction with emphasis upon oral usage. The student will be able to read and interpret the writings of a selected number of French authors both orally and by written resumes and will learn to respond to directions at a rate of speed consistent with that of a native speaker on any assigned topic read or discussed in class.
Class discussion 4 hours, Laboratory 2 hours.

Geography

1 PHYSICAL GEOGRAPHY 3 UNITS

Prerequisite: None.

The student will demonstrate in writing and orally his knowledge and understanding of terms and principles of physical geography. He will relate the influence that man and the physical environment have upon one another. He will develop skills and abilities in reading and understanding maps, charts and globes.

2 CULTURAL GEOGRAPHY 3 UNITS

Prerequisite: None.

The student will acquire an understanding of the culture regions of the world and will be able to understand the reasons for their being considered as specific regional groupings. He will acquire a knowledge of the factors that contribute to the formation of a culture region and will be further introduced to the different and varied cultures found throughout the world.

5 ECONOMIC GEOGRAPHY 3 UNITS

Prerequisite: None.

A survey of the world's economies: Subsistence economic activities, commercial gathering of animals and plants, commercial bioculture, mining, manufacturing, transportation and trade, and tertiary economic activities. The student will acquire a knowledge of these basic economies and their relationship to the natural resources of the area involved, the culture of the people taking part in this economy, and the relationship of the physical features . . . climate soil, vegetation, and topography . . . to the carrying out of these activities.

99 INDIVIDUAL STUDIES 1-4 UNITS

Prerequisite: Approval of Division Chairman and the professor.

The student will solve a problem under the direction of a faculty member with the approval of the Division Chairman. May be repeated for credit.

Geology

12 FOUNDATIONS OF SCIENCE: Geology 3 UNITS

The student will demonstrate in writing and orally his knowledge and understanding of terms and principles of physical geology. He will be able to relate these principles to his own environment through the identification of rocks and minerals and the interpretation of geologic maps. Lecture 2 hours, Laboratory 3 hours including field trips.

51 PHYSICAL GEOLOGY 4 UNITS

By means of listening, observing, reading and conducting laboratory projects, the student will develop a knowledge of the terms and principles of physical geology. The student will be able to identify many of the minerals, igneous, sedimentary and metamorphic rocks found in nature. Lecture 3 hours, Laboratory 3 hours including field trips.

Health

42 PERSONAL HEALTH 3 UNITS

Prerequisite: None.

Various methods of instruction are employed in the course, including class discussion, lecture by film, conventional lecture and written papers to convey the content of the course which includes a survey of body functions in health and disease; common diseases and their early symptoms, consideration of personal, physical and mental health; effect of exercise and fatigue, selection of proper foods, marriage and parenthood.

70 FIRST AID AND SAFETY 2 UNITS

Prerequisite: None.

This course includes both the standard and advanced Red Cross course in first aid. Practical application of theory is emphasized through class participation in bandaging, litter bearing, artificial respiration and other types of emergency care in case of sudden accident or illness.

71 SCHOOL AND COMMUNITY HEALTH 3 UNITS

Prerequisite: Sophomore standing or permission of the professor.

Course content includes 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 is analyzed through oral and written reports, class discussion, panel discussions, and lecture.

Health Technologies

1 BASIC HEALTH TECHNOLOGY 3 UNITS

Prerequisite: None.

By means of listening, discussing, observing and writing the student will understand the broad spectrum of opportunities in the health occupations. The student will become oriented to health service resources. This will be demonstrated by the student displaying an understanding of (1) health services interrelationships, functions, and activities; (2) group and interpersonal relationships; (3) medical team relationships; (4) medical terminology; (5) legal and ethical responsibilities related to health services; (6) diagnostic techniques; (7) principles of asepsis, sterilization, disinfection, and antisepsis; and (8) selected first aid measures.

10 PROFESSIONAL-VOCATIONAL RELATIONSHIPS 1 UNIT

Prerequisite: Admission to LPN program.

The student will listen, discuss, observe and work in order to (1) gain an understanding of basic legal considerations of importance to the nursing student, (2) gain a basic understanding of nursing organizations, (3) develop an appreciation of the heritage of modern nursing and its historical development and (4) gain insight into origins of interpersonal relationships.

12a FUNDAMENTALS OF NURSING I 6 UNITS

Prerequisite: Admission to LPN program.

By means of listening, discussing, observing, problem-solving, and performing under supervision in clinical situations, the student will develop an understanding of comprehensive, patient-centered nursing. The student will demonstrate by application under actual working conditions the principles of communication, health teaching and basic nursing procedures, and the knowledge and skills necessary in carrying out nursing care measures and therapeutic techniques.

- 14a MEDICAL-SURGICAL NURSING 1 3 UNITS**
Prerequisite: Admission to LPN program.
By means of listening, discussing, observing and writing, the student will demonstrate an understanding of the nursing problems of the geriatric patient, the long-term patient and patients with cardio-vascular diseases. The student will exhibit knowledge of clinical pharmacology, clinical nutrition, rehabilitation and emotional aspects of illness.
- 14b MEDICAL-SURGICAL NURSING 2 11 UNITS**
Prerequisite: Successful completion of the first two semesters of nursing.
By means of listening, discussing, observing, problem solving and performing in clinical situations, the student demonstrates an understanding of the nursing problems of adults with medical and surgical conditions, interpersonal relationships and the careful planning for complete nursing care of a few patients. The student will exhibit knowledge of clinical pharmacology, clinical nutrition, rehabilitation, medical and surgical asepsis and emotional aspects of illness.
- 14c MATERNAL-CHILD NURSING 8 UNITS**
Prerequisite: Successful completion of the first two semesters of nursing.
The student will listen, discuss, observe and perform in a clinical situation in order to gain an understanding of the physical and emotional changes in the mother during the normal maternity cycle, the normal growth, and development of the child from birth through adolescence, and the care of the child during common illnesses in relation to growth and developmental factors.
- 16 MENTAL HEALTH 3 UNITS**
Prerequisite: Successful completion of first semester of nursing.
By means of listening, discussing, observing and writing, the student will demonstrate an awareness of the nurses' role in care, treatment, and rehabilitation of the mentally ill; social and economic implications of mental illness; interpersonal skills and principles applicable to all areas of nursing. The students will gain a working knowledge, through guided experience, of caring for patients in a general hospital.

History

1 HISTORY OF THE UNITED STATES 3 UNITS

Prerequisite: None.

The student will gain an understanding of the historical method. He will demonstrate his understanding of the social, economic and political forces which prevailed in America between the founding of the New World and the Civil War. He will evaluate cause and effect relationships and draw generalizations from the facts and principles that he learns from the course.

2 HISTORY OF THE UNITED STATES 3 UNITS

Prerequisite: None.

The student will demonstrate in writing and orally his understanding of the social, economic and political forces that moved the United States through the period of Reconstruction and industrialization, and into the position of a world power. He will evaluate cause and effect relationships and draw generalizations from the mass of data that he covers in the course. He will relate the country's current problems and possible solutions from a historical perspective.

4 HISTORY OF WESTERN CIVILIZATION 3 UNITS

Prerequisites: None.

The student will demonstrate his understanding of the major themes in the history of the West from the founding of civilization through the rise of Divine Right Monarchies. He will relate the influence this period has had upon future generations and other lands. The student will study the major periods of Western Civilization, including ancient civilizations, the Middle Ages, the Renaissance and Reformation and the spread of western civilization to the Americas, Asia, and Africa.

5 HISTORY OF WESTERN CIVILIZATION 3 UNITS

Prerequisite: None.

The student will gain an understanding of the West's development from the rise of modern liberalism to the present world situation. He will analyze and criticize

the major ideologies of the period—liberalism, democracy, fascism, socialism and communism—and gain an understanding of their influence upon the modern world situation.

99 INDIVIDUAL STUDIES 1-4 UNITS

Prerequisite: Approval of Division Chairman and the professor.

The student will solve a problem under the direction of a faculty member with the approval of the Division Chairman. May be repeated for credit.

Humanities

50 HUMANITIES 4 UNITS

Prerequisite: English 2 and sophomore standing.

Through lectures and discussion conducted by instructors in each of the fields of art, literature, and music, utilizing slides, films, tape recordings, the student will gain an understanding of the major works of Western man from pre-historic times through the late Middle ages. The student will demonstrate his knowledge and understanding of the literature, the sculpture and painting, and the musical compositions in small discussion groups and on examinations. Each student, in addition to the examination, will be required to perform or present to the class an example of his own work in one of the fields of art, literature, or music.

51 HUMANITIES 4 UNITS

Prerequisite: English 2 and sophomore standing.

Through lectures and discussion conducted by instructors in each of the fields of art, literature, and music, utilizing slides, films, tape recordings, the student will gain an understanding of the major works of Western man from the Renaissance to the present age. The student will demonstrate his knowledge and understanding of the literature, the sculpture and painting, and the musical compositions in small discussion groups and on examinations. Each student, in addition to the examinations, will perform or present to the class an example of his own work in each of the fields of art, literature, or music.

Journalism

1 COMMUNICATIONS 3 UNITS

Prerequisites: Eligibility for English 1, completion of English 1 with a 3 or better, or permission of the professor.

Through oral and written exercises and examinations, the student will demonstrate his acquaintance with mass communications media by defining and applying the basic concepts of gathering, writing, and evaluating news for newspapers, magazines, radio, television, business publications, and house publications. Students will demonstrate the ability to analyze and understand the principles and problems of mass communications through oral and written exercises and examinations.

2 REPORTING 3 UNITS

Prerequisites: Completion of Journalism 1 with a 3 or better, or permission of the professor.

The student will demonstrate his ability to produce accurate, fair, and condensed news coverage through actual reporting for the Heliograph, as well as through written and oral exercises and examinations. Journalism 2 is primarily intended for sophomore students.

3 ADVANCED REPORTING 3 UNITS

Prerequisites: Completion of Journalism 2 with a 3 or better, or permission of the professor.

The student will demonstrate his ability to perform the tasks of Journalism 2 in more depth and breadth. In addition, the student will demonstrate an improvement and development of skills through specialized reporting, rewriting, headline writing, feature writing, copyreading, proofreading and independent study, as well as through oral and written exercises and examinations. The student's prospects and aptitude toward journalism as a career will be emphasized. Journalism 3 is primarily intended for sophomore students.

10 PUBLICATIONS WORKSHOP 1 UNIT

Prerequisites: Permission of the professor

The student will demonstrate an ability in some phase of reporting, writing, photography, art, layout, etc., through work on the college publications. Students in scheduled journalism classes may not enroll. No student shall be awarded more than FOUR such journalism units at Cochise College.

Law Enforcement

20 INTRODUCTION TO LAW ENFORCEMENT 3 UNITS

Prerequisite: None.

By means of listening, discussing, observing and writing, the student will develop (1) awareness of the requirements involved in law enforcement occupations, (2) an understanding of how law enforcement units function and (3) awareness of the development of good relationships between law enforcement agencies and the public. The student will demonstrate an understanding of police qualifications, police standards, code of ethics, and the individual problems of policemen on duty and as citizens of the community.

22 POLICE PATROL FUNCTIONS I (Procedures) 3 UNITS

Prerequisite: LE 20 or permission of the Professor

The student will, by means of listening and observing, develop skill in patrol procedures. In seminar discussions and through practical demonstrations under problem conditions, the student will meet the basic requirements demanded of law enforcement officers in the field.

22a POLICE FIELD TRAINING 1 UNIT

Prerequisite: Concurrently with LE 22

The student will work a minimum of eight hours per week in a local law enforcement agency. The agency will be chosen in coordination between student, professor and local agency. The student will be required to maintain a daily log of his activities at the agency. He will learn to perform booking procedures, police desk functions, dispatching and other administrative duties.

24 POLICE PATROL FUNCTIONS II (Patrol Administration) 3 UNITS

Prerequisites: LE 22 and LE 22a and concurrently with LE 24a, or by permission of the professor.

By means of listening, observing, discussing and writing, the student will gain an understanding of police patrol administration and the various techniques unique to law enforcement agencies. The student will practice patrol planning techniques, and will be fa-

miliar with special equipment required of the modern police agency, as well as techniques of law enforcement personnel administration.

24a POLICE FIELD TRAINING 1 UNIT

Prerequisite: Concurrently with LE 24

The student will work in a local law enforcement agency and demonstrate the ability to perform trainee-patrol functions. Student will work a minimum of 8 hours per week and will maintain a daily report of activities.

26 POLICE ORGANIZATION AND ADMINISTRATION I 3 UNITS

Prerequisites: LE 24 and LE 24a

The student will listen, discuss, observe and write in order to demonstrate an understanding of the various aspects involved in the principles of organization and administration of law enforcement agencies.

26a POLICE FIELD TRAINING 1 UNIT

Prerequisites: LE 24a and concurrently with LE 26

The student will work in a local law enforcement agency and demonstrate the ability to perform trainee-administrative work, including booking procedures, police desk functions, dispatching and other administrative tasks. The student will work a minimum of eight hours per week and will maintain a daily report of his activities.

28 POLICE ORGANIZATION AND ADMINISTRATION II 3 UNITS

Prerequisites: LE 26 and LE 26a

The advanced student will, through discussion, research and home study, solve and write solutions to problems encountered in law enforcement organizations. He will discuss practical budgetary problems, operational plans, procedure guides and personnel problems.

30 JUVENILE PROCEDURES 3 UNITS

Prerequisite: None

The student will discuss in seminar, effective disposition of juvenile offenses, the need for development of juvenile law enforcement rapport, police services for delinquent and neglected children, and the need for delinquency control.

32 PROCEDURAL LAW I
(Criminal Law) 3 UNITS

Prerequisite: LE 22, or permission of the professor

By means of listening, discussing, observing and writing, the student will demonstrate an understanding of procedural criminal law and how the legal processes work.

34 PROCEDURAL LAW II
(Arrest, Search & Seizure) 3 UNITS

Prerequisite: LE 32

By means of listening, discussing, observing and writing, the student will demonstrate an understanding of the laws of arrest, search, and seizure. The student will apply this knowledge to solution of specific problems, such as the use of warrants, entry into land or buildings in arrest or search for prisoners, confessions, and seizure incident to arrest and disposition of property seized.

36 CRIME SCENE SKETCHING PHOTOGRAPHY 3 UNITS

Prerequisite: LE 38 or concurrently with LE 38

The student will listen, discuss and solve practical problems involving crime scenes and other police problem incidents. The coordinated use of sketching and photography will be discussed in seminar to enhance a professional solution to routine police problems as well as to spectacular and newsworthy incidents.

38 CRIMINAL INVESTIGATION 3 UNITS

Prerequisites: LE 32, concurrently with LE 32, or by permission of the professor.

The student will listen, discuss, observe and perform in order to demonstrate the knowledge of how a police officer on duty can be of assistance to the prosecutor and the criminalist. He will be able to complete a well organized and successful investigation.

40 CRIMINAL INVESTIGATION II 3 UNITS

Prerequisite: LELE 38

The student will listen, discuss, observe, report and develop projects in order to demonstrate an understanding of the crime laboratory, criminalistics and data covering the field of investigation.

- 42 POLICE ARSENAL AND WEAPONS TRAINING 2 UNITS**
Prerequisite: LE 22
 The student will listen, observe and perform in order to demonstrate his understanding and ability to handle, maintain and use firearms.
- 44 POLICE COMBAT TRAINING (Advanced) 2 UNITS**
Prerequisite: LE 42 or demonstrated ability with .38 caliber revolver and 12 gauge shotgun. Laboratory fee \$30.00 or student furnishes own ammunition.
 The student will, through disciplined practice sessions, acquire sufficient skill to qualify on the range under various conditions of weather and terrain. In-service personnel and selected full-time students who have their own weapons will be accepted.
- 46 POLICE COMMUNITY RELATIONS 3 UNITS**
Prerequisite: LE 22 or permission of the professor.
 The student will, by means of seminar study, prepare researched data, which is logical, substantiated and well-documented. He will submit plans for the improvement of law enforcement relationships within the communities which they serve. In-service students will be required to offer solutions to problems similar to those encountered in their own communities.
- 48 POLICE REPORT WRITING 3 UNITS**
Prerequisite: LE 24 or permission of the professor.
 By means of listening, discussing and through observation involving practical law enforcement problems, the student will develop skill in organizing and writing law enforcement reports. Results of interviews, interrogations and investigations, will be reported and written in practical problem assignments.
- 50 DEFENSIVE TACTICS 2 UNITS**
Prerequisites: LE 22 and LE 22a
 The student will listen, discuss, observe and perform in order to demonstrate the ability to defend himself against an attacker. The student will pass a minimum physical fitness test. The student will develop physical fitness and skill in the use of restraining devices.

52 ACCIDENT AND DISASTER 3 UNITS
TRAINING

Prerequisites: LE 22 and LE 24

The student will, by listening, through discussion, and by research and investigation techniques, prepare plans for law enforcement agencies in reaction to natural or man-made disasters. Treatment of the injured, establishment of emergency shelters, kitchens and hospitals are included in this training.

54 PSYCHOLOGY IN LAW 3 UNITS
ENFORCEMENT

Prerequisites: LE 34 concurrently with LE 56, or by permission of the professor.

By means of listening, discussing and observing, the student will become aware of the many psychological approaches used in making arrests. The student will solve hypothetical problems involving arrests, searches and on-the-spot decisions.

56 CRIMINOLOGY 3 UNITS

Prerequisites: Sociology 1, Sociology 12, or concurrently with LE 30.

The student will listen, discuss, observe and write in order to develop an understanding of man in relation to crime phenomena. He will exhibit this understanding by being able to differentiate between criminal types in terms of behavior. The student will develop an insight into the scientific efforts expended in the study of the criminal person and the exploration provided by various authorities in this field.

Mathematics

1x FUNDAMENTAL MATHEMATICS 3 UNITS

Prerequisite: Indicated mathematics deficiency.

The student will be encouraged to discover mathematical relationships and will be required to demonstrate by means of precise oral and written mathematical statements of his own derivation his understanding of major concepts. These include arithmetic concepts, skills and techniques of computation. Designed for students with low scores on mathematics placement tests. Includes the nature of number, systems of numeration, fundamental operations with whole numbers,

fractions and decimals, measurement, percentage, approximate numbers, areas, volume. Credit toward Associate degree only.

2x **ELEMENTARY ALGEBRA** **3 UNITS**

Prerequisite: Acceptable score in placement examination of grade of 3 or better in Math 1x.

Covers the content of a complete first-year high school algebra course for those students who have not earned credit in elementary algebra. The student will be encouraged to discover mathematical relationships and will be required to demonstrate by means of precise oral and written mathematical statements of his own derivation his understanding of major concepts. These include fundamental operations on integers, powers and exponents, special products and factoring of polynomials, algebraic fractions, functions, graphs, equations, quadratic formula. Credit toward Associate degree only.

3x **PLANE GEOMETRY** **3 UNITS**

Prerequisite: One year high school algebra or Math 2x.

Covers the content of a complete high school plane geometry course for students who have not earned credit in plane geometry. The student will be encouraged to discover mathematical relationships and will be required to demonstrate by means of precise oral and written mathematical statements of his own derivation his understanding of major concepts. These include elementary logic, congruence, parallelograms, circles, inequalities, similar polygons, loci, constructions, area. Credit toward Associate degree only.

11 **INTERMEDIATE ALGEBRA** **3 UNITS**

Prerequisites: One year of high school algebra and one year of high school geometry or Math 3x.

Covers the content of advanced high school algebra, hence not open for credit to students who have earned credit in such a course. The student will be encouraged to discover mathematical relationships and will be required to demonstrate by means of precise oral and written mathematical statements of his own derivation his understanding of major concepts. These include real number system, polynomials, fractions, first and second degree equations, radicals, functions and graphs, simultaneous systems, sequence and series, exponential and logarithmic functions.

- 12 BASIC CONCEPTS OF NUMBER 3 UNITS**
Prerequisite: Two years of high school mathematics, not including general mathematics, or one year of college mathematics not including Math 1x.
The student will be encouraged to discover mathematical relationships and will be required to demonstrate by means of precise oral and written mathematical statements of his own derivation his understanding of major concepts. These include the nature of number and systems of numeration, the logical structure of arithmetic, informal and formal geometry. Emphasis is on developing a basis for understanding the common processes of arithmetic and the metric and non-metric relations in geometry.
- 20 COLLEGE ALGEBRA 3 UNITS**
Prerequisites: High school plane geometry or Math 3x together with one and one-half years of algebra in high school or Math 11.
The student will be encouraged to discover mathematical relationships and will be required to demonstrate by means of precise oral and written mathematical statements of his own derivation his understanding of major concepts. These include sets, logic of algebra, inequalities, absolute values, functions and graphs, linear and quadratic functions, determinants, polynomial functions, inverse functions, permutations and combinations, binomial theorem, mathematical induction, exponential and logarithmic functions, and complex numbers.
- 24 PLANE TRIGONOMETRY 3 UNITS**
Prerequisite: Math 20 or approval of the professor.
The student will be encouraged to discover mathematical relationships and will be required to demonstrate by means of precise oral and written mathematical statements of his own derivation his understanding of major concepts. These include trigonometric functions, identities, related angles, radian measure, graphs, functions of two angles, equations, logarithms, right and oblique triangles, inverse functions, complex numbers.
- 26 SLIDE RULE 1 UNIT**
Prerequisite: Permission of the professor.
The student will develop proficiency in use of the slide rule to perform operations including multiplication and division, ratio and proportion, areas and

circumference of circles, square root, cube root, logarithms, trigonometric functions, theory and practice of placing decimal point in all operations.

44 COLLEGE ALGEBRA AND TRIGONOMETRY 5 UNITS

Prerequisites: High school plane geometry or Math 3x together with 2 years of high school algebra or Math 11.

The student will be encouraged to discover mathematical relationships and will be required to demonstrate by means of precise oral and written mathematical statements of his own derivation his understanding of major concepts. These include sets, logic of algebra, inequalities, absolute values, functions and graphs, circular functions, linear and quadratic functions, determinants, polynomial functions, inverse functions, permutations and combinations, binomial theorem, mathematical induction, exponential and logarithmic functions, applications of circular functions, complex numbers.

51 ANALYTICAL GEOMETRY WITH CALCULUS 5 UNITS

Prerequisite: Four years of high school mathematics with permission of the professor or Math 20 and Math 24 or Math 44.

The student will be required to demonstrate proficiency in solving problems involving absolute value and inequality; relations, functions, and graphs; limits and continuity; definition and application of the derivative, antiderivative, and definite integral; differentiation of algebraic functions; trigonometry; and conic sections.

52 ANALYTICAL GEOMETRY WITH CALCULUS 5 UNITS

Prerequisite: Math 51 with grade 3 or better.

The student will be required to demonstrate proficiency in solving problems involving differentiation of trigonometric and exponential functions and their inverses; parametric equations; arc length; polar coordinates; formulas, methods, and applications of integration; solid analytical geometry, and vectors in a plane.

53 ANALYTICAL GEOMETRY 3 UNITS
WITH CALCULUS

Prerequisite: Math 52 with grade of 3 or better.

The student will be required to demonstrate proficiency in solving problems involving vectors in three dimensions, elements of infinite series, partial differentiation and multiple integration.

54 DIFFERENTIAL EQUATIONS 3 UNITS

Prerequisite: Math 53 with grade of 3 or better.

The student will be required to demonstrate proficiency in solving problems involving special types of first order differential equations by methods of variables separable, homogeneous functions, exact differentials, integrating-factors, Bernoulli and Clairaut, and inspection; simple higher order equations; general higher order linear differential equations having constant or variable coefficients with emphasis on obtaining a particular solution by methods of undetermined coefficients, variation of parameter, and differential operators; solutions of simultaneous differential equations; LaPlace Transformation and use of series; and applications of differential equations to physical problems.

99 INDIVIDUAL STUDIES 1-4 UNITS

Prerequisite: Approval of Division Chairman and professor.

The student will solve a problem under the direction of a faculty member with the approval of the Division Chairman. May be repeated for credit.

Music

1 INTRODUCTION TO MUSIC 3 UNITS

Prerequisite: None.

Through lecture, demonstration and listening the student will develop the ability to comprehend and appreciate the styles of each period of music history from Medieval theory to early Romanticism.

2 INTRODUCTION TO MUSIC 3 UNITS

Prerequisite: None.

Through lecture, demonstration and listening the student will develop the ability to comprehend and appreciate the characteristic styles from the Romantic Period to the present. He will also gain an acquaintance with the historical development of musical form and performance.

8 BEGINNING CHOIR 1 UNIT

Prerequisite: None.

The Beginning Choir (College Glee Club, Mixed Chorus) studies basic singing skills and performs the standard choral library. Daily rehearsal.

10(B) COLLEGE BAND 1 UNIT

Prerequisite: Audition.

The College Band studies and performs outstanding musical literature transcribed from orchestral repertoire or composed for band. The Band performs in concerts and at selected athletic events. Open to all students with playing experience who can demonstrate sufficient proficiency on their instrument. Repeatable for credit. Daily rehearsal.

10(C) COLLEGE CHOIR 1 or 2 UNITS

Prerequisite: Interview with director.

The College Choir performs outstanding literature from various periods of musical composition. Open to all students. Previous choral experience is not required. Repeatable for credit. Daily rehearsal.

20(I) ENSEMBLE 1 UNIT

Prerequisite: Two or three years playing experience in high school, or its equivalent.

Duets, trios, quartets or larger ensembles of mixed or like instruments will study and perform music appropriate to the groups. Repeatable for credit. Rehearsal 3 hours.

20(V) ENSEMBLE 1 UNIT

Prerequisite: One or two years singing experience in high school, or its equivalent.

Solos, duets, trios, or larger ensembles will study and perform appropriate vocal literature. Principally for the student specializing in voice. Repeatable for credit. Rehearsal 3 hours.

30 KEYBOARD HARMONY 1 UNIT

Prerequisite: To be taken concurrently with Music 32.

Through special work in ear training, keyboard harmonization the student will develop basic keyboard skills and proficiency and a knowledge of theory and its application to the keyboard.

32a-32b MUSIC THEORY 3-3 UNITS

Prerequisite: 32a is a prerequisite for 32b.

Through lecture and demonstration the student learns the fundamentals of music theory, the rules of music encompassing terminology, notations, clefs, keys, scales, intervals, rhythmic notation, harmony, voice leading and part writing. The student also develops proficiency in ear training, interval and chord recognition, and melodic and harmonic dictation.

99 INDIVIDUAL STUDIES 1-4 UNITS

Prerequisite: Approval of Division Chairman and professor.

The student will solve a problem under the direction of a faculty member with the approval of the Division Chairman. May be repeated for credit.

Philosophy

11 INTRODUCTION TO PHILOSOPHY 3 UNITS

Prerequisite: None.

Through readings and discussion, with a minimum of emphasis on the lecture, the student will examine the nature and meaning of reality, conduct and thought. The student will be required to demonstrate his ability to interpret the significant philosophical concepts of Western Civilization.

20 PHILOSOPHIES OF THE EAST 3 UNITS

Prerequisite: None.

Through readings of translations of the great works of Hinduism, Buddhism, Taoism, and Confucianism, and

through classroom discussion, the student will develop an appreciation and an awareness of the major philosophical movements in East Asia. He will demonstrate his ability to interpret and relate his readings by presenting several short essays.

99 INDIVIDUAL STUDIES 1-4 UNITS

Prerequisite: Approval of Division Chairman and professor.

The student will solve a problem under the direction of a faculty member with the approval of the Division Chairman. May be repeated for credit.

Physical Education

10 BEGINNING COED GYMNASTICS 1 UNIT

Prerequisite: None.

The student will be guided through beginning and intermediate skills on all the basic pieces of gymnastics apparatus.

11 INTERMEDIATE COED GYMNASTICS 1 UNIT

Prerequisite: PE 10 or Permission of Professor.

The student will have opportunity to further develop previously acquired gymnastic skills on all pieces of gymnastics apparatus.

**12 WEIGHT TRAINING/
WRESTLING (Men Only) 1 UNIT**

Prerequisite: None.

The student is introduced to the basic skills and knowledge necessary in weight training and wrestling, and is provided with opportunity for competitive intra-class wrestling.

13 MODERN DANCE (Women Only) 1 UNIT

Prerequisite: None.

The student will participate in individual and group physical exercises and learn to express herself through modern dance interpretations.

**14 COED BADMINTON/
VOLLEYBALL 1 UNIT**

Prerequisite: None.

The student will participate in badminton and volleyball with emphasis on the mastery of fundamentals.

- 15 BEGINNING COED BOWLING 1 UNIT**
Prerequisite: None.
The student will participate in the development of beginning skills of bowling with emphasis on the mastery of fundamentals.
- 16 INTERMEDIATE COED BOWLING 1 UNIT**
Prerequisite: PE 15 or Permission of Professor.
The student will have opportunity to further develop previously-acquired bowling skills.
- 17 BEGINNING COED TENNIS 1 UNIT**
Prerequisite: None.
The student will be introduced to the beginning skills of tennis with emphasis on the mastery of fundamentals.
- 18 INTERMEDIATE COED TENNIS 1 UNIT**
Prerequisite: PE 17 or Permission of Professor.
The student will have opportunity to further develop previously-acquired tennis skills. The student will learn the basic strategy of competitive tennis.
- 19 BEGINNING COED GOLF 1 UNIT**
Prerequisite None.
The student will participate in the development of beginning skills of golf with emphasis on the mastery of fundamentals.
- 20 INTERMEDIATE COED GOLF 1 UNIT**
Prerequisite: PE 19 or Permission of Professor.
The student will have opportunity to further develop previously-acquired golf skills, including chipping, putting, pitching and driving. "Special" shots will be introduced as well as different forms of competition.
- 21 COED FOLK AND SOCIAL DANCE 1 UNIT**
Prerequisite None.
The student will become acquainted with the various ballroom steps in social dancing and will have opportunity to master traditional European and American folk dances.
- 22 COED ARCHERY 1 UNIT**
Prerequisite: None.
The student will participate in target archery and clout shooting with opportunity for improvement of existing skills.

- 23 BEGINNING HANDBALL/
WEIGHT TRAINING 1 UNIT**
Prerequisite: None.
The student will develop basic skills of handball through instruction, participation and intra-class competition and will execute the basic weight training exercises.
- 24 BEGINNING SWIMMING 1 UNIT**
Prerequisite: None.
The non-swimmer will be guided through primary phases of learning to swim with the final objective of the course the ability to swim 30 yards. All full-time students are required to take this course or exhibit the ability to swim 30 yards.
- 25 INTERMEDIATE COED
SWIMMING 1 UNIT**
Prerequisite: PE 24 or Permission of Professor.
The student will be given an opportunity to improve on his skills in the four fundamental strokes — crawl, breast, back and side. Final objective of the course will be the ability to swim continuously for five minutes on front, side and back.
- 26 ADVANCED COED SWIMMING
AND WATER SPORTS 1 UNIT**
Prerequisite: PE 25 or permission of professor.
The student will develop variations of the four fundamental strokes as well as other miscellaneous water skills. Water polo, synchronized swimming and other aquatic activities are introduced.
- 27 COED LIFE SAVING 1 UNIT**
Prerequisite PE 26 or permission of professor.
In this course the student will meet the requirements of the Standard Red Cross course leading to certification in Senior Life Saving.
- 28 COED ADAPTED PHYSICAL
EDUCATION 1 UNIT**
Prerequisite: Written statement from a licensed physician requiring a limited activities program.
The student will engage in a personalized program of physical education consistent with the recommendation of his private physician.

- 29 TRAMPOLINING/BODY
CONDITIONING (Men Only) 1 UNIT**
Prerequisite: None.
 The student will develop the basic and intermediate skills of trampolining and will engage in several body building exercises, using a variety of pieces of equipment.
- 30 TRAMPOLINING/BODY
DYNAMICS (Women Only) 1 UNIT**
Prerequisite: None.
 The student will develop the basic and intermediate skills of trampolining and will engage in several activities for body dynamics using a variety of pieces of equipment.
- 31 VARSITY SPORTS 1 UNIT**
Prerequisite: Permission of Professor.
 Students participating as members of a varsity collegiate team will comprise membership of this class.
- 32 SONG AND CHEERLEADING
(Fall Only) 1 UNIT**
Prerequisite: Permission of Professor.
 Students participating as members of the Pom-Pon or cheerleading squads will compose the membership of this class, with emphasis on individual and group physical exercise stunts, and dances with demonstration of these skills at rallies and games.
- 55 ORIENTATION TO PHYSICAL
EDUCATION 3 UNITS**
Prerequisite: None.
 The student will be presented with the nature and scope of physical education, its historical development, basic philosophy and objectives, changing concepts, scientific foundations, and professional opportunities. Course objectives will be met through discussion, oral and written reports, lecture and panel discussion.
- 171 ORIENTATION TO RECREATION 2 UNITS**
Prerequisite: None.
 The student will analyze the nature and scope of the field of recreation, its historical development, philosophy and objectives, changing concepts, scientific

foundations and professional opportunities. Through various methods of instruction emphasizing class participation the student will gain a basic understanding of recreation in American life, understanding of roles of various levels of government in recreation, awareness of relationships between physical education, health, camping and outdoor recreation.

189

**ELEMENTARY SCHOOL
PHYSICAL EDUCATION**

3 UNITS

Prerequisite: None.

The student will be instructed in the scope and values of physical education and movement education in the elementary school. The student will gain an understanding of the teaching designs for primary and intermediate grades pertaining to physical education as well as knowledge necessary to evaluate physical education programs. Class participation in recommended activities for the elementary school will comprise an important portion of the course. The course is designed for prospective elementary education teachers, physical education majors and minors.

Physics

2a-2b

GENERAL PHYSICS

4-4 UNITS

Prerequisite: Math 11 or equivalent; 2a is a prerequisite for 2b.

By means of lectures, demonstrations, laboratory work and problem solving, the student will learn the basic principles of mechanics, properties of matter, wave motion, sound, heat, magnetism, electricity, light, and wave optics. The student must be able to demonstrate an understanding of the basic principles of physics in the above fields, be able to apply the required equations to the solution of problems involving those theories, and be able to apply the measuring systems involving the physical phenomena studied. He will conduct laboratory experiments to reinforce these basic principles and he will make quantitative analyses of his results. This course is designed for: the student whose curriculum requires a one-year course in Physics; engineering students who lack credit for high school physics; and students who have an interest in the field of physics and select it to satisfy a science requirement in their curriculum. Lecture 3 hours; Laboratory 3 hours.

3a-3b INTRODUCTORY PHYSICS 4-4 UNITS
WITH CALCULUS

Prerequisite: Math 51. 3a is a prerequisite for 3b.

This course covers the same areas as 2a-2b, but greater depth is achieved by the use of calculus. This course is designed for engineering students and others who require Physics with calculus. Lecture 3 hours, Laboratory 3 hours.

12 FOUNDATIONS OF SCIENCE: 3 UNITS
Physics

Prerequisite: Math 12 or equivalent.

By means of lectures, demonstrations and laboratory work, the student will learn the fundamental principles of mechanics, heat, light, sound, electricity, and magnetism. The student will demonstrate his understanding of the fundamental principles in the above fields and he must be able to apply the measuring systems involved in the physical phenomena studied. He will perform laboratory experiments and make quantitative analyses of the results.

99 INDIVIDUAL STUDIES 1-4 UNITS

Prerequisite: Approval of the Division Chairman and the professor.

The student will solve a problem under the direction of a faculty member with the approval of the Division Chairman. May be repeated for credit.

Political Science

2 AMERICAN NATIONAL 3 UNITS
GOVERNMENT

Prerequisite: None.

The student will demonstrate in writing and orally the knowledge and understanding of the U S. Constitution, the structure and function of the national government, and the role of the citizen in the United States today. He will know and be able to explain terms related to the government and political scenes. This course is not open to those with credit in Govt. 57. It fulfills the federal constitution requirement for an Arizona teaching certificate.

50

**INTRODUCTION TO
INTERNATIONAL RELATIONS 3 UNITS**

Prerequisite: Consent of Instructor.

The student will analyze the concepts of international relations, particularly from the rise of national states, through writings of current authorities in several fields. He will review theories of international relations that are marking this field as a discipline in its own right. He will observe the mechanics of international relations in a world still committed to separate national states pursuing national aims. He will participate in research and discussions.

57

**NATIONAL AND ARIZONA
CONSTITUTION 3 UNITS**

Prerequisite: Sophomore standing.

The student will demonstrate, both in writing and orally, his knowledge of federal and state government and the various functions which each serves. He will study the period of American independence and its influence on the Constitution; the American Party System, the development of American political thought, civil liberties, and the various branches of government, both nationally and on the state level. The student will understand the part he plays in the government of his state and nation. This course is approved for teacher certification. Students majoring in political science should take Govt. 2.

99

INDIVIDUAL STUDIES 1-4 UNITS

Prerequisite: Approval of Division Chairman and the professor.

The student will solve a problem under the direction of a faculty member with the approval of the Division Chairman. May be repeated for credit.

Psychology

1

GROUP DYNAMICS 1 UNIT

Prerequisite: None.

Psychology 1 is designed as a group counseling course for the full-time freshman student, directed by a member of the counseling staff. Self-evaluation is initiated through individual test interpretation, supplemental testing, study skills, vocational or occupational planning, reading improvement skills, and adjustment to college life. Lecture 1 hour.

2 ELEMENTARY PSYCHOLOGY 3 UNITS

Prerequisite: None.

The student will learn the principles of the scientific method and identify the major areas of psychological investigation. The student will identify and explain the nature of the basic processes of learning, thinking, language, maturation and development, psychological tests and measurements, intelligence, and social influences on behavior.

3 ELEMENTARY PSYCHOLOGY 3 UNITS

Prerequisite: Psyc. 2.

The student will identify and explain biological bases of behavior, sensation and perception, motivation and emotions, personality and adjustment, and behavior disorders. The student will participate in several experimental demonstrations of the aforementioned processes.

13 CHILD PSYCHOLOGY 3 UNITS

Prerequisite: None.

The student will become familiar with descriptive principles which can be applied to all behavior—animal, as well as human, and then he will learn to apply these principles to the developing human child, so that he may understand the techniques of analyzing interactions of the child and his environment from a natural science point of view. In addition the student will trace the physical, intellectual social and emotional components of the developmental process from birth to pre-adolescence.

14 ADOLESCENT PSYCHOLOGY 3 UNITS

Prerequisite: None.

The student will learn fundamental principles of behavior and development and apply these principles to the adolescent. The student will identify and explain the problems faced by the adolescent in our society.

99 INDIVIDUAL STUDIES 1-4 UNITS

Prerequisite: Approval of Division Chairman and professor.

The student will solve a problem under the direction of a faculty member with the approval of the Division Chairman. May be repeated for credit.

Sociology

1 INTRODUCTION TO SOCIOLOGY 3 UNITS

Prerequisite: None.

The student will learn the application of the scientific method to sociological concepts and the uses of sociology through participation in research techniques developed by authorities. He will learn modes of sociological analysis. He will learn to recognize the nature of social organization and social institutions. He will determine the relevance of population composition and growth, of conformity and deviancy to social change and social disorganization.

2 SOCIAL PROBLEMS 3 UNITS

Prerequisites: Sociology 1, or Permission of Instructor.

The student will learn to recognize conditions viewed as social problems through their impact on social expectations systems or sub-systems. The student will gain perspective about several major social problems viewed as national problems, as problems of place, or of deviant behavior, or as emerging problems, through a summary of these, qualified and amplified by several authorities. He will evaluate, in the light of current situations, the suggested solutions to some of the problems posed.

10 EDUCATION FOR MARRIAGE 3 UNITS

Prerequisite: None.

The student will identify the relationship of the nuclear and kinship family to modern industrial society. He will interpret the role of the family to the other basic institutions of society, particularly with reference to modern American society. He will have access to views of the problems of dating, courtship, marriage, and family from visiting members of the clergy, medical profession, and of private and public agencies concerned with marriage.

99 INDIVIDUAL STUDIES 1-4 UNITS

Prerequisite: Approval of Division Chairman and the Professor.

The student will solve a problem under the direction of a faculty member with the approval of the Division Chairman. May be repeated for credit.

Spanish

1x, 2x, 3x,-4x CONVERSATIONAL SPANISH

3-3-3-3 UNITS

Prerequisite: 1x for 2x, 2x for 3x, 3x for 4x or the satisfactory performance upon a written and oral exam in lieu of any one of courses in this series.

The student goals are the same as for Spanish 1a and 1b, however, classes will meet fewer hours per week and will as a result cover less material in a semester. 1x and 2x will be considered the equivalent of 1a, 3x and 4x the equivalent of 1b. Credit will be transferable upon the completion of 4x.

1a-1b ELEMENTARY SPANISH

4-4 UNITS

Prerequisite: 1a for 1b or 2x for 1b.

Through recitation and oral response, taking dictation, taped and written drills, and use of selected vocabulary in appropriate grammatical constructions in oral and written assignments, the student will demonstrate his ability to converse, read, write, and comprehend Spanish. The student will learn to appreciate the culture and traditions of the Spanish speaker through a variety of activities. Class discussion 4 hours; Laboratory, 2 hours.

3a-3b INTERMEDIATE SPANISH

4-4 UNITS

Prerequisite: Spanish 1a and 1b or 2 years of high school Spanish or the equivalent in the judgment of the professor.

The student will gain additional skill in the comprehension and usage of Spanish grammar and in the oral use of Spanish in everyday situations. The student will read and interpret writings of selected Spanish authors orally and by written resume. The student will learn to respond to directions and questions in Spanish and be self-expressive in Spanish, at a rate consistent with that of a native speaker. Class discussion 4 hours; Laboratory 2 hours.

75a-75b INTERMEDIATE COMPOSITION AND CONVERSATION

3-3 UNITS

Prerequisites: Spanish 3b or completion of course similar to Spanish 3b (Mexican schooling above 6th grade or four years of high school Spanish.)

The student will formulate concise, clear statements expressing ideas and describing situations. The student will acquire a wide vocabulary that will permit

intelligent participation in discussions of current issues and events and an ability to write his ideas clearly with a minimum of errors. Through readings of his own compositions and through oral recitations he will remedy pronunciation defects.

99 INDIVIDUAL STUDIES 1-4 UNITS

Prerequisite: Approval of Division Chairman and the professor.

The student will solve a problem under the direction of a faculty member with the approval of the Division Chairman. May be repeated for credit.

104a- INTRODUCTION TO 3-3 UNITS **104b SPANISH LITERATURE**

Prerequisites: Spanish 3b and permission of the professor or completion of course similar to Spanish 3b (Mexican schooling above 6th grade or four years of high school Spanish) and permission of professor.

The student will read the works of representative Spanish authors from the beginnings of literary works in Spain to the present, acquiring a general knowledge of the history and developments of the arts in Spain. The student will demonstrate an ability to read and analyze Spanish literary works and to interpret literature from Spain as the origin of ideas that later spread throughout the Hispanic world. The student will also acquire through his participation in class discussions proficiency in expressing ideas in Spanish and in interpretation of literary works.

Speech

2 FUNDAMENTALS OF SPEECH 3 UNITS

Prerequisite: None.

After participating in discussions of fundamental techniques of public speaking, the student will demonstrate his ability to construct and deliver speeches of various types. The student will also demonstrate his ability to listen critically by evaluating the speeches of other members of the class and the speeches of famous speakers.

10 PUBLIC SPEAKING 3 UNITS

Prerequisite: Speech 2 or permission of the instructor.

After participating in discussions of a review of the fundamentals of public speaking, the student will demonstrate his ability to construct and deliver var-

ious types of speeches as well as evaluate the speeches of others. The student will also practice in and out of class toward improvement of quality and use of his voice. He will further participate in discussions and demonstrations of parliamentary procedure and public discussion.

15 ARGUMENTATION AND DEBATE 3 UNITS

Prerequisite: Speech 2 or permission of professor.

The student will increase his knowledge and skills regarding practical reasoning as well as learn to appraise and use evidence, recognize fallacies and learn to apply debate forms and oral style of argumentation. The student will be evaluated on the basis of participation in class discussion, the presentation of speeches and participation in debates. Intercollegiate debate is optional for class members.

25 FORENSICS 1 UNIT

Prerequisite: None, although Speech 2 or high school speech will be beneficial.

The student will work with the instructor individually and in small groups, developing skills in one or more of the following:

- a. debate
- b. original oration
- c. extemporaneous speaking
- d. impromptu speaking
- e. dramatic reading and various forms of oral interpretation of literature.

The student will participate in intraclass competition, as well as in one or more intercollegiate contests.

36 THE ORAL INTERPRETATION OF LITERATURE 3 UNITS

Prerequisite: Speech 2 or permission of professor.

The student will be evaluated on his ability to apply a variety of interpretive techniques to impart orally the intellectual and emotional meanings of the printed page: poetry, prose and drama.

Zoology

1a-1b GENERAL ZOOLOGY 4-4 UNITS

Prerequisites: Chem 2a or Chem 12 or high school chemistry.

By means of lectures and laboratory work, the student will learn principles of animal biology. The student

will learn to classify invertebrates and vertebrates by means of a simple key. He will dissect and study representative members of almost every phylum, and he is introduced to principles of genetics, ecology and embryology. Lecture 2 hours, Laboratory 6 hours.

20

HUMAN ANATOMY

4 UNITS

By microscopic examination of tissues, study of charts and models, and through lectures and selected readings, the student will learn the functional uses of organs of the body. Morphological and physiological aspects of skeletal, muscular, digestive, urogenital, and nervous systems will be introduced in lectures and laboratories. Students who do not plan to specialize beyond the junior college level, such as the practical nurse, medical secretary, or medical record librarians, will find this course of value. Lecture 3 hours, Laboratory 3 hours.

40

MAMMALIAN ANATOMY

4 UNITS

Detailed dissection of representative mammals by the student, supplemented by lectures, leads to a consideration of the structure and dynamics of the mammalian mechanism. Lecture 2 hours, Laboratory 6 hours.