# PimaCommunityCollegeCatalog 74/75

PimaCountyCommunityCollegeDistrict



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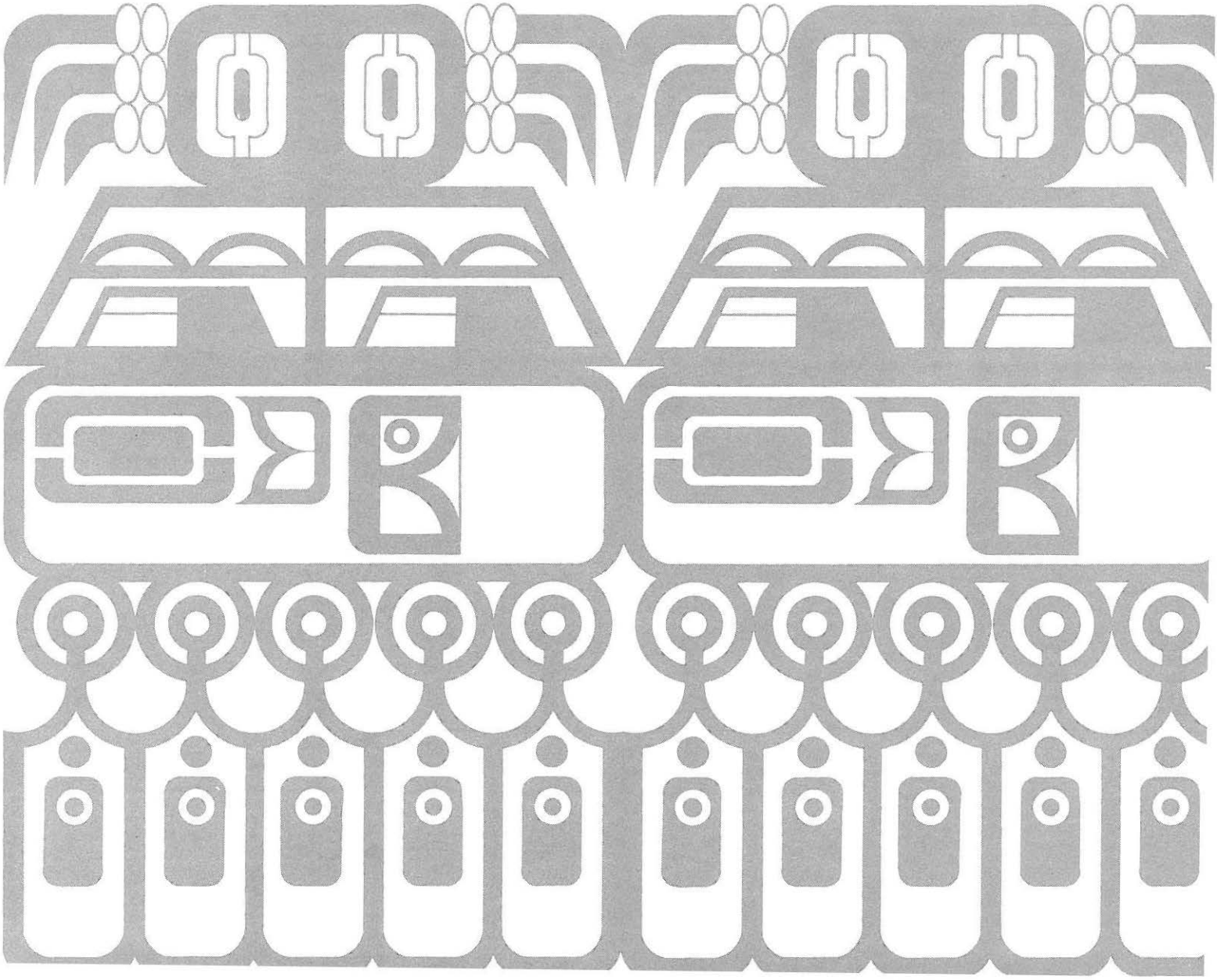
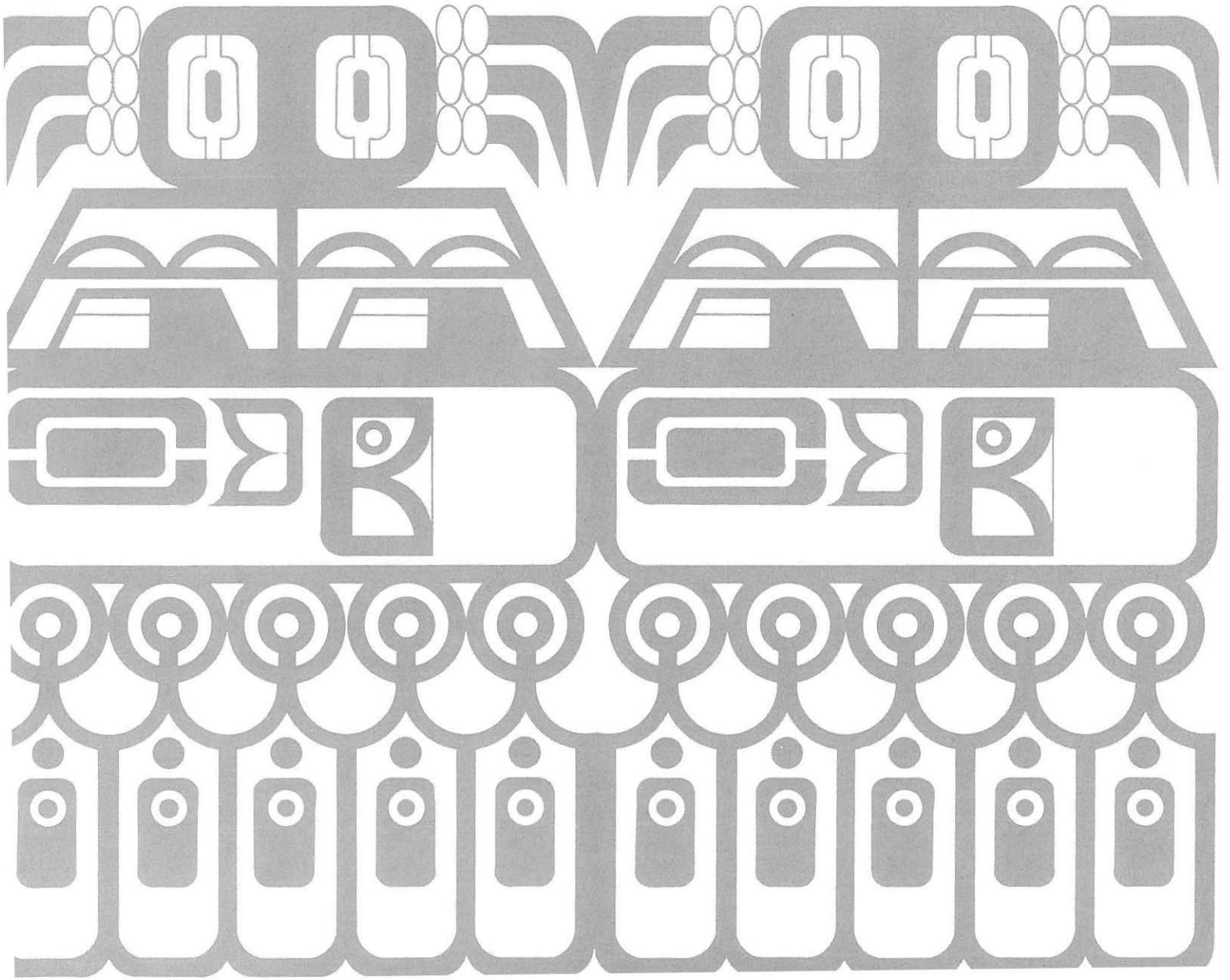
Catalog information on courses and regulations may be changed following a determination by the district's Governing Board.



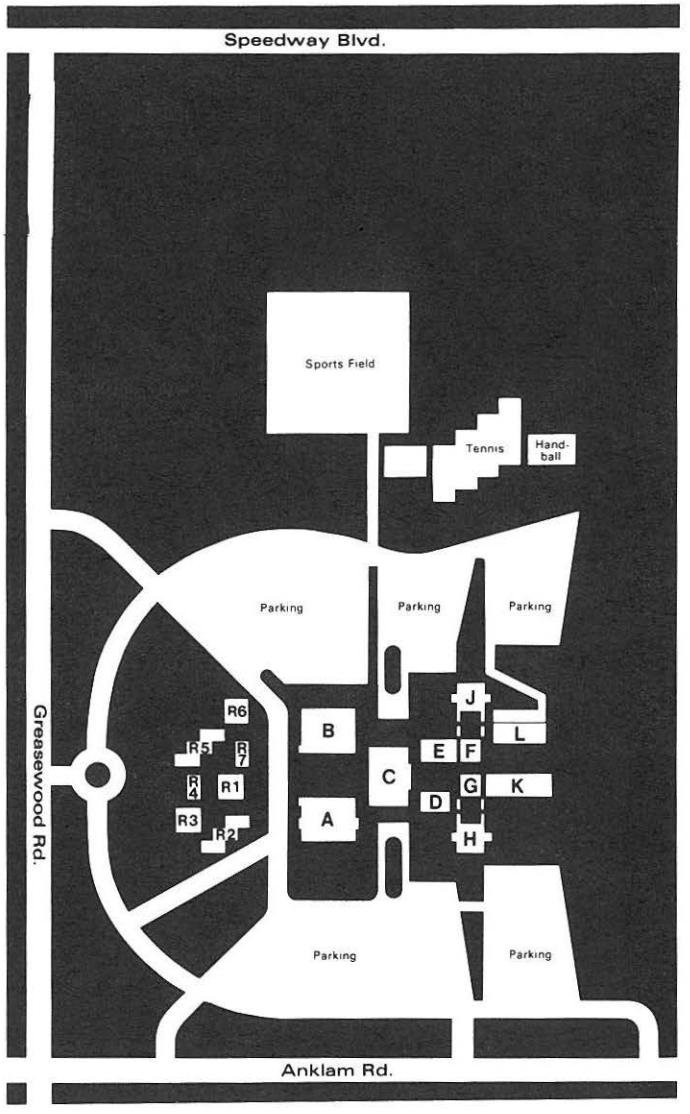
# to serve the community

**Pima Community College** 2202 West Anklam Road, Tucson, Arizona 85709 (602) 884-6666



## PIMA COMMUNITY COLLEGE DISTRICT

The college district serves the 9,240 square miles of Pima County which includes the rapidly growing Tucson community of 430,000 residents. Two campuses currently make up the district and a third campus is in the planning stage. The main campus is located on the west side of Tucson and a satellite campus opened in the downtown Tucson area in the fall of 1974. A second satellite campus is planned for the southeast side of Tucson.



## Student Academic Calendar 1974–75

### *Fall Semester*

| | |
|---|---|
| Summer Advising Program | July 1–Aug. 9 |
| Advising/Registration | Aug. 20–23 |
| Classes Begin | Aug. 26 |
| Late Registration/Drop-Add | Aug. 26–30 |
| Labor Day Holiday | Sept. 2 |
| Veterans Day Holiday | Nov. 11 |
| Graduation Application Deadline | Nov. 14 |
| Thanksgiving Day Holiday | Nov. 28–30 |
| Evaluation/Assessment/Exam Week | Dec. 16–19 |
| Fall Semester Ends | Dec. 20 |

### *Spring Semester*

| | |
|---|---|
| Advising/Registration | Jan. 13–15 |
| Classes Begin | Jan. 16 |
| Late Registration/Drop-Add | Jan. 16–22 |
| Rodeo Days Holiday | Feb. 20–22 |
| Spring Vacation | Mar. 24–30 |
| Graduation Application Deadline | Apr. 3 |
| Evaluation/Assessment/Exam Week | May 12–15 |
| Graduation | May 15 |
| Spring Semester Ends | May 16 |

### *Summer Session (1975)*

**First Five-Week Term**

| | |
|---|---|
| Registration | June 4–5 |
| Classes Begin | June 9 |
| Classes End | July 11 |

**Second Five-Week Term**

| | |
|---|---|
| Registration | July 9–10 |
| Classes Begin | July 14 |
| Classes End | Aug. 15 |

**Eight-Week Term**

| | |
|---|---|
| Registration | June 4–5 |
| Classes Begin | June 9 |
| Classes End | Aug. 1 |

**1974**

August

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September

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December

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**1975**

January

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February

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April

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May

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June

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July

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August

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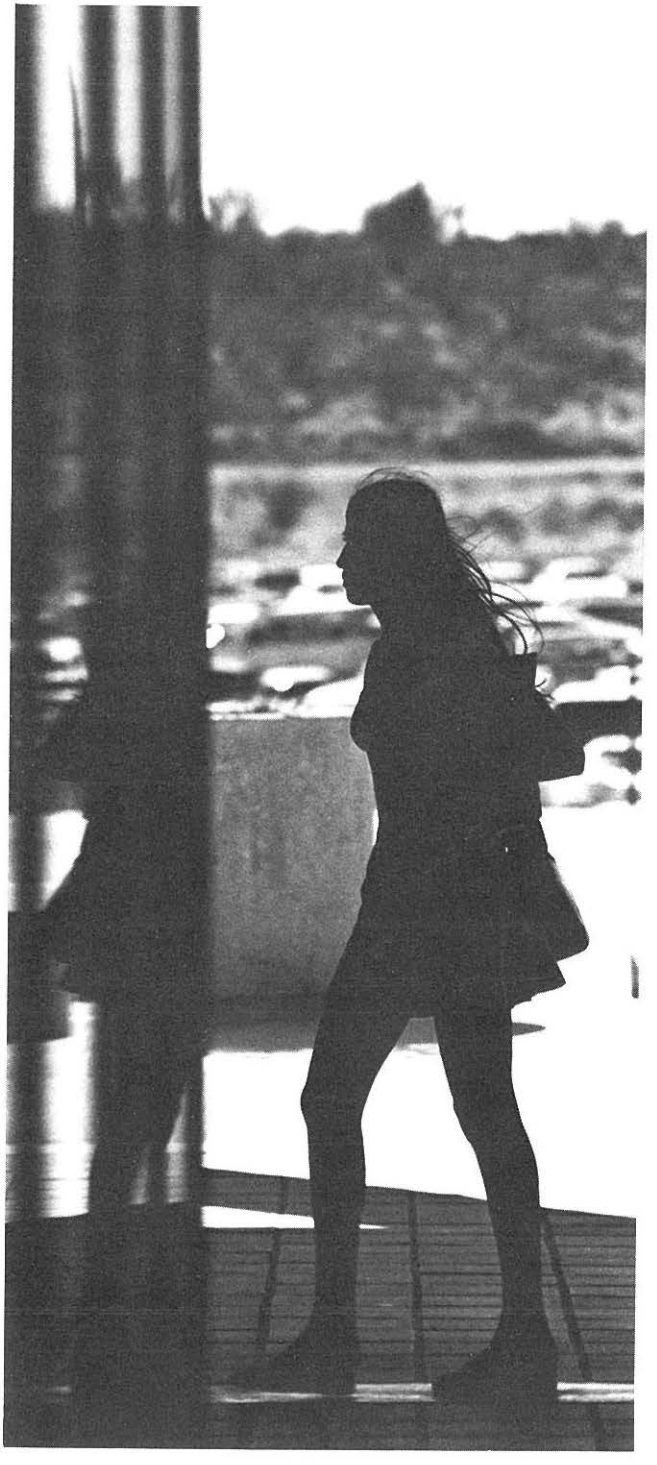


## History

The preliminary work of private citizen planning was started in 1964 and culminated with an election approving the formation of the Pima County Junior College District two years later.

The college opened to 3,728 students in September, 1970, with most facilities housed in temporary quarters and a portion located at a partially completed campus. All college programs were moved to a 273-acre campus site on West Anklam Road in January, 1971.

In order to meet rapidly growing enrollments, a downtown Tucson campus was opened in September, 1974, and plans are being made to establish a satellite campus at a southeast side site after 1975.

College enrollments, by the spring of 1974, reached 12,176 students, and it is anticipated the number will grow to 14,100 in the fall of 1974 with 8,083 on the west campus, 2,041 at the downtown satellite campus and the remainder in off-campus classes.

## Pima Community College Philosophy

The proper functioning of a democratic society and the well-being of the individual depend on his opportunity to develop his abilities in accordance with his own chosen goals. To achieve this end, Pima Community College believes education should be designed as a continuous process which develops a man's awareness both of himself and his environment and, thus, prepares him to function more effectively in a highly complex society.

Each individual in the college community is encouraged to take pride in his own heritage and, at the same time, to develop awareness and appreciation of differences which stem from differing backgrounds.

An institution committed to these ends attempts to create an atmosphere rich in a diversity of subject matter, materials and educational approaches. In accepting the principle of continuous and open evaluation of all activities, the college encourages all participants to make free, intelligent and responsible choices from a wide range of alternatives.

## Functions

Arizona law defines a community college as an "educational institution which provides a program not exceeding two years training in the arts, sciences and humanities beyond the twelfth grade of the public or private high school curriculum or vocational education, including terminal courses of a technical or vocational nature and courses beyond the basic education courses for adults."

Operating within this definition, Pima Community College declares its functions to include:

*General education designed to increase the individual's awareness of man's knowledge and his capacity for intelligent and responsible participation in society.*

*Educational programs of varying length to prepare students for useful and satisfying vocations with emphasis on community needs.*

*Two years of lower division collegiate work to enable students to progress smoothly into upper division work at universities.*

*Continuing education courses to satisfy the vocational and avocational aspirations of young people and adults interested in attending evening classes.*

*A professional staff responsive to the needs of individuals for assistance in career guidance, academic work and personal counseling.*

*Community services related to specific needs including cultural, recreational and general interest programs.*

Applicants will be admitted regardless of past performance. The faculty will assist each student in developing an individual program.

### Statement of Institutional Goals

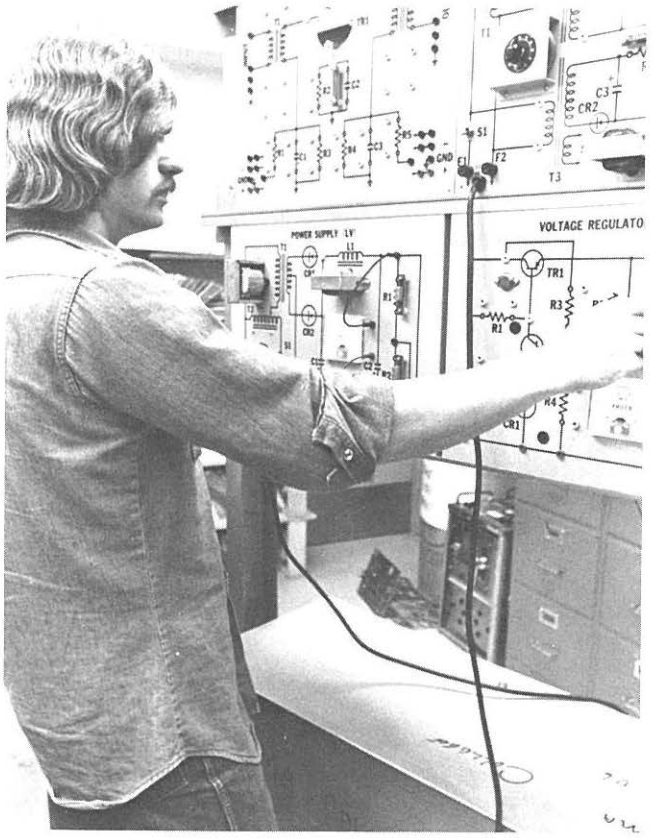
- To provide educational opportunities that facilitate human and personal development;
- Provide an environment that promotes independent thinking and effective communication;
- Prepare students for entry into and appreciation of actual careers;
- Develop an instructional program that accommodates individual differences in learning rates, aptitudes, prior knowledge, etc.;
- Engender in each student a concern for excellence and a desire for continuous learning;
- Develop an institution whose total environment is dedicated to learning and is open to those who desire to learn;
- Utilize the total community as a laboratory for learning;
- Contribute to the educational, social and cultural development of Pima County;
- Institute an organizational concept of defining outcomes, differentiating processes, and evaluating results for all undertakings;
- And provide for continuous college evaluation.

### Accreditation

Pima Community College, which officially opened in September of 1970, is a Candidate for Accreditation with the North Central Association of Colleges and Secondary Schools and is working toward full accreditation.

Study programs contained in this catalog have been approved by the Arizona Community College Board. Courses designed for transfer to four-year institutions also have been accepted by the three state universities.

College membership includes the American Association of Community and Junior Colleges and the Council of North Central Community Colleges.




**Información—General**

Pima Community College es una institución dedicada a la educación superior. Se reconoce la necesidad que hay en toda comunidad de que exista una institución donde todos los miembros tengan la posibilidad de educarse, de buscar nuevas metas personales, y que todo individuo pueda contribuir al desarrollo cultural de la comunidad.

Esto significa que Pima Community College reconoce, y trata de fomentar el conocimiento común de esos hechos culturales e históricos de los múltiples grupos étnicos de nuestro Suroeste. La multicidad cultural que presenta nuestra comunidad se presta a la creación de un proceso educativo rico en sus raíces, diverso en materia, y amplio en sus métodos.

Los programas educativos que se imparten en Pima Community College en generral no tendrán una duración mayor de 2 años. El currículo incluye cursos en las diversas materias que se imparten tanto en español como en inglés, presentando materias en ambos idiomas. Pima Community College proporciona a la comunidad la posibilidad de aprovechar más procesos educativos sin perder el tiempo mientras se aprende inglés, o simplemente, significa que una persona que desea practicar ambos idiomas tiene la posibilidad de hacerlo.

La legislación del Estado de Arizona define el "community college" diciendo que serán instituciones educativas donde se proporcionarán programas en las artes, ciencias y humanidades; se llevarán a cabo al terminar la escuela secundaria, y se incluirán cursos vocacionales y técnicos.

Al llevar a cabo esta definición, Pima Community College se compromete a prestar los siguientes servicios a la comunidad:

*Educación de tipo general que fomente interés en el conocimiento así como interés en la capacidad del hombre para formar una parte inteligente y responsable de su comunidad.*

*Programas educativos de duración variable que prepare a los estudiantes en carreras útiles y satisfactorias.*

*Dos años de estudios preparatorios que permitan al estudiante ingresar en cursos universitarios superiores.*

*Cursos educativos de toda índole que tienen como fin satisfacer las aspiraciones vocacionales o académicas de la población.*

*Un personal profesional que trata de servir a la comunidad en forma académica y vocacional. Servicios en cuanto a las necesidades culturales, recreativas, y de interés general.*

No es necesario el certificado de secundaria para ingresar en Pima Community College. Si usted desea más informes, comuníquese con la Oficina de Admisión.

**Admission**

Pima Community College is open to students on a regular basis if they satisfy one of the following categories:

A—A graduate from an accredited high school, or

B—Has a G.E.D. Certificate of high school equivalency, or

C—Transferring from an accredited college, or

D—A non-high school graduate who is 18 years of age or older, or

E—A non-high school graduate between the ages of 16 and 18 who has not been enrolled in a high school during the previous regular semester. Students in this category must provide a written acknowledgment of withdrawal from the principal of the last school attended along with a letter of approval from their parents or legal guardians and are subject to review by the Admissions Committe. Or

F—An able and ambitious student currently attending an area high school may enroll on a concurrent basis by presenting written approval from his or her principal and from his or her parents or legal guardians.

Transfer Students Under Suspension: It is important that transfer students from other academic institutions admitted while under suspension of any type be aware that credits earned during their period of suspension may not be accepted for transfer by most colleges and universities.

Entrance Examinations: Pima does not require any college wide entrance examination, but certain programs may require entrance examinations and prerequisites.

The Admissions Office is open all year at both the West Campus and the Downtown Campus to receive applications of admission and to provide information on class schedules and registration procedures.

**Transfer of Credits**

Appropriate credit will be accepted for transfer from other institutions if it is applicable toward the student's degree objective at Pima Community College. Courses in which a grade of less than "C" was earned will not be accepted except for unusual circumstances. Students who wish to transfer credit to Pima must submit an official transcript of work completed to the Registrar's Office for evaluation.

Students planning to continue their studies at a four-year college or university should follow the first two-year requirements of the institution to which they wish to transfer to help insure an acceptability of credits earned at Pima.

Students enrolled concurrently at the University of Arizona should insure that courses taken at Pima are applicable to their degree programs.

## Registration and Advising

The college provides a schedule of each semester's classes to each student and applicant. The schedule includes registration and advising instructions and is available in advance of the registration period.

The following items should be noted before registration for classes is completed:

*An official transcript of any work at high school level or above should be provided by (1) students who intend to enroll for full-time status — 12 or more credit hours, (2) part-time associate degree candidates, and (3) all veterans enrolled under the GI Bill.*

## Residency Requirements

The Arizona State Board of Directors for Community Colleges has established the following residency requirements in accordance with Sections 15–791 through 15–795, Arizona Revised Statutes, as amended:

PERSONS AGED 18 YEARS OR MORE: A person who is 18 years old or more whose parents are not domiciled in Arizona does not qualify for in-state status even though he has resided in Arizona the calendar year immediately preceding his 18th birthday. A person who is 18 years old or more must present proof that domicile in the State of Arizona has been established (independent of the circumstances of attendance at an Arizona institution of learning) for one year immediately preceding the first day of classes.

No emancipated person has established a domicile in this state while attending any educational institution in this state as a full-time student, in the absence of a clear demonstration to the contrary.

A person from another state who has reached the age of majority in the state from which he originated may establish a domicile in Arizona subject to the requirements for establishing such domicile in this state.

A woman acquires the domicile of her husband as of the date of marriage. An out-of-state woman who marries a domiciliary of Arizona may have her classification, for tuition purposes, changed to in-state. A wife of an out-of-state person may not qualify for in-state classification, except an in-state woman who marries an out-of-state person may retain in-state classification while continuous attendance is maintained.

A person does not gain or lose in-state status by reason of his presence in any state or country while a member of the Armed Forces of the United States. Military personnel stationed in Arizona, their spouses and dependents shall be considered as in-state residents during the time the member of the Armed Forces is stationed in Arizona. An unemanicipated person whose parent is stationed in Arizona on military orders shall be entitled to classification as an in-state student and to retain this classification while in continuous attendance.

A member of the Armed Forces stationed in Arizona may obtain in-state status by establishing a domicile of one year's duration in Arizona.

An alien student attending on an F-1 (student) visa will be classified as out-of-state. A non-citizen holding a visa which permits establishing an Arizona domicile must meet the same requirements established for a citizen to qualify for in-state classification.

Out-of-state tuition is waived for students enrolling for no more than six units.

PERSONS UNDER 18 YEARS OF AGE: A person who is under 18 years of age and whose parent is not domiciled in Arizona is classified as an out-of-state person for tuition purposes.

A person who is under 18 years of age whose parent has moved to Arizona but has not established a domicile in the state one year prior to the first day of classes as published by the college for the semester for which the person is registering is classified as an out-of-state person for tuition purposes.

A person under 18 years of age has the domicile of the legal guardian if (a) a letter of guardianship of the person, issued by a court, is presented for inspection, and (b) the guardian has been domiciled in Arizona for one year or more immediately preceding the first day of classes.

A person under 18 years of age may be eligible for the status of emancipated minor for tuition purposes. To gain this status, the person must submit clear and convincing evidence that (a) he is self-supporting, (b) he is not living with his parent or guardian, and (c) there has been a complete severance of the parent relationship as to all legal rights and liabilities including care, custody, control and support. After being granted this status, the person must then meet the same conditions required of persons 18 years or more for establishing Arizona domicile.

A person under 18 years of age has the domicile of the parent having legal custody when the parents have been divorced or legally separated. Legal custody must be verified by an inspection of a certified copy of the court order. Where the custody of a minor has been granted to one parent, but the minor has lived with and been supported by the other parent for one year or more next preceding the first day of classes as published by the college, a request may be made to be classified according to the domicile of the supporting parent.

A person under 18 years of age whose parent is a member of the Armed Forces of the United States and stationed in Arizona under military orders shall be entitled to classification as an in-state student. A student, while in continuous attendance toward the degree for which he is currently enrolled, shall not lose his in-state student classification when his parent is thereafter transferred on military orders.

Any unemanicipated person who remains in this state when his parent, who had been domiciled in this state, moves from this state, shall be entitled to classification as an in-state student until attainment of the degree for which he is currently enrolled, so long as he maintains continuous attendance.

While the domicile of an unemanicipated person shall be that of his parents or legal guardian, the date of his parents establishing a domicile in this state shall be considered the date for determining the domicile of the person after he becomes emancipated.
(This statement is provided by the State Board of Community Colleges.)

Questions concerning residency status or requests to change status currently recorded on a student file should be directed to the Office of Admissions and Records. Requests for change of status should be processed before the registration of each term in order to clarify fee status for that term.

### Veterans

Pima Community College is approved for the enrollment of veterans, dependents and war orphans as provided under Title 38 of the U.S. Code. Students who qualify should contact the Veterans Affairs Office for necessary forms prior to the start of the semester or during the registration period. It is not necessary to wait until the Certificate of Eligibility is received before contacting college officials.

A veteran must be enrolled for 12 or more credit hours to receive full-time benefits, 9 to 11 hours for three-fourths benefits, and 6 to 8 hours for half benefits. Those enrolled for less than 6 credits will receive only the $20 registration fee reimbursement.

If a veteran has received credit through USAFI, service schools, practical service experience, etc., it may be possible to receive equivalent credit at Pima. Contact the Admissions Office for details.

The college's veterans program provides pre-counseling in the areas of job placement, financial assistance and information on referrals to other agencies for further assistance.

A veteran's outreach program also is available. The study skills program provides counseling services for incoming veterans, advice on educational matters, tutoring, G.I. benefits and information on studies offered at the college.

### Admission of Foreign Students

All foreign students must complete and return to the Foreign Student Admissions Office an application for admission and the $10 application fee. Foreign students, as part of the admission procedure, are required to demonstrate proficiency in the use of the English language before being allowed to enroll for classes in which English is the language of instruction. An examination will be required to determine such adequacy. This examination is given prior to the beginning of the student's first semester.

FULL-TIME STUDENTS: A full-time student must submit, in addition to the other requirements, a completed financial statement form and official transcripts of all work done at previous educational institutions. The student also must have completed an academic program equivalent to an American secondary school to be considered for admission. The application and other information must be filed with the Foreign Student Admissions Office no later than two weeks prior to the beginning of registration.

PART-TIME STUDENTS: Any student who wishes to attend Pima on a part-time basis will be considered individually for admission. Graduation from the equivalent of an American secondary school is not of primary importance in this case. The pre-entrance proficiency examination also is not required if the student wishes to attend Pima Community College for the purpose of learning English. The part-time student attending classes on campus must submit his application and other information to the Foreign Student Admissions Office no later than one week prior to the beginning of registration.

FOREIGN STUDENT ADVISOR: The Foreign Student Advisor assists the student in planning his schedule, shows him around the campus, helps him in his general orientation to college life, arranges for a host family during holidays and school vacations (if desired), and counsels the student in any personal problems he may wish to discuss. All foreign students must contact the Foreign Student Advisor in the Student Development Office upon arrival.

### Fee Schedule — 1974–75

**Tuition**

| | |
|---|---|
| *County Resident* | *None* |
| **Out-of-County, in-State Resident* | |
| *(12 + hours)* | *$450* |
| *Per semester hour (7 to 11)* | *38* |
| *Out-of-State Resident* | |
| *(12 + hours)* | *600* |
| *Per semester hour (7 to 11)* | *50* |

**Registration Fee**

| | |
|---|---|
| *Full-time Student (12 + hours)* | *60* |
| *Part-Time Student (7 to 11 hours)* | *40* |
| *Part-Time Student (1 to 6 hours)* | *20* |

**Laboratory Fees**

*Nominal non-refundable lab fees may be assessed for lab courses.*

**Special Fees**

| | |
|---|---|
| *Out-of-State Application (non-refundable)* | *10* |
| *Official Transcript (First copy is free)* | *1* |
| *Late Registration* | *5* |
| *Late Payment of Fees* | *5* |
| *Music Lessons (Private)* | |
| *Non-Music Majors* | |
| *(1 hour/week)* | *128* |
| *(½ hour/week)* | *64* |
| ***Withdrawal Fee* | *3* |
| *G.E.D. Test* | *10* |
| *G.E.D. Test (repeat)* | *2* |
| *Excessive Loss or Breakage due to Carelessness* | *(up to actual replacement cost)* |
| *Summer Session Fee Schedule — 1975* | |
| *Per Semester Hour* | *$12* |
| *Registration Fee Per Session* | *1* |

*Arizona students residing in counties which do not have junior colleges may be eligible to have tuition paid by the county of their residence.

**To be assessed when student withdraws totally from the college prior to the end of the drop-add period.

### Refund Policy

REGISTRATION FEE REFUND: The registration fee is not refundable except under the following circumstances:

1. When classes are cancelled by the college, a 100% refund will be made.
2. When the student processes a complete withdrawal from the college prior to the end of the normal drop-add period, a 100% refund (less a $3 withdrawal fee) will be made.
3. When the student adjusts his schedule by officially dropping one or more classes on or before the end of the normal drop-add period, and the amount of his fees is affected, a 100% refund of the applicable fees will be made.

TUITION REFUND: Tuition refunds to out-of-county or out-of-state students who officially withdraw or who are officially dismissed from the college will be made in accordance with the following schedule:

1. If the withdrawal or dismissal occurs at any time on or before the seventh (7th) calendar day after the start of the term, a 75% refund will be made.
2. If the withdrawal or dismissal occurs between the eighth (8th) and fourteenth (14th) day after the term starts, a 50% refund will be given. No refund will be made after the fourteenth (14th) day of the term.
3. If the student adjusts his schedule by officially dropping one or more classes on or before the end of the normal drop-add period, and the amount of his tuition is affected, a 75% refund of the applicable tuition will be made.

In order for a withdrawal or a schedule adjustment to be official, it must be processed through the Registrar's Office. All requests for refunds must be made through the Business Office after appropriate action has been taken in the Registrar's Office.

NON-CREDIT COURSE FEE REFUND: No fees will be refunded after the first course meeting.

### Grading Policies

Grades earned at Pima Community College are recorded at the end of each semester according to the following system:

*A — Superior (4 grade points per credit hour).*

*B — Good ( 3 grade points per credit hour).*

*C — Average (2 grade points per credit hour).*

*P — Pass (C or better without grade differentiation ordinarily indicated by the college grading system).*

*I — Incomplete (A record of "Incomplete", as a grade, will be made at the individual's request or at the instructor's option. This grade will be kept on record for one year, after which it will be automatically changed to "NC". A student receiving a grade of "I" will be provided with a standard form, specifying the work necessary for completion of the course.)*

*NC — No credit (This grade will be given to students who have not completed enough course work to receive an "I".)*

*W — Withdrawal (This grade may be requested by the student or by the instructor, after he has notified the student personally or by mail, that this action is intended.)*

*AU — Audit (Persons officially registered may audit courses with the permission of the instructor. No credit will be earned. Requests for audit status must be made before the end of the regular schedule readjustment period of each term.)*

### Withdrawals

Students may withdraw from a course at any time before the end of the term. However, students who feel they must withdraw from a course should first consult with their instructor or a faculty-counselor.

If, after such consultation, withdrawal still is considered necessary, the student should notify each instructor who would be involved in the decision and the Registrar's Office of his intention. Accurate information on the date and reasons for each withdrawal must be kept by the college as student records are subject to audit by many state and federal agencies which provide financial support.

A withdrawal grade may be requested by the student or the instructor after he has notified the student personally or by mail that this action is intended.

### Credit by Examination

Credit by examination can be earned for certain courses listed in the catalog. Such credit is awarded upon satisfactory completion of the College Level Examination Program (CLEP) tests or comprehensive examinations administered by a faculty member in the division in which the course is offered.

The maximum number of credits which may be earned through examination, for any one student, is 30 units. Only registered or previously registered students are eligible to request credit through examination.

### Degrees

Pima Community College offers both Associate of Arts and Associate of Science degrees in a variety of subject areas. Certain occupational programs, in addition, offer the student a choice of an Associate of Science or Associate of Applied Science degree. The degree is specified in the program curriculum.

These degrees generally are granted upon the successful completion of a program, usually two years in length, which has been outlined by the college faculty and approved by the Arizona Community College Board. Details of programs offered are listed.

While a minimum of 60 credit hours is required to earn an Associate degree at Pima, it should be noted that the completion of some programs extends beyond the 60-credit hour minimum.

At least 12 semester hours of the total required to qualify for an Associate degree must be earned at Pima Community College.

### Diplomas and Certificates

Diplomas and certificates are awarded in many short-term study program areas. These are programs not carrying the two-year (60-credit hour) minimum for the Associate degrees. Diplomas and certificates are granted upon the completion of a prescribed program of studies as described in the respective program curriculums of this catalog.

### Summer Session

A three-term summer program is being offered for the summer of 1975 and course offerings will be determined by student demand. The summer session consists of two five-week day terms, and one eight-week day and evening term.

A tuition fee of $12 per credit hour plus a registration charge is applicable during the summer session. (See Fee Schedule.)

### Continuing and Community Education Programs

In an effort to serve the entire community, the college provides both on and off campus evening classes and also specialized educational programs.

The range of evening classes covers regular credit courses offered under the various degree, diploma and certificate programs; general interest courses; and courses aimed at upgrading specific occupational groups.

A number of off-campus locations are utilized through the cooperation of various agencies including the public school systems in Tucson, the surrounding communities, and in Ajo, Sells and Nogales.

Specialized educational programs offered under Community Education and Development include non-credit short courses, in-service training, community consultation, conferences, institutes, workshops, etc. These programs are free from the usual restrictions of class hours, semesters, the granting of credits or meeting on campus.

Pima Community College is prepared to design brief or extended and flexible educational experiences to meet the needs of any group. Resources for developing and conducting the different training programs are drawn from both the college and the community.

### General or Exploratory Studies

To encourage a wide range of curiosity and joy in learning throughout life, Pima Community College emphasizes both open enrollment and freedom of choice among the varied courses offered. The only requirements for specific courses are those essential for completing particular programs.

All who enroll are given every possible opportunity to explore and sample courses leading to the development of new ideas and new skills.

The exploratory program offers an individualized approach to education for the student who has yet to define his personal or career goals. The student, through the program, is encouraged to sample many ideas, technical skills, arts, crafts and human relationships to help him determine his interests and goals. Classes can be grouped from regular courses or planned to meet individual needs.

Whether the student remains in the exploratory program or moves to another program is a personal choice which can be made at any time. Once a desired career or educational goal is determined, the student then can proceed to move toward it.

Persons interested in general or exploratory studies should discuss and plan their programs with a member of Student Development or an institutional faculty member.

### Servicemen's Opportunity College (SOC)

Pima Community College is a participant in the Servicemen's Opportunity College (SOC) program sponsored by the American Association of Community and Junior Colleges.

Many active duty service personnel have found it difficult to complete community college educational programs because of frequent transfers and varying requirements of colleges. Colleges in the SOC program have agreed to accept credits from other SOC colleges and make special arrangements to assist service personnel in completing their chosen educational programs and obtaining degrees.

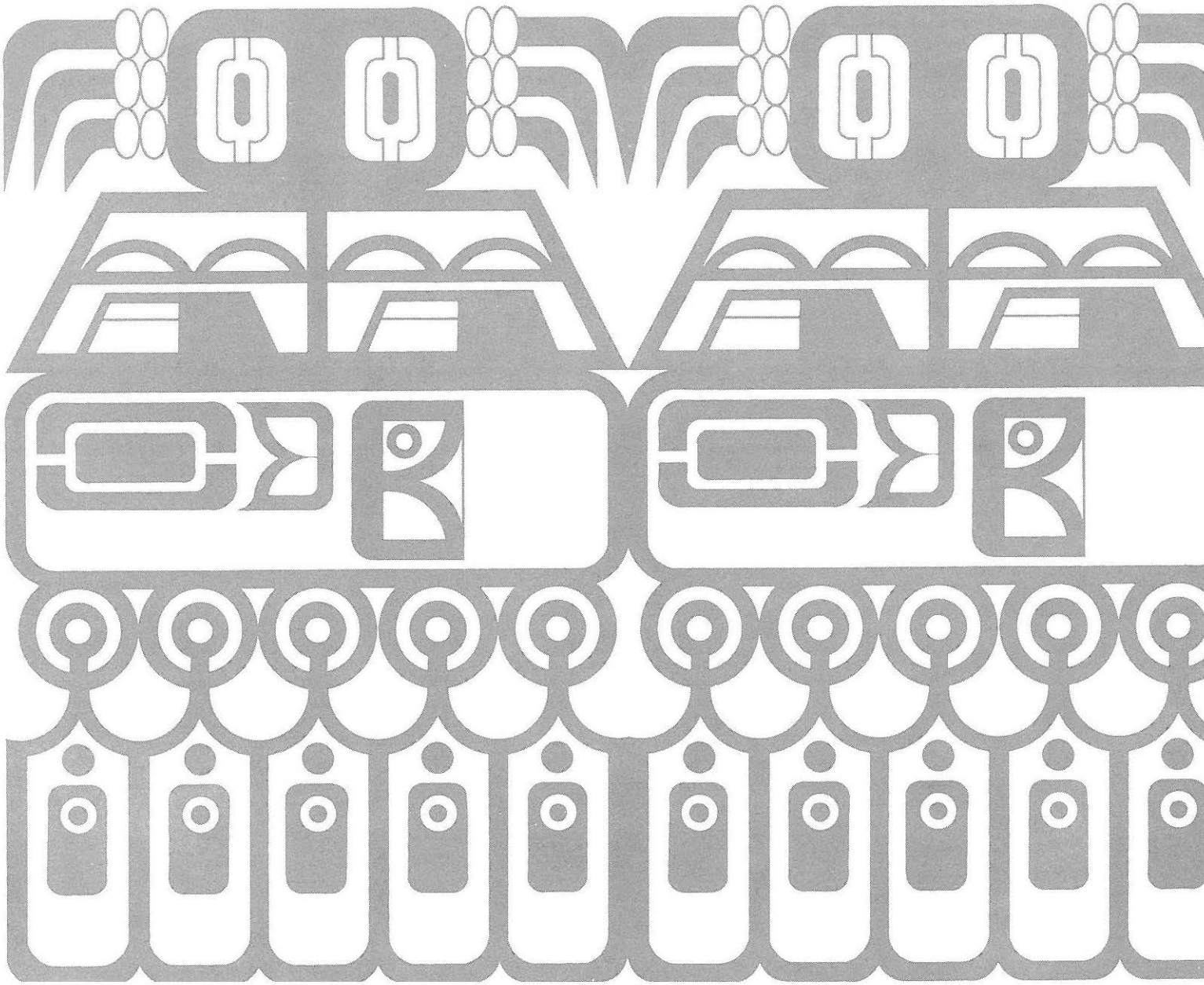
Pima Community College will award the appropriate Associate degree, diploma or certificate to a SOC student who has completed the requirements for graduation whether the student is in attendance at the time of completion of requirements or not. Complete details about the program can be obtained from the Continuing Education Office on campus or from the Davis-Monthan Air Force Base Education Office.

### Pre-Discharge Education Program (PREP)

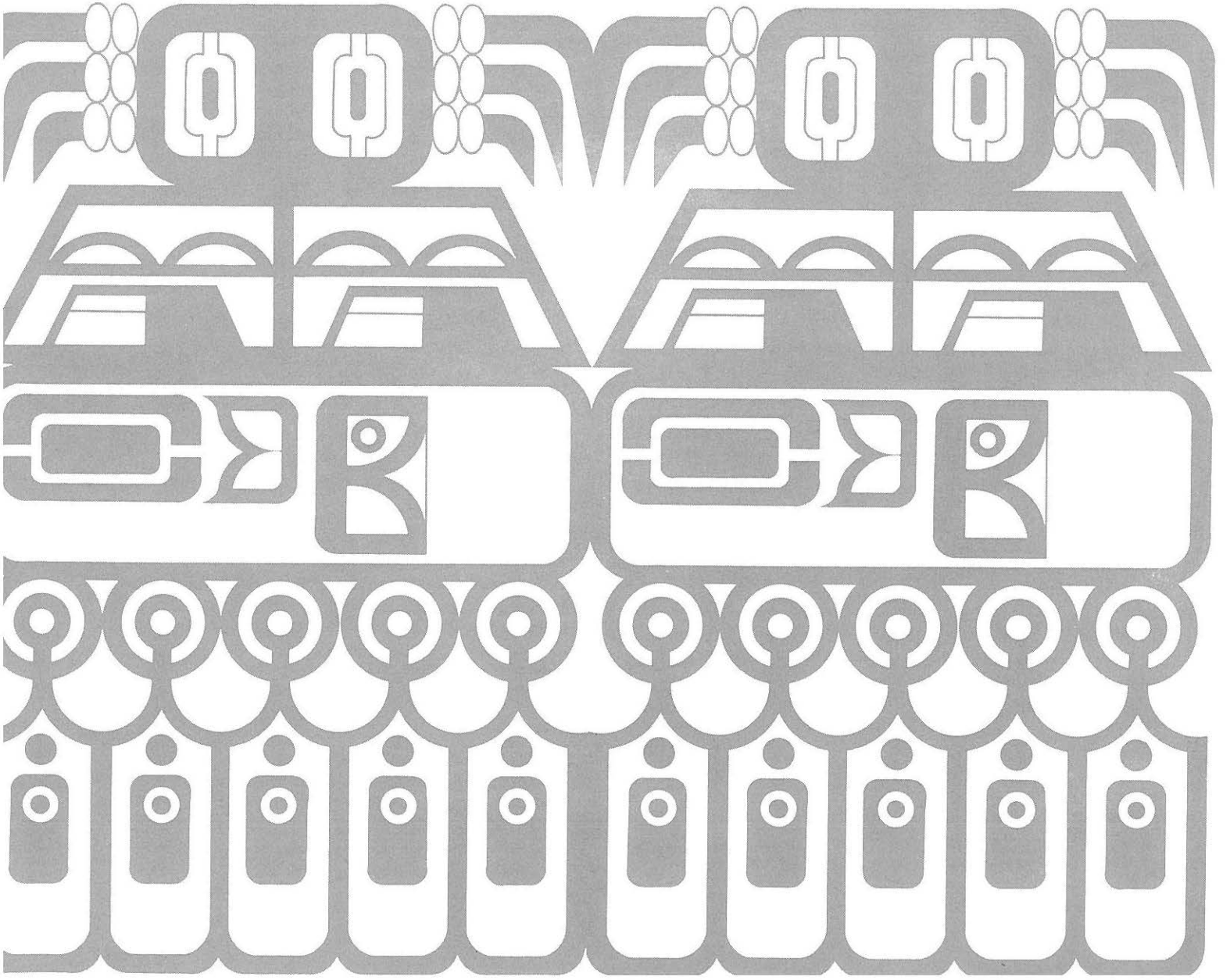
PREP is a Veterans Administration financed on-duty program designed for military service personnel who require refresher studies to better prepare themselves for college entry, vocational training and Air Force career advancement.

Davis-Monthan Air Force Base personnel participating in the program spend 10 or more weeks in classes on base. Among subjects studied are mathematics, reading and writing. To enroll, servicemen or women must have been on active duty for at least six months and obtain a release from their commanding officer permitting them to attend classes.

Although the program is funded by the Veterans Administration, it does not affect VA eligibility for future educational studies under the G.I. Bill. Enrollment is handled by the Continuing Education Office at Pima Community College or the Davis-Monthan Air Force Base Education Office.



# student life



### Who to See About What

Academic Advising ..... Division Counselor or Advisor
Admission to College .... Admissions Office or Registrar
Athletics
  Intercollegiate ..... Athletic Director
  Intramural ..... Athletic Director
  Physical Education .... Physical Education Office
Bilingual Programs ..... Bilingual Institute Director
Career Planning ..... Student Development
Counseling ..... Student Development
Deferred Payments ..... Business Office
Employment ..... Placement Director
Evening Classes ..... Continuing Education Office
Facilities, Use of ..... Student Information Office or Resource Management Office
First Aid ..... Student Health Nurse
Foreign Student Information ..... Admissions Office
Grade Changes ..... Instructors
Graduation ..... Admissions Office
Grants ..... Financial Aid Director
Housing Assistance ..... Student Information Office
Loans ..... Financial Aid Director
Lost and Found ..... Security
Personal Problems
  College ..... Student Development Counselor
  Family ..... Student Development Counselor
  Health ..... Student Health Nurse
Scholarships ..... Financial Aid Director
Student Activities ..... Student Activities Office
Student Publications ..... General Studies Division
Tutoring ..... Alternative Learning Center
Veterans Information ..... Veterans Assistance Office

### Student Services

The Student Services staff is responsible for furnishing the student with what he needs and requests to educate himself — in addition to what is provided by the instructional divisions of the college. Student Services, therefore, involves itself in the education of the whole person: individual growth; counseling; group experiences; social life; cultural awareness and appreciation; physical, emotional and financial well-being; experiences in governing society; and earning a living. Most of the Student Services staff is housed in the Student Center.

### Student Development

Student Development faculty members are available to provide students with an orientation of the college, academic advising and counseling services.

COUNSELING: Members of the Student Development faculty offer both academic and personal counseling and are available to evening students as well as those taking day classes.

CAREER PLANNING laboratories and/or psychological tests and counseling are available for students seeking assistance in clarifying career and personal goals.

ACADEMIC ADVISING: Students will find faculty advisors on hand ready to help them plan study programs according to their career choice. Those who have not yet decided on an academic, vocational or personal goal can get assistance from counselors on exploring program options. If the student later decides to change his or her program of study, he or she will be introduced to an advisor familiar with the requirements of that particular program by a division counselor.

PERSONAL PROGRAM DEVELOPMENT: This program provides a variety of group experiences and individual conferences for students seeking alternative approaches to personal growth. The groups meet once a week and focus on such areas as self-awareness, career exploration, new modes of problem solving, and improving interpersonal skills. Students are encouraged to sign up early in the semester for these ongoing sessions.

Special programs are provided to assist Indian students, ex-offenders, and veterans. These programs include helping qualified students obtain financial benefits, counseling and tutoring.

No appointment is needed during regular college hours.

### Alternative Learning Center

The Alternative Learning Center provides individualized instruction in various subject areas. Designed to supply alternative methods of learning, the center uses individualized, modular, multi-media and personal methods to aid learning. The center can be used to obtain tutoring and supplemental help for classes or may provide complete course work in some areas. Students are allowed to work through subjects at their own pace.

The center, located on the first floor of Buildings F and G, offers instruction in writing, math, reading, English as a second language, and study skills. Counseling services also are provided.

### Student Activities

Information on the student network, student clubs, organizations, athletics and cultural events scheduled during the academic year can be obtained from the Student Activities Office.

Cultural events include visiting artists, films, visiting speakers, lecturers, informal discussion groups or colloquims, poetry readings, art exhibits, cultural awareness weeks and festivals.

The Student Activities Office also provides information on community events, housing and transportation. Information service personnel, in addition, will help students reserve a meeting room for college actiivties or post a notice. A student handbook and student bulletin are made available through this office.

### Special Services

Special Services, also known as "El Camino Nuevo" or the new road, assists students who are disadvantaged economically, culturally, socially or physically.

Because of the college's philosophy of accepting students "where they are" and helping them to develop to their fullest capabilities, individualized programs of study are offered those with deficiencies.

A major program of Special Services is helping physically handicapped students such as wheeling them to classes and having student aides take class notes for those unable to use their hands.

Tutoring in study skills is designed to teach students how to study, how to budget their time, how to use library facilities and how to take class notes.

The Special Services staff, made up of professional and para-professional personnel as well as student aides, assists in counseling and program development during registration periods; counsels students who are tutored; and helps direct students to agencies where they can get the proper assistance.

### Student Leadership

Students have a voice in college functions, not only through the newly formed student network, but also through the College Council and the Board of Governors. Representatives of the student body also sit on various task forces and committees that make recommendations to the President.

Several students are elected annually to the student network, the College Council and the Governing Board. Although the student representatives on the Governing Board cannot cast a vote with the official members, they can voice an opinion on agenda items.

Students are requested to volunteer for college task forces and committees. Those interested in participating should check with Student Activities for available positions.

Students, in addition to serving on the college groups, provide information on activities of the various groups to the student body government.

### Student Health Services

Professional assistance, both in emergency and long-term health problems, is offered the student. Workshops and other means of health education also are available to assist students in recognizing and understanding health needs.

It is hoped that students will avail themselves of these services as they recognize their own health need or would like to have some health counseling.

Accident-sickness insurance is provided Pima Community College students, without additional cost, under a blanket policy. The policy covers students for injuries and illnesses incurred during college activities, traveling to or from the campus or a college related activity. Details of the coverage are included in packets presented students at the time of registration.

Supplementary accident and sickness medical expense insurance may be purchased by students at the Health Services Office, located in the Student Center. The office, in addition, has claim forms available for any injuries sustained while in college-related activities and requiring a doctor's attention.

### Financial Aid

A complete program of financial assistance is offered students through scholarships, loans, grants and jobs. The principal objective of the Pima Community College financial aid program is to remove any financial barriers to college attendance by sincerely motivated students without regard to age, ethnic heritage or personal circumstances.

**Types of Financial Aid**

SCHOLARSHIPS: *A limited number of scholarships have been established for students by generous private donors. The awards range from $20 to $500 and often can be renewed for a second year.*

*The available scholarships are:*

• Grace K. Abodeely Rifle Team Scholarship Fund
Source: Grace K. Abodeely
Eligibility: Deserving female student on rifle team, in trap shooting, law enforcement or physical education.
Value: $100 per year, 1 award each year.

• Anonymous
Source: Anonymous
Eligibility: Students of American-Indian, Mexican-American, or Negro background.
Value: $250 per year, 1 award each year.

• American Business Women's Association
Source: American Business Women's Association of Tucson.
Eligibility: Female students interested in the business field.
Value: $120 per year, 1 award each year.

• Arizona Bank Scholarship
Source: Arizona Bank
Eligibility: Promising students in business field.
Value: $150 per year, 2 awards each year.

• Beau Brummel Club Scholarship
Source: Beau Brummel Club
Eligibility: Black students enrolled in any field of study.
Value: $120 per year, 1 award each year.

• Burr Brown Research Scholarship
Source: Burr Brown Research Corporation
Eligibility: Students in any field of study.
Value: Amounts vary, number of awards varies.

• Continental Airlines Foundation Scholarship
Source: Continental Airlines Foundation
Eligibility: Promising students in any field.
Value: $120 per year, 1 award each year.

• First National Bank Scholarship
Source: First National Bank of Arizona
Eligibility: Students in the business field.
Value: $125 per year, 3 awards each year.

• John W. Kenny Scholarship
Source: Southern Arizona Bank
Eligibility: Students in the occupational and industrial program.
Value: $300 per year, 1 award each year.

• League of Mexican-American Women Scholarship
Source: League of Mexican-American Women
Eligibility: Promising Mexican-American students.
Value: $150 per year, 2 awards each year.

• Marshall Foundation Fund — Allied Health Scholarship
Source: Marshall Foundation
Eligibility: Students enrolled in allied health fields.
Value: Amount varies, number of awards varies.

• Marshall Foundation Fund — Nursing
Source: Marshall Foundation
Eligibility: Female students enrolled in nursing program.
Value: Amount varies, number of awards varies.

• J. G. Moore Memorial Scholarship
Source: Mrs. Margery Moore
Eligibility: Promising students interested in becoming students.
Value: $250 per year, 2 awards each year.

• Pacific Automotive Scholarship
Source: Pacific Automotive Show
Eligibility: Students enrolled in automotive field.
Value: $300 per year, 1 award each year.

• Optimist Club of Tucson Scholarship
Source: Optimist Club of Tucson
Eligibility: Deserving students in any field.
Value: Amount varies, number of awards varies.

• Phoenix, McCleod Optical Scholarship
Source: Phoenix McCleod Optical Inc.
Eligibility: Promising, deserving students in ophthalmic dispensing.
Value: $300 per year, 1 award each year.

• Pima Community College Faculty/Staff Scholarship Fund
Source: Donations from faculty and staff
Eligibility: Deserving students in any field.
Value: $120 per year, number of awards varies.

• Pima Community College General Scholarship Fund
Source: General donations to the fund
Eligibility: Promising students in any field.
Value: Amount varies, number of awards varies.

• Pima Community College Booster Club Scholarship Fund
Source: Donations from Booster Club
Eligibility: Outstanding students in athletics and other fields
Value: $120 per year, number of awards varies

• Pima County General Hospital Auxiliary Scholarship
Source: Pima County General Hospital Auxiliary
Eligibility: Promising students interested in a health career.
Value: $120 per year, 2 awards each year.

• Recognition Award
Source: Pima Community College Student Association
Eligibility: Participation in extra-curricular college activities and departmental recommendation.
Value: Up to $120 per year, number of awards varies.

• Andrew J. Pizzini Memorial Fund
Source: Irene S. Pizzini
Eligibility: Promising and needy students.
Value: Amount varies, number of awards varies.

• Sertoma Club Dental Scholarship
Source: Sertoma Club
Eligibility: Student enrolled in dental assisting program.
Value: $120 per year, 1 award each year.

• Southern Arizona Dental Society Scholarship
Source: Southern Arizona Dental Society
Eligibility: Students enrolled in dental assisting program.
Value: $120 per year, 1 award each year.

• Suburban Women's Club Scholarship
Source: Suburban Women's Club of Tucson
Eligibility: Promising and needy students.
Value: $120 per year, 6 awards each year.

• Tucson Dental Assisting Scholarship
Source: Tucson Dental Assisting Association
Eligibility: Promising students in dental assisting program.
Value: $60 per year, 1 award each year.

• Tucson Gas and Electric Scholarship
Source: Tucson Gas and Electric Company
Eligibility: Children of Tucson Gas and Electric Company employees.
Value: $220 per year, 2 awards each year, renewable.

• Unitarian-Universalist Women's Federation of Tucson Scholarship
Source: Unitarian-Universalist Women's Federation of Tucson
Eligibility: Students enrolled in Nursing and Business.
Value: $250 a year, 2 awards each year.

• Weatherhead Foundation Scholarship
Source: Weatherhead Foundation
Eligibility: Minority students interested in any health related program.
Value: Amount varies, number of awards varies.

STUDENT LOANS: *The college offers a large number of student loans at low interest rates and deferred repayment at favorable terms. Among these are Student Nursing Loans, Law Enforcement Student Loans, Federally Insured Student Loans and National Direct Student Loans. A Pima Community College Emergency Loan Fund provides small loans for short periods of time to assist students in meeting emergencies.*

GRANTS: *A large number of supplemental Educational Opportunity Grants are offered to students with exceptional financial need. A Law Enforcement Education Grant program is available to students employed by law enforcement or correctional agencies. There also is a Nursing Scholarship (Grant) Program available for students enrolled in nursing.*

ELIGIBILITY: *Each of the programs has somewhat different eligibility requirements. In general, financial need is the most important selection factor. The lack of previous academic achievement should not discourage an otherwise deserving financial aid applicant.*

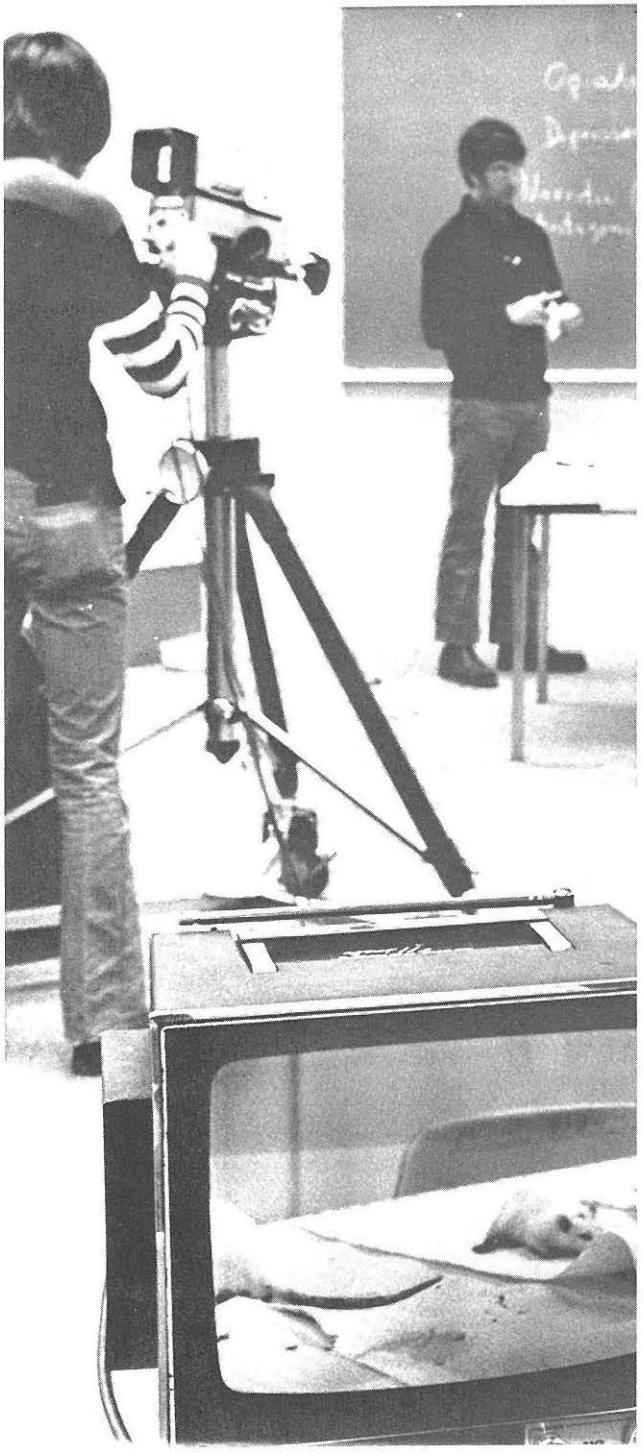
BASIC EDUCATIONAL OPPORTUNITY GRANTS *are available to eligible students who have not attended post-secondary institutions prior to July 1, 1973. Special applications are available in the college's Financial Aid Office or from high school counselors.*

APPLICATIONS: *Pima Community College, in cooperation with other colleges and universities in Arizona, uses the American College Testing Service Family Financial Statement form. The Family Financial Statement Worksheet/Supplemental Information Sheet must be submitted to the college's Financial Aid Office whereas the Family Financial Statement must be submitted to the American College Testing Service. Forms are available in the Financial Aid Office or the office of any Pima County high school counselor.*

Because funds under all programs are limited in the amount available each year, applications received by March 1 — prior to the beginning of the school year — will be given priority consideration. Applicants are encouraged to apply as early as possible to insure full consideration. The financial aid staff welcomes inquiries, and members may be called upon to meet with groups of students and their families in high schools and neighborhood centers to provide information and counsel about financing college expenses. Inquiries should be directed to the Financial Aid Office.

**Student Employment**

The college Placement Office operates a complete student employment service to assist persons in qualifying for and securing a full-time or part-time job either on or off campus. Some of the part-time positions are supported by the federal College Work-Study Program. Placement Office personnel also provide advice on getting and adjusting to a full-time job after graduation.



**Cooperative Education**

The Cooperative Education Program attempts to give students work experience related to their studies and career goals. Part-time students who desire to upgrade themselves in their present jobs also are encouraged to enroll. Students successfully completing the program are awarded college credits each semester.

Those enrolled in the program attend periodical meetings to receive instruction on job interview techniques, developing a personal resume, writing career and job objectives, and obtaining job opening information.

Each student is assigned to an education coordinator who works individually with him and offers assistance in job placement, job upgrading, career information and program planning.

Employers hiring students through the Cooperative Education Program are requested to evaluate their performance once per semester.

Students holding full-time jobs can find the Cooperative Education plan helpful in several ways. Most employers encourage employees to continue their education and some also provide plans which pay tuition and other costs for the successful completion of courses related to particular occupations.

Employers are aware that their employees are attempting to upgrade their knowledge and are willing to plan a work experience program. This could lead to faster promotions and higher pay.

The employer, in addition, has the advantage of using college facilities for training employees on new equipment or for newly created jobs. The college, meantime, assesses his training needs while providing an education for his employees.

**Intercollegiate Athletics and Intramural Sports**

Pima Community College offers well-rounded athletic, intramural and campus recreation programs plus physical education classes to meet a variety of student interests. Complete details on intercollegiate, intramural and campus recreation programs can be obtained from the Athletics Office in the Student Center. Physical education programs are handled by the Physical Education Department or the Human Resources Division.

INTERCOLLEGIATE: Pima is a member of the Arizona Community College Athletic Association, the National Junior College Athletic Association, Arizona Women's Intercollegiate Sports Council, the Intermountain Sports Region, and the Division of Girls' and Women's Sports.

Intercollegiate activities are governed by a board of students, staff and faculty with policies administered under the President by the Director of Athletics. Eligibility requirements are set by the sports organizations which govern our participation. The basic stipulations are that the student/athlete be enrolled full time, making satisfactory academic progress, and that he or she has not previously completed two seasons of the respective sport.

Competition includes cross country, basketball, women's basketball, baseball, women's volleyball, wrestling, golf, tennis, women's tennis, track, and women's softball.

INTRAMURAL: Intramural activities are open to any member of the college — students, faculty and staff — with sports geared to individual and team competition. More than 20 activities are available, and others are developed when enough interest is shown. Activities include basketball, baseball, badminton, flag football, golf, billiards, handball, ping pong, seven-mile bicycle race, softball, swimming, tennis and volleyball.

**Publications**

Student publications include a newspaper, "Campus News," which is published regularly and a literary magazine which is expected to be published once a semester.

Those who would like to serve on the staff of the newspaper, in any capacity, should contact either the General Studies Division or the Student Activities Office.

Students interested in helping publish the magazine should register for Writing 62. Articles also can be contributed and these should be submitted to either the magazine office in room 135 of Building J or the General Studies Division, located on the third floor of Building J.

**Learning Resources Center (Library)**

The college library, located on the third floor of Building C, is open to students, college personnel and residents of Pima County.

Facilities currently house close to 50,000 volumes and more than 20,000 non-print materials. Also available are more than 900 serial publications, back issues of periodicals and specialized research materials such as E.R.I.C. documents and technical reports. Other materials include tapes, films, filmstrips, maps, charts and records.

All equipment necessary to view or hear the audio-visual items is available for student use in the reading room of the library.

The library, in addition, is frequently used to house art exhibits brought onto campus as well as those by students and faculty.

The center contains tables, study carrels and lounge chairs for more than 500 students. A public service staff is available at all times to assist in research, explain library resources and offer other reference services. A library manual describing the organization and services of the center can be obtained at the circulation desk.

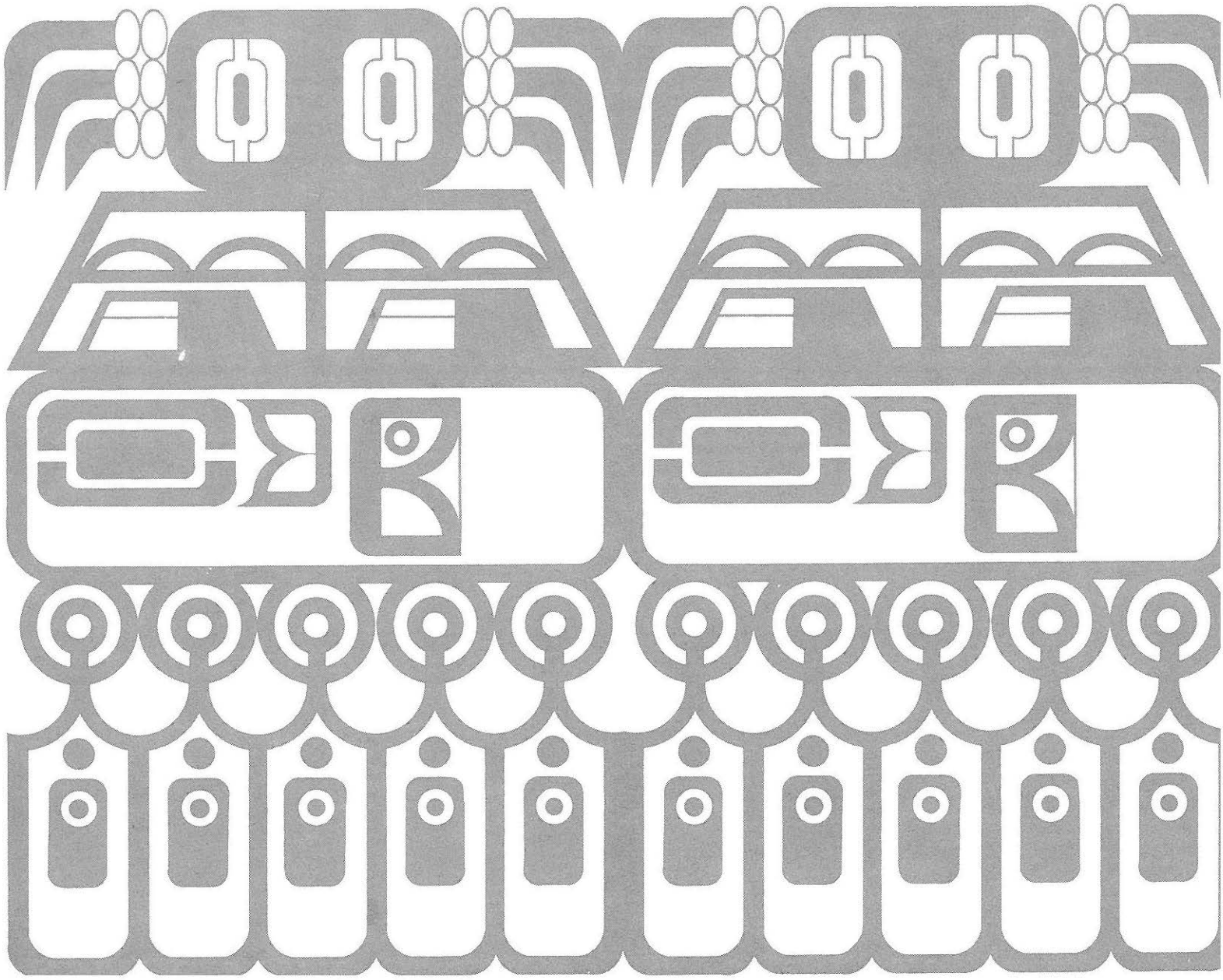
Reference library facilities also are available to students at the downtown campus. Students registered at the downtown campus, in addition, are encouraged and eligible to use the west campus library.

Pima Community College students with specific research needs also may acquire either special borrowing privileges at the University of Arizona main library or on-site services at the University of Arizona medical library. This is a restricted privilege and granted only to current students who:

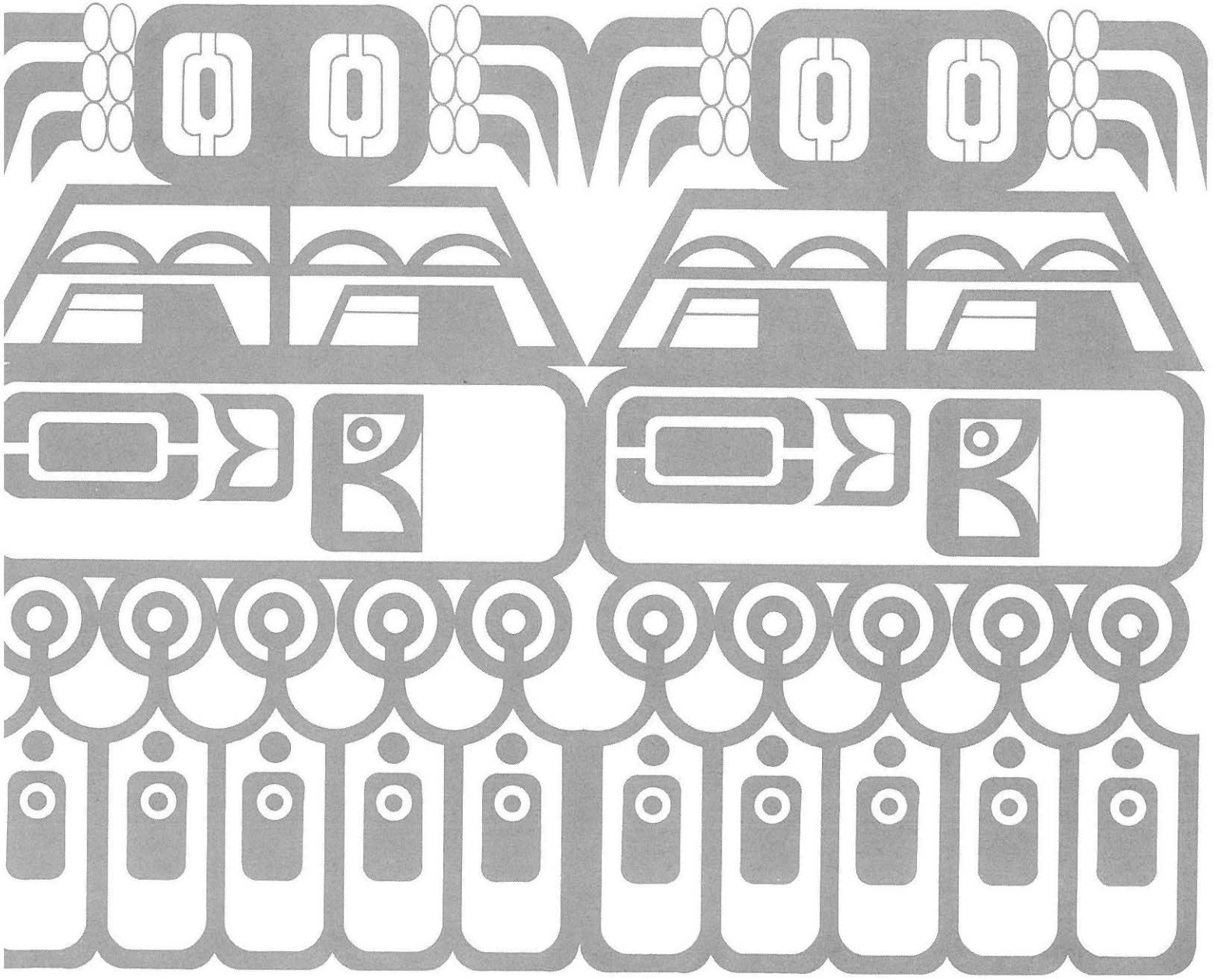
- Are pursuing research directly related to their course of study at Pima Community College;
- Assume full responsibility for returning all materials acquired through use of the services;
- Agree to pay for all University of Arizona library materials which they lose or damage;
- Agree to pay all fines that may be owed for overdue materials;
- Agree to present identification in order to obtain privileges;
- Have research requirements unlikely to be satisfied by other community resources.

Signed letters granting on-site services at the Arizona Medical Library are good for only one visit. Pima Community College students do not have the privilege of borrowing materials from the Arizona Medical Library.

Assistance and authorization on using the University of Arizona library faciilties can be obtained at the circulation desk of the Pima Community College library.



# programs



# Divisions

**Business**
Accounting
Business
Computer Science
Library Technology
Management
Marketing

**General Studies**
Exploratory
Journalism
Languages
Literature
Writing

**Fine and Applied Arts**
Art
Drafting
Drama
Humanities
Music
Philosophy
Religions, Comparative
Speech

**Health Sciences**
Dental Assisting
Emergency Medical Technology
Health Care
Nursing
Operating Room Technology
Ophthalmic Dispensing
Radiologic Technology
Respiratory Therapy

**Human Resources**
Administration of Justice
Anthropology
Economics
Fire Science
Health
History
Home Economics
Military Science
Physical Education
Political Science
Psychology
Recreation
Sociology

**Math, Science, Technology**
Air Conditioning
Automotive
Aviation Mechanics
Chemistry
Earth Science
Electronics
Engineering
General Technology
Life Science
Machine Shop
Mathematics
Physics-Astronomy
Sheet Metal
Welding

# Programs

Accounting
Administration of Justice
• Corrections
• Criminal Justice
Air Conditioning and Sheet Metal
Applied Art and Design
Arts and Crafts
Automotive
• Automotive Mechanics
• Automotive Technology
Aviation Mechanics
Bilingual-Bilingue
Biology
Business Administration Transfer
Chemistry
Computer Science
• Control Technician
• Computer Operator
• Computer Programmer/Analyst
• Key Punch Operator
• Systems Programmer
Dental Assisting Technology
Dental Laboratory Technology
Drafting Technology
• Architectural Drafting
• Electro-Mechanical Drafting
• Mechanical Drafting
• Mechanical/Electro Drafting
Drama
• Drama Education
• Drama Production
• Drama Theory
Early Childhood Education
• Child Development/Family Relations
• Early Childhood Education
• Teacher Aide/Assistant
• Teacher-Director
Education
• Elementary or Special
• Secondary
Electronics
Emergency Medical Technology
Engineering
Finance
• Banking
• Credit Union
• Savings and Loan
Fine Arts
Fire Science
General Studies/Exploratory
Geology
Health Sciences
Home Economics
• Alteration Specialist
• Clothing and Textiles
• Consumer Service in Food
• Fashion Design
• Food, Nutrition, Dietetics
• Food Service Management
• General Home Economics
• Home Economics Education
• Home Economics Extension
• Home Economics and Journalism

- Interior Design
- Interior Design Technician
- Merchandising and Fashion Promotion
- Professional Seamstress

Journalism
Liberal Arts and Sciences
Library Technician
Machine Tool Technology
Management
- Management
- Real Estate

Mathematics
Media Technician
Military Science
Music
Nursing
- Nursing Assistant
- Nursing (A.D.)
- Nursing, Transfer
- Practical Nurse

Office Occupations
- Administrative Assistant
- Clerk-Typist
- Receptionist
- Secretary, Bilingual
- Secretary, General
- Secretary, Legal
- Secretary, Medical

Operating Room Technology
Ophthalmic Dispensing Technology
Optical Laboratory Technology
Park/Forest Service Technician
Physical Education
Physics
Pre-Dental
Pre-Environmental Design
Pre-Law
Pre-Medical
Pre-Medical Technology
Pre-Pharmacy
Pre-Veterinary
Radiologic (X-ray) Technology
Recreation
Respiratory Therapy
Social Services
Speech
Welding

# Certificate and Degree Programs

A career ladder concept is offered in many programs leading from a basic certificate to an advanced or technical certificate to a degree.

**Basic Certificate**

Air Conditioning
Airframe and Powerplant Mechanic
Alteration Specialist
Automotive Engine Repair and Rebuilding
Automotive Power Transmission
Automotive Suspension and Brakes
Automotive Tune-up and Air Conditioning
Drafting, Architectural
Electronics, Consumer
Electronics, General
Key Punch Operator
Machine Tool Technology
Management
Media Technician
Nursing Assistant
Optical Laboratory Technology
Real Estate
Savings and Loan
Secretary, Bilingual
Sheet Metal Fabrication, Fundamentals
Social Services
Teacher Aide/Assistant
Television Repair
Welding

**Certificate**

Emergency Medical Technology
Respiratory Therapy

**Advanced Certificate**

Clerk-Typist
Dental Assisting Technology
Library Technician
Management
Operating Room Technology
Practical Nurse
Real Estate
Receptionist
Savings and Loan
Secretary, Bilingual
Social Services (Drug Counseling Subspecialty)
Systems Programmer
Welding

**Technical Certificate**

Air Conditioning, Heating and Ventilation
Automotive Mechanics
Computer Operator
Control Technician
Drafting, Architectural
Drafting, Mechanical/Electro-Mechanical
Electronics Technology
Key Punch Operator
Machine Tool Technology
Sheet Metal Layout and Fabrication

**Associate of Arts Degree**

Applied Art and Design
Arts and Crafts
Business Administration Transfer
Child Development/Family Relations
Consumer Service in Food
Corrections
Criminal Justice
Drama Education
Drama Production
Drama Theory
Early Childhood Education
Fashion Design
Food, Nutrition, Dietetics
Food Service Management
Home Economics Education
Home Economics Extension
Home Economics, General
Home Economics and Journalism
Interior Design Technician
Journalism
Liberal Arts
Mathematics
Music
Physical Education
Pre-Environmental Design
Social Services
Social Services (Drug Counseling Subspecialty)
Speech
Teacher-Director

**Associate of Applied Science Degree**

Accounting
Administrative Assistant
Air Conditioning and Sheet Metal Technology
Automotive Technology
Banking
Computer Programmer/Analyst
Credit Union
Drafting, Architectural
Drafting, Electro-Mechanical
Drafting, Mechanical
Electronics Technology
Fire Science
Library Technician
Machine Tool Technology
Management
Media Technician
Real Estate
Recreation
Recreation Leader
Recreation, Pre-Professional
Savings and Loan
Seamstress, Professional
Secretary, Bilingual
Secretary, Executive
Secretary, General
Secretary, Legal
Secretary, Medical
Welding

**Associate of Science Degree**

Biology
Chemistry
Electronics Technology
Engineering
Geology
Nursing
Ophthalmic Dispensing
Park/Forest Service Technician
Physics
Radiologic Technology
Respiratory Therapy

# Accounting

The two-year degree program in Accounting trains persons to perform many diverse services in various types of employment. The general classifications are private accounting, public accounting and governmental accounting. Most firms and governmental units have a need for accounting skills.

Students planning to become Certified Public Accountants should follow the Business Administration Transfer program.

**Associate of Applied Science Degree**
**For Direct Employment**

| Required Courses (60) | First Semester | Cr. Hrs. |
|---|---|---|
| Prin. of Accounting I | ACC 101 | 3 |
| Intro. to Computers | CSC 100 | 3 |
| Writing I | WRT 101 | 3 |
| Business Math or | BUS 51 | |
| Algebra I | MTH 70 | 3 |
| Human Relations | MAN 58 | 3 |
| | | 15 |
| | **Second Semester** | |
| Prin. of Accounting II | ACC 102 | 3 |
| COBOL Programming | CSC 160 | 3 |
| Business Law I | BUS 110 | 3 |
| Typing I or equivalent | OED 111 | 3 |
| Electives | | 3 |
| | | 15 |
| | **Third Semester** | |
| Intermediate Accounting I | ACC 201 | 3 |
| Cost Accounting | ACC 203 | 3 |
| Intro. to Microeconomics | ECO 100 | 3 |
| Electives | | 6 |
| | | 15 |
| | **Fourth Semester** | |
| Intermediate Accounting II | ACC 202 | 3 |
| Tax Accounting | ACC 204 | 3 |
| Intro. to Macroeconomics | ECO 101 | 3 |
| Business Organ. & Mgmt. | MAN 55 | 3 |
| Electives | | 3 |
| | | 15 |

# Administration of Justice

The Administration of Justice curriculum offers two options — criminal justice and corrections. Courses are designed to serve three types of students: pre-service, transfer and in-service. Students may acquire skills necessary to up-grade their present position, find a job or transfer to a four-year institution.

Job entry programs provide students with the maximum number of job entry skills possible. Students in these programs should concentrate their efforts on the specific major courses, taking only the minimum general education requirements.

Students planning to transfer should follow the requirements of the four-year institution they wish to attend, taking only the core courses in their major area. A transfer program also is available at Pima.

Students entering the program must be advised by one of the instructors in this area.

**Corrections**
**Associate of Arts Degree**
**For Direct Employment**

| Required Courses (62–64) | | Cr. Hrs. |
|---|---|---|
| Intro. Admin. of Justice | AJS 101 | 3 |
| Criminal Law I | AJS 172 | 3 |
| Fund. Crime & Delinquency | AJS 60 | 3 |
| Crim. Justice Procedures | AJS 216 | 3 |
| Juvenile Justice Proced. | AJS 212 | 3 |
| | | 15 |
| **General Education Requirements** | | |
| Writing I | WRT 101 | 3 |
| Technical Communications | WRT 154 | 3 |
| Am. National Government | POL 110 | 3 |
| Am. State/Local Govt. | POL 111 | 3 |
| Intro. Psychology I-II | PSY 100–101 | 6 |
| Intro. Sociology | SOC 100 | 3 |
| Business Math | BUS 51 | 3 |
| Intro. Microeconomics | ECO 100 | 3 |
| Bus. & Prof. Communication | SPE 120 | 3 |
| Electives* | | 17–19 |
| | | 47–49 |

***Suggested Electives:**

| | | |
|---|---|---|
| Police Comm./Human Relations | AJS 110 | (3) |
| Interviewing & Counseling** | AJS | (3) |
| Inst. & Field Correct. Services** | AJS | (3) |
| Intro. Social Welfare | SSE 133 | (3) |
| Group Work | SSE 235 | (3) |
| Studies Deviant Behavior** | PSY | (3) |
| Eval./Support of Drug User | SSE 217 | (3) |
| Defensive Tactics | AJS 12 | (2) |
| Survival | REC 118 | (2) |
| Treatment Drug Abuser | SSE 218 | (3) |
| Child Development | ECE 117 | (3) |
| Custody Procedures** | AJS | (3) |
| Criminal Law II | AJS 272 | (3) |

**These courses being developed.

**Corrections**
**Associate of Arts Degree**
**For Transfer**

| Required Courses (68–70) | | Cr. Hrs. |
|---|---|---|
| **First Semester** | | |
| Writing I | WRT 101 | 3 |
| Philosophy or Science* | | 3–4 |
| College Algebra | MTH 150 | 3 |
| Am. National Government | POL 110 | 3 |
| Intro. Admin. of Justice | AJS 101 | 3 |
| Criminal Law I | AJS 172 | 3 |
| | | 18–19 |
| **Second Semester** | | |
| Writing II | WRT 102 | 3 |
| Philosophy or Science* | | 3–4 |
| Finite Math | MTH 170 | 3 |
| Am. State/Local Govt. | POL 111 | 3 |
| Fund. Crime & Delinquency | AJS 60 | 3 |
| Criminal Law II | AJS 272 | 3 |
| | | 18–19 |
| **Third Semester** | | |
| Intro. to Microeconomics | ECO 100 | 3 |
| Bus. & Prof. Communications | SPE 120 | 3 |
| Stat. Methods in Eco. & Bus. | BUS 205 | 3 |
| Intro. Public Admin. | PAD 105 | 3 |
| Juvenile Justice Proced. | AJS 212 | 3 |
| Social Science Elective** | | 3 |
| | | 18 |
| **Fourth Semester** | | |
| Intro. to Macroeconomics | ECO 101 | 3 |
| Intro. to Computers | CSC 100 | 3 |
| Criminal Justice Proced. | AJS 216 | 3 |
| Defensive Tactics or Survival | AJS 12<br>REC 118 | 2 |
| Social Science Elective** | | 3 |
| | | 14 |

*Fulfilled by Introduction to Philosophy I (PHI 101) or Introduction to Logic (PHI 120) or PHI 120 and one semester of laboratory science; or by two semesters of laboratory science (astronomy, biology, botany, chemistry, geology, microbiology, physics, zoology).

**Students, by the end of the second year, should have completed a minimum of six credit hours in one of the following fields: Anthropology 110, 220, 210; Psychology 100, 101, 102, 103; Sociology 201, 100.

Note: Transfer students should follow the requirements of the four-year institution to which they plan to transfer.

**Criminal Justice**
**Associate of Arts Degree**
**For Direct Employment**

| Required Courses (62–64) | | Cr. Hrs. |
|---|---|---|
| Intro. Admin. of Justice | AJS 101 | 3 |
| Criminal Law I-II | AJS 172, 272 | 6 |
| Criminal Justice Proced. | AJS 216 | 3 |
| Police Comm./Human Relations | AJS 110 | 3 |
| | | 15 |
| **General Education Requirements** | | |
| Writing I | WRT 101 | 3 |
| Technical Communications | WRT 154 | 3 |
| Am. National Government | POL 110 | 3 |
| Am. State/Local Govt. | POL 111 | 3 |
| Intro. to Sociology | SOC 100 | 3 |
| Intro. to Psychology I-II | PSY 100–101 | 6 |
| Business Math | BUS 51 | 3 |
| Intro. to Microeconomics | ECO 100 | 3 |
| Bus. & Prof. Communication | SPE 120 | 3 |
| Electives* | | 17–19 |
| | | 47–49 |

| *Suggested Electives: | | |
|---|---|---|
| Intro. to Public Admin. | PAD 105 | (3) |
| Defensive Tactics | AJS 12 | (2) |
| Firearms | AJS 214 | (2) |
| Patrol Procedures | AJS 71 | (3) |
| Crime Scene Tech. I | AJS 72 | (3) |
| Crime Scene Tech. II | AJS 273 | (3) |
| Basic Criminalistics | AJS 76 | (3) |
| Adv. Criminalistics | AJS 277 | (3) |
| Juvenile Justice Proced. | AJS 212 | (3) |
| Cooperative Training | AJS 299 | (3) |
| Police Administration | AJS 208 | (3) |
| Typing I | OED 111 | (1–3) |
| Drugs, Politics, Law | SSE 127 | (3) |
| Drugs in Am. Society | SSE 115 | (3) |
| Traffic Safety Functions | AJS 106 | (3) |

**Criminal Justice**
**Associate of Arts Degree**
**For Transfer**

| Required Courses (65–67) | First Semester | Cr. Hrs. |
|---|---|---|
| Writing I | WRT 101 | 3 |
| Philosophy or Science* | | 3–4 |
| College Algebra | MTH 150 | 3 |
| Am. National Government | POL 110 | 3 |
| Intro. to Admin. of Justice | AJS 101 | 3 |
| Criminal Law I | AJS 172 | 3 |
| | | 18–19 |
| | **Second Semester** | |
| Writing II | WRT 102 | 3 |
| Philosophy or Science* | | 3–4 |
| Finite Math | MTH 170 | 3 |
| Am. State/Local Govt. | POL 111 | 3 |
| Criminal Law II | AJS 272 | 3 |
| Defensive Tactics or Firearms | AJS 12<br>AJS 214 | 2 |
| | | 17–18 |
| | **Third Semester** | |
| Intro. to Microeconomics | ECO 100 | 3 |
| Bus. & Prof. Communication | SPE 120 | 3 |
| Stat. Methods in Eco. & Bus. | BUS 205 | 3 |
| Intro. to Public Admin. | PAD 105 | 3 |
| Social Science Elective** | | 3 |
| | | 15 |
| | **Fourth Semester** | |
| Intro. to Macroeconomics | ECO 101 | 3 |
| Intro. to Computers | CSC 100 | 3 |
| Criminal Justice Proced. | AJS 216 | 3 |
| Police Comm./Human Relations | AJS 110 | 3 |
| Social Science Elective** | | 3 |
| | | 15 |

*Fulfilled by Introduction to Philosophy I (PHI 101) or Introduction to Logic (PHI 120) or PHI 120 and one semester of laboratory science; or by two semesters of laboratory science (astronomy, biology, botany, chemistry, geology, microbiology, physics, zoology).

**Students, by the end of the second year, should have completed a minimum of six credit hours in one of the following fields: Anthropology 110, 220, 210; Psychology 100, 101, 102, 103; Sociology 201, 100.

Note: Transfer students should follow the requirements of the four-year institution to which they plan to transfer.

# Air Conditioning and Sheet Metal

Students are provided conditions similar to industry through a fully equipped sheet metal shop and air conditioning laboratory.

In air conditioning, the student learns about both the heating and cooling cycles. He also learns to disassemble, rebuild, repair and reassemble all types of air conditioning units.

Sheet metal shop classes teach him how to calculate, size, lay-out and fabricate duct work for use in air conditioning installation. The student, in addition, is taught how to adapt to other areas of the sheet metal industry.

**Air Conditioning**
**Basic Certificate**
**For Direct Employment**

| Required Courses | | Cr. Hrs. |
|---|---|---|
| • Residential Air Conditioning | | |
| Air Conditioning Fundamentals | ACD 101 | 3 |
| Air Conditioning Phase I-II | ACD 120, 125 | 8 |
| Technical Math I-II | MTH 110, 120 | 6 |
| Human Relations | MAN 58 | 3 |
| | | 20 |
| • Light Commercial Endorsement | | |
| Above course work plus: | | |
| Air Conditioning Phase III-IV | ACD 210, 220 | 8 |
| | | 28 |

**Air Conditioning, Heating, Ventilation**
**Technical Certificate**
**For Direct Employment**

| Required Courses | | Cr. Hrs. |
|---|---|---|
| Air Conditioning Fundamentals | ACD 101 | 3 |
| Air Conditioning Phase I-IV | ACD 120, 125, 210, 220 | 16 |
| Technical Math I-II | MTH 110, 120 | 6 |
| Practical Communications | WRT 150 | 3 |
| Technical Communications | WRT 154 | 3 |
| Technical Physics I-II | PHY 101–102 | 6 |
| Human Relations | MAN 58 | 3 |
| Combination Welding | WLD 110 | 3 |
| | | 43 |

**Fundamentals of Sheet Metal Fabrication**
**Basic Certificate**
**For Direct Employment**

| Required Courses | | Cr. Hrs. |
|---|---|---|
| Sheet Metal I-II | SML 110, 120 | 8 |
| Sheet Metal Pattern Layout I | SML 130 | 3 |
| Technical Math I-II | MTH 110, 120 | 6 |
| Technical Drafting I | DFT 150 | 3 |
| Human Relations | MAN 58 | 3 |
| | | 23 |

**Sheet Metal Layout and Fabrication**
**Technical Certificate**
**For Direct Employment**

| Required Courses | | Cr. Hrs. |
|---|---|---|
| Sheet Metal I-II | SML 110, 120 | 8 |
| Architectural Sheet Metal | SML 220 | 3 |
| Sheet Metal Pattern Layout I-III | SML 130, 135, 210 | 9 |
| Technical Math I-II | MTH 110, 120 | 6 |
| Technical Drafting I | DFT 150 | 3 |
| Practical Communications | WRT 150 | 3 |
| Technical Communications | WRT 154 | 3 |
| Human Relations | MAN 58 | 3 |
| Air Conditioning Fundamentals | ACD 101 | 3 |
| Combination Welding | WLD 110 | 3 |
| | | 44 |

**Air Conditioning and Sheet Metal Technology**
**Associate of Applied Science Degree**
**For Direct Employment**

| Required Courses (75) | First Semester | Cr. Hrs. |
|---|---|---|
| Air Conditioning Fundamentals | ACD 101 | 3 |
| Air Conditioning Phase I | ACD 120 | 4 |
| Technical Math I | MTH 110 | 3 |
| Sheet Metal I | SML 110 | 4 |
| Technical Drafting I | DFT 150 | 3 |
| | | 17 |
| | **Second Semester** | |
| Sheet Metal Pattern Layout I | SML 130 | 3 |
| Air Conditioning Phase II | ACD 125 | 4 |
| Technical Math II | MTH 120 | 3 |
| Sheet Metal II | SML 120 | 4 |
| Practical Communications | WRT 150 | 3 |
| Combination Welding | WLD 110 | 3 |
| | | 20 |
| | **Third Semester** | |
| Air Conditioning Phase III | ACD 210 | 4 |
| Human Relations | MAN 58 | 3 |
| Technical Physics I | PHY 101 | 3 |
| Sheet Metal Pattern Layout II | SML 135 | 3 |
| Technical Communications | WRT 154 | 3 |
| Estimating I | ACD 250 | 3 |
| | | 19 |
| | **Fourth Semester** | |
| Air Conditioning Phase IV | ACD 220 | 4 |
| Sheet Metal Pattern Layout III | SML 210 | 3 |
| Architectural Sheet Metal | SML 220 | 3 |
| Estimating II | ACD 260 | 3 |
| Technical Physics II | PHY 102 | 3 |
| Elective in Humanities, Psychol., Sociology or Philosophy | | 3 |
| | | 19 |

# Applied Art and Design

This program provides an academic opportunity for development in various career areas including commercial graphics, photography, industrial and interior design. There is considerable opportunity for students to select courses related to particular career interests.

**Associate of Arts Degree Program**
**Job Oriented**

| Required Courses (63) | First Semester | Cr. Hrs. |
|---|---|---|
| Perception | ART 100 | 4 |
| Graphics I or | ART 110 | |
| Industrial Graphics or | ART 111 | |
| Photography I | ART 140 | 3 |
| Writing I | WRT 101 | 3 |
| Technical Drafting I | DFT 150 | 3 |
| Elective related to field | | 3 |
| | | 16 |
| | **Second Semester** | |
| Graphics I or | ART 110 | |
| Industrial Graphics I or | ART 111 | |
| Photography I | ART 140 | 3 |
| Photography II or | ART 141 | |
| Graphics II | ART 210 | 3 |
| Writing II | WRT 102 | 3 |
| Human Relations | MAN 58 | 3 |
| Elective related to field | | 3 |
| | | 15 |
| | **Third Semester** | |
| Art and Culture I | ART 130 | 3 |
| Graphics II or | ART 210 | |
| Life Drawing or | ART 213 | |
| Commercial Graphics | ART 211 | 3 |
| Functional Design I or | ART 150 | |
| Color and Design | ART 115 | 3 |
| Photography II or | ART 141 | |
| Dome Building | ART 151 | 3 |
| Humanities I | HUM 110 | 4 |
| | | 16 |
| | **Fourth Semester** | |
| Art and Culture II or | ART 131 | |
| Photo History | ART 230 | 3 |
| Color and Design or | ART 115 | |
| Photography II or | ART 141 | |
| Graphics II or | ART 210 | |
| Commercial Graphics | ART 211 | 3 |
| Art Electives | ART | 6 |
| Humanities II | HUM 111 | 4 |
| | | 16 |

# Arts and Crafts

Students are provided an opportunity to develop proficiency in at least one medium and a background in several media. Art electives and supportive courses should be selected according to the major emphasis of the program. The 100 level courses should be taken as early as possible in the program.

**Associate of Arts Degree**

| **Required Courses (63)** | | **Cr. Hrs.** |
|---|---|---|
| Perception | ART 100 | 4 |
| Graphics I | ART 110 | 3 |
| Photography I | ART 140 | 3 |
| Art and Culture I or II | ART 130 or 131 | 3 |
| Functional Design I | ART 150 | 3 |
| Ceramics I or | ART 160 | |
| Metal Work I or | ART 170 | |
| Weaving I or | ART 180 | |
| Leatherwork | ART 190 | 3 |
| Art Electives | ART | 12 |
| | | 31 |

| **General Education Requirements** | | |
|---|---|---|
| Writing I-II | WRT 101–102 | 6 |
| Social Science Elective | | 3 |
| Humanities I or II | HUM 110 or 111 | 4 |
| Science Elective | ESC or LSC | 4 |
| Business or Technology Elective | | 3 |
| Electives in program of interest | | 12 |
| | | 32 |

# Automotive Technology

The Automotive Technology department offers a variety of study avenues including two-year Associate degree programs, a two-year technical certificate program and several automotive mechanic basic certificate programs as well as special interest automotive courses.

Courses are designed to meet the needs of the beginner, the professional mechanic who wants to update his skills, and the do-it-yourself person interested in knowing his or her car.

The degree program provides students with educational opportunities that allow for rapid entry into the automotive field beyond the mechanic position. Those enrolled in the Mechanics Technical Certificate program are trained in general automotive repair. Cooperative training, offered as an elective course, is highly recommended for the certificate programs.

The various basic mechanic certificate programs offer opportunities for specialization in a particular area of automotive repair. Persons who later decide to advance to the technical certificate or degree level may use the basic certificate programs as a beginning step.

Programs also can be arranged for students planning to transfer to four-year institutions. Students, however, should follow the first two-year requirements of the college or university to which they plan to transfer.

All students taking lab courses are required to have a basic set of tools, safety glasses and work clothing.

**Automotive Engine Repair and Rebuilding**
**Basic Certificate**
**For Direct Employment**

| **Required Courses** | | **Cr. Hrs.** |
|---|---|---|
| Internal Combustion Engines | AUT 120 | 4 |
| Engine Rebuilding | AUT 121 | 4 |
| Engine Tune-up | AUT 125 | 4 |
| Human Relations | MAN 58 | 3 |
| | | 15 |

**Automotive Tune-up and Air Conditioning**
**Basic Certificate**
**For Direct Employment**

| **Required Courses** | | **Cr. Hrs.** |
|---|---|---|
| Internal Combustion Engines | AUT 120 | 4 |
| Engine Tune-up | AUT 125 | 4 |
| Automotive Electricity I-II | AUT 128–129 | 6 |
| Automotive Air Conditioning | AUT 142 | 3 |
| Human Relations | MAN 58 | 3 |
| | | 20 |

**Power Transmission**
**Basic Certificate**
**For Direct Employment**

| **Required Courses** | | **Cr. Hrs.** |
|---|---|---|
| Automatic Transmissions I-II | AUT 132–133 | 8 |
| Drive Line | AUT 136 | 4 |
| Human Relations | MAN 58 | 3 |
| | | 15 |

**Suspension and Brakes**
**Basic Certificate**
**For Direct Employment**

| Required Courses | | Cr. Hrs. |
|---|---|---|
| Automotive Chassis | AUT 138 | 4 |
| Drive Line | AUT 136 | 4 |
| Automotive Brakes | AUT 140 | 4 |
| Human Relations | MAN 58 | 3 |
| | | 15 |

**Automotive Mechanics**
**Technical Certificate**
**For Direct Employment**

| Required Courses (53) | First Semester | Cr. Hrs. |
|---|---|---|
| Internal Combustion Engines | AUT 120 | 4 |
| Automotive Electricity I | AUT 128 | 3 |
| Automatic Transmissions I | AUT 132 | 4 |
| Technical Math I* | MTH 110 | 3 |
| | | 14 |
| | **Second Semester** | |
| Engine Rebuilding | AUT 121 | 4 |
| Automotive Electricity II | AUT 129 | 3 |
| Automatic Transmissions II | AUT 133 | 4 |
| Technical Physics I | PHY 101 | 3 |
| | | 14 |
| | **Third Semester** | |
| Engine Tune-up | AUT 125 | 4 |
| Automotive Chassis | AUT 138 | 4 |
| Practical Communications | WRT 150 | 3 |
| Human Relations | MAN 58 | 3 |
| | | 14 |
| | **Fourth Semester** | |
| Drive Line | AUT 136 | 4 |
| Automotive Brakes | AUT 140 | 4 |
| Automotive Air Conditioning | AUT 142 | 3 |
| | | 11 |

*This course requires prerequisites or a placement test.

**Automotive Technology**
**Associate in Applied Science Degree**
**For Direct Employment**

| Required Courses (65) | First Semester | Cr. Hrs. |
|---|---|---|
| Internal Combustion Engines | AUT 120 | 4 |
| Automotive Electricity I | AUT 128 | 3 |
| Automatic Transmission I | AUT 132 | 4 |
| Technical Math I* | MTH 110 | 3 |
| Technical Physics I | PHY 101 | 3 |
| | | 17 |
| | **Second Semester** | |
| Engine Rebuilding or Engine Tune-up | AUT 121 AUT 125 | 4 |
| Automotive Electricity II | AUT 129 | 3 |
| Automatic Transmission II | AUT 133 | 4 |
| Technical Math II | MTH 120 | 3 |
| Technical Physics II | PHY 102 | 3 |
| | | 17 |
| | **Third Semester** | |
| Engine Rebuilding or Engine Tune-up | AUT 121 AUT 125 | 4 |
| Automotive Chassis | AUT 138 | 4 |
| Human Relations | MAN 58 | 3 |
| Practical Communications | WRT 150 | 3 |
| Intro. to Psychology I | PSY 100 | 3 |
| | | 17 |
| | **Fourth Semester** | |
| Automotive Brakes | AUT 140 | 4 |
| Automotive Air Conditioning | AUT 142 | 3 |
| Drive Line | AUT 136 | 4 |
| Technical Communications | WRT 154 | 3 |
| | | 14 |

*This course requires prerequisites or a placement test.

**Automotive Technology**
**Associate of Science Degree**
**For Transfer**

| Required Courses (69) | | Cr. Hrs. |
|---|---|---|
| Internal Combustion Engines | AUT 120 | 4 |
| Automotive Electricity I-II | AUT 128–129 | 6 |
| Automatic Transmission I-II | AUT 132–133 | 8 |
| Engine Rebuilding | AUT 121 | 4 |
| Engine Tune-up | AUT 125 | 4 |
| Automotive Chassis | AUT 138 | 4 |
| Drive Line | AUT 136 | 4 |
| Automotive Brakes | AUT 140 | 4 |
| | | 38 |
| General education requirements | | 31 |

Note: Automotive courses to be taken in the same order as for the Associate in Applied Science Degree program. The 31 credit hours of general education requirements must be taken for the Associate of Science Degree. General education courses taken at Pima should be checked against a catalog of the college or university to which the student plans to transfer.

# Aviation Mechanics

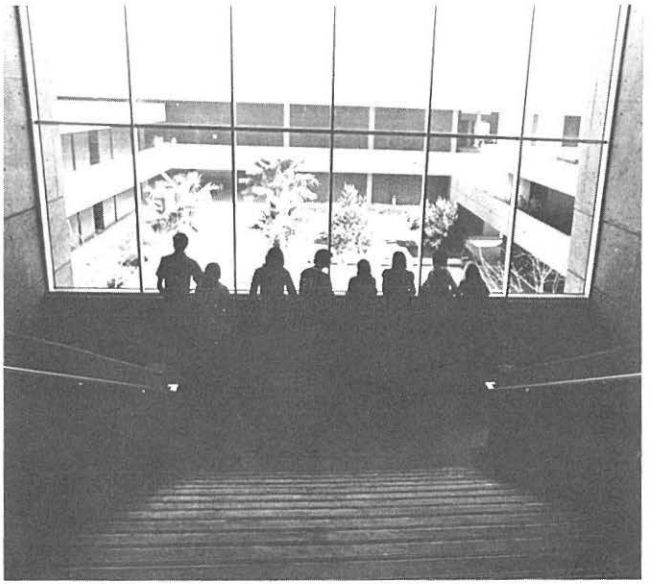
The aviation mechanics courses prepare experienced aircraft mechanics for the airframe and powerplant federal certification.

A minimum of 30 months experience of concurrently performing the duties of airframe and powerplant maintenance or at least 18 months experience in performing the duties appropriate to the rating sought are prerequisites for course entry. A review of experience must be made by the instructor in all cases prior to registration.

A letter of completion will be awarded for Airframe Mechanics (AVM 220) and for Powerplant Mechanics (AVM 230). Basic certificates also are awarded to qualified students.

**Airframe and Powerplant Mechanics**
**Basic Certificate**
**For Direct Employment**

| **Required Courses** | | **Cr. Hrs.** |
|---|---|---|
| Airframe Mechanics | AVM 220 | 6 |
| Powerplant Mechanics | AVM 230 | 5 |
| Combination Welding | WLD 110 | 3 |
| Technical Math I | MTH 110 | 3 |
| Human Relations | MAN 58 | 3 |
| | | 20 |



# BILINGUAL

A variety of subjects is offered on a bilingual-bicultural education basis for all persons fluent in Spanish. This is not a remedial program, but is aimed at developing competency in Spanish for literacy, vocational, professional and cultural purposes.

Some 30 courses are being offered under the Bilingual Program in areas of drama, pre-school education, machine shop, welding, electronics, folkloric dances, business, home economics, physical education, humanities, history, English as a second language (ESL), reading, literature, Spanish and others. The courses are listed in the individual program sections of the catalog. Courses in the Bilingual Program, with the exception of those prefixed SPA or ESL, offer students the advantages of receiving credit for the course, plus additional credit in Spanish at no extra charge.

Credit in Spanish is at the 50 or 100 level as it is assumed that if a student can pursue a bilingual course taught totally in Spanish, he has a knowledge of the language. The student may, therefore, obtain 1 to 8 units additional Spanish credit; but such credit is not awarded automatically and must be petitioned for before the end of the course. The actual number of credits will be determined by the instructor teaching the course in cooperation with the Spanish faculty based upon the evaluation of the student's written and oral work.

Credits are divided as follows: a) 4 credits in Spanish 50 and/or 4 credits in Spanish totaling 4 or 8 credits. Please note that credit in Spanish 50 and 55 (Conversational Spanish I and II) is not transferable; b) If a student is in a university transfer program, 2 credits each for Spanish 101a and 101b may be awarded. Credits for the latter may be considered separately or together totaling 2 or 4 credits respectively. The same is applicable to Spanish 102a and 102b. c) Reading 52 (Bilingual Reading) will receive 1 elective credit in Spanish. d) If a bilingual course consists of 1 unit, the Spanish credit is 1 unit of elective credit.

This additional credit cannot be awarded if credit in Spanish 101, 102, 50 or 55 had been earned previously through enrollment in these classes.

El colegio está ofreciendo una variedad de cursos, tomando como base la educación bilingüe-bicultural para todas las personas que ya hablan español.

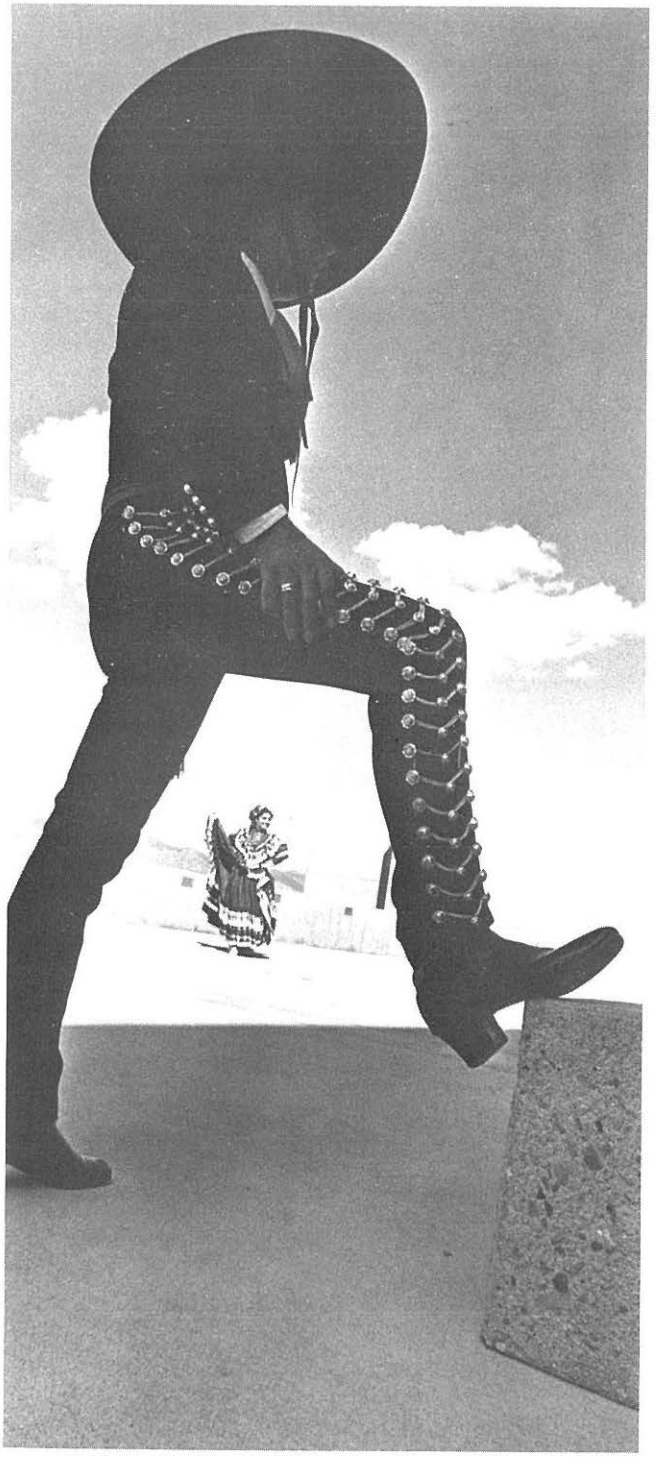
Unos 30 (treinta) cursos se ofrecen en el Programa Bilingüe, tales como educación pre-escolar, electrónica, máquinas y herramientas, soldadura, bailes folklóricos, drama, negocios, economía doméstica, educación física, humanidades, historia, inglés como segundo idioma, lectura, literatura y español. Los cursos se encuentran en el catálogo bajo las secciones de programas respectivos.

Es un programa en el que se ha señalado el propósito de obtener mayor dominio en el idioma, con fines profesionales, culturales y técnicos. Hay ventaja de obtener crédito adicional en español en estos cursos, exceptuando aquellos que están señalados con prefijos SPA or ESL, sin pagar más dinero.

El crédito en español es otorgado al nivel 50 y 100, porque se considera que si el estudiante puede seguir una materia del Programa Bilingüe impartida en español, este estudiante ya tiene conocimiento de dicho idioma. Por consiguiente, este estudiante puede obtener de 1 a 8 unidades de crédito adicional en español, pero tal crédito no se otorga automáticamente y es necesario hacer petición, antes de terminar el curso, para recibir este crédito adicional. El número exacto será determinado por la facultad de español en cooperación con el instructor del curso dependiendo en la evaluación del trabajo oral y escrito del estudiante.

Las unidades se dividen así: a) 4 unidades en Español 50 y/o 4 unidades en Español 55 sumando a 4 o 8 unidades. Favor de tomar en cuenta que las unidades en Español 50 y 55 no son transferibles. b) Si el estudiante se encuentra en un programa transferible a la universidad se puede otorgar crédito en Español 101a, 101b, 102a o 102b si no se ha recibido ya este crédito por medio de inscripción en estos cursos. Las unidades de los cursos 101a y 101b pueden ser consideradas separadas o conjuntamente para un total de 2 o 4 unidades respectivamente. Este mismo concepto se aplicará a materias 102a y 102b. d) Si el curso Bilingüe consiste de una unidad de crédito, el crédito en español será una unidad elegible.

Este crédito adicional no se otorgará si crédito se ha recibido anteriormente en Español 101, 102, 50 o 55 por medio de inscripción en estos cursos.



# Biology

**Associate of Science Degree**
**For Transfer**

| Suggested Courses (65–69) | | Cr. Hrs. |
|---|---|---|
| General Chemistry I-II | CHM 120–121 | 8 |
| Organismic Biology I-II | LSC 205–206 | 8 |
| Organic Chemistry I-II | CHM 240–241 | 8 |
| General Genetics | LSC 210 | 4 |
| | | 28 |

| General Education Requirements | | |
|---|---|---|
| Writing I-II | WRT 101–102 | 6 |
| Humanities I-II | HUM 110–111 | 8 |
| Math | MTH 130 or higher | 8 |
| Behavioral or Social Science Elective | | 3 |
| Foreign Language | | 8 |
| Electives | | 4–8 |
| | | 37–41 |

Note: There are various options available for attaining a B.A. or B.S. degree in biological sciences. Students should consult the catalog of the institution to which they wish to transfer.

# Business Administration Transfer

Arizona's three universities normally require that professional courses in business administration be taken in the last two years of a four-year program. Only a limited amount of work in business courses is offered below the junior level. The objective of this policy is to permit students to acquire a foundation of work in the basic arts and sciences as a prerequisite for professional courses in business.

All business programs accredited by the American Association of Collegiate Schools of Business require students to take a minimum of 40 per cent of the four years' work in the arts and sciences, including work in mathematics, social science, humanities and the natural sciences. Students desiring a four-year degree are advised to take a majority of their work during the first two years in the arts and sciences, including a strong background in mathematics.

Students taking their first two years of work at a community college should take only those courses in business and economics that are offered as freshman or sophomore level courses at any of the three Arizona universities. These lower division courses are numbered 1 through 99 at the University of Arizona, and 1 through 299 at Arizona State University and Northern Arizona University. The introductory course in business law will be accepted as an exception to this policy. A maximum of 30 hours of business and economics courses will be accepted from community colleges toward a bachelor's degree in business administration.

Professional business courses taught in the junior and senior years in the three state universities may not be completed at a two-year college for transfer credit in the business core or major field of specialization. Such courses may be utilized in the free elective category subject to the 30-hour limitation. Courses taught as vocational or career classes at the community college which are not taught in the colleges of business at any of the three state universities will not be accepted for credit toward a bachelor's degree. Courses taught in the upper-division business core at the three state universities must be completed at the degree-granting institution unless transferred from an accredited four-year school.

The following general pattern of courses is recommended for students completing their first two years' work in a community college and planning to transfer to one of Arizona's universities without loss of credit:

| **Pre-Professional Courses:** | **30 credit hours** |
|---|---|
| Accounting | 6 |
| Economics | 6 |
| Quantitative Analysis & Statistics | 6 |
| Business Law | 3 |
| Lower-Division Business Electives | 9 |

**General Education: 34–42 credit hours***

| | |
|---|---|
| English | Humanities |
| Mathematics | Physical Education |
| Science | Social Sciences |

*Contingent upon the university of your choice.

**Associate of Science Degree For Transfer**

| **Required Courses (64–66)** | **First Semester** | **Cr. Hrs.** |
|---|---|---|
| Writing I | WRT 101 | 3 |
| Philosophy or Science* | | 3–4 |
| College Algebra | MTH 150 | 3 |
| Am. National Govt. | POL 110 | 3 |
| Social Science Elective** | | 3 |
| Physical Ed. Elective*** | PED | 1 |
| | | 16–17 |
| | **Second Semester** | |
| Writing II | WRT 102 | 3 |
| Philosophy or Science* | | 3–4 |
| Finite Mathematics | MTH 170 | 3 |
| Social Science Elective** | | 3 |
| Business & Prof. Communication | SPE 120 | 3 |
| Physical Ed. Elective*** | PED | 1 |
| | | 16–17 |
| | **Third Semester** | |
| Prin. of Accounting I | ACC 101 | 3 |
| Intro. to Microeconomics | ECO 100 | 3 |
| Humanities I | HUM 110 | 4 |
| Topics in Calculus | MTH 175 | 3 |
| Stat. Methods Eco. & Bus. I | BUS 205 | 3 |
| | | 16 |
| | **Fourth Semester** | |
| Prin. of Accounting II | ACC 102 | 3 |
| Intro. to Macroeconomics | ECO 101 | 3 |
| Humanities II | HUM 111 | 4 |
| Intro. to Computers | CSC 100 | 3 |
| Stat. Methods Eco. & Bus. II | BUS 206 | 3 |
| | | 16 |

*Recommended Sciences: ecology, chemistry, biology, microbiology, geology, physics.

**Recommended Social Sciences: anthropology, geography, government, history, psychology, sociology.

***Physical Education is optional for those planning to transfer into the university as sophomores or juniors.

Note: It is the student's responsibility to obtain approval of his or her program regularly from an advisor at the university of his choice. The AS degree program meets requirements of the University of Arizona.

# Chemistry

**Associate of Science Degree**
**For Transfer**

| Required Courses ((67) | First Semester | Cr. Hrs. |
|---|---|---|
| College Algebra/Trigonometry* | MTH 160 | 5 |
| General Chemistry I | CHM 120 | 4 |
| Writing I | WRT 101 | 3 |
| Suggested Elective:** | | |
| Intro. to Psychology I | PSY 100 | 3 |
| | | 15 |
| | **Second Semester** | |
| General Chemistry II | CHM 121 | 4 |
| Anal. Geometry/Calculus I | MTH 180 | 3 |
| Introductory Physics I*** | PHY 121 | 4 |
| Writing II | WRT 102 | 3 |
| Suggested Elective:** | | |
| Intro. to Psychology II | PSY 101 | 3 |
| | | 17 |
| | **Third Semester** | |
| Organic Chemistry I | CHM 240 | 4 |
| Introductory Physics II | PHY 122 | 4 |
| Anal. Geometry/Calculus II | MTH 185 | 3 |
| Suggested Electives:** | | |
| Humanities I | HUM 110 | 4 |
| Intro. to Sociology | SOC 100 | 3 |
| | | 18 |
| | **Fourth Semester** | |
| Organic Chemistry II | CHM 241 | 4 |
| Anal. Geometry/Calculus III | MTH 215 | 4 |
| Elem. German I | GER 110 | 4 |
| Suggested Electives:** | | |
| Humanities II | HUM 111 | 4 |
| Physical Education | PED | 1 |
| | | 17 |

*Alternate mathematics sequences are possible.

**For alternate course electives in humanities and social sciences consult the catalog of the college or university you plan to enter.

***PHY 131, 132 — Physics with Calculus — can be taken in place of PHY 121, 122 sequence.

Note: The requirements shown above are designated to meet the requirements for the Bachelor of Science degree at the University of Arizona.

# Computer Science

Various Computer Science programs consist of one, two and four semesters of study, with the four semester program leading to an Associate of Applied Science degree.

Certificates are awarded upon completion of the shorter programs, indicating that the student is qualified as a computer operator, a key-punch operator or a control technician.

Students entering the pre-computer science program as a preliminary to additional study in business administration, engineering, mathematics, or similar fields at a four-year college or university should plan their programs to include mathematics through calculus, basic computer science and statistics.

Students planning to transfer to a four-year institution should follow the first two-year requirements of the particular college or university to which they plan to transfer.

The continuing education program is designed for those who hold an Associate of Applied Science degree in Computer Science and have at least two years of programming experience.

**Key Punch Operator**
**Basic Certificate**
**For Direct Employment**

| Required Courses | | Cr. Hrs. |
|---|---|---|
| Key Punch | CSC 50 | 3 |
| Intro. to Business | BUS 100 | 3 |
| Writing I | WRT 101 | 3 |
| Reading Improvement | REA 100 series | 4 |
| Business Math or Algebra II | BUS 51 MTH 130 | 3 |
| Job Entry Procedures | CSC 195 | 1 |
| | | 17 |

**Key Punch Operator**
**Technical Certificate**
**For Direct Employment**

| Required Courses (32-33) | First Semester | Cr. Hrs. |
|---|---|---|
| Basic Certificate Requirements | | 17 |
| | **Second Semester** | |
| Advanced Key Punch | CSC 55 | 3 |
| Survey Data Processing or Intro. to Computers | CSC 105 CSC 100 | 3 |
| Reading (if required) or Electives | | 3–4 |
| Work Stand./Job Attitudes | CSC 196 | 1 |
| Calculating Machines | OED 121 | 2 |
| Co-Op Training or Elective | CSC 299 | 3 |
| | | 15–16 |

**Control Technician**
**Technical Certificate**
**For Direct Employment**

| Required Courses (32–33) | First Semester | Cr. Hrs. |
|---|---|---|
| Intro. to Computers | CSC 100 | 3 |
| Prin. of Accounting I | ACC 101 | 3 |
| Typing I or | OED 111 | |
| Key Punch | CSC 50 | 3 |
| Reading Improvement | REA 100 series | 4 |
| Business Math | BUS 51 | 3 |
| | | 16 |
| | **Second Semester** | |
| Writing I | WRT 101 | 3 |
| Prin. of Accounting II | ACC 102 | 3 |
| Job Entry Procedures | CSC 195 | 1 |
| Work Stand./Job Attitudes | CSC 196 | 1 |
| Calculating Machines | OED 121 | 2 |
| Reading (if required) or Elective | | 3–4 |
| Key Punch or | CSC 50 | |
| Advanced Key Punch or | CSC 55 | |
| Intro. to Business or | BUS 100 | |
| Co-Op Training | CSC 299 | 3 |
| | | 16–17 |

**Computer Operator**
**Technical Certificate**
**For Direct Employment**

| Required Courses (34–35) | First Semester | Cr. Hrs. |
|---|---|---|
| Intro. to Computers | CSC 100 | 3 |
| Computer Operations | CSC 150 | 3 |
| Algebra II or | MTH 130 | |
| Business Math | BUS 51 | 3 |
| Reading Improvement | REA 100 series | 4 |
| Intro. to Business | BUS 100 | 3 |
| Key Punch for Prog. & Oper. | CSC 197 | 1 |
| | | 17 |
| | **Second Semester** | |
| Prin. of Accounting I | ACC 101 | 3 |
| Job Stream | CSC 155 | 3 |
| Writing I | WRT 101 | 3 |
| Reading (if required) or Elective | | 3–4 |
| Computer Science Elective | CSC | 3 |
| Job Entry Procedures | CSC 195 | 1 |
| Work Stand./Job Attitudes | CSC 196 | 1 |
| | | 17–18 |

**Computer Programmer/Analyst**
**Associate of Applied Science Degree**
**For Direct Employment**

| Required Courses (62–65) | First Semester | Cr. Hrs. |
|---|---|---|
| Intro. to Computers | CSC 100 | 3 |
| Prin. of Accounting I | ACC 101 | 3 |
| Writing I | WRT 101 | 3 |
| Reading Improvement | REA 100 series | 4 |
| Algebra II or | MTH 130 | |
| College Algebra | MTH 150 | 3 |
| Key Punch for Prog. & Oper. | CSC 197 | 1 |
| | | 17 |
| | **Second Semester** | |
| COBOL Programming | CSC 160 | 3 |
| Prin. of Accounting II | ACC 102 | 3 |
| Writing II | WRT 102 | 3 |
| Reading (if required) or Elective | | 3–4 |
| College Algebra or | MTH 150 | |
| FORTRAN IV Programming | CSC 140 | 3 |
| | | 15–16 |
| | **Third Semester** | |
| Basic Assembly Lang. | CSC 270 | 3 |
| Systems Analysis | CSC 280 | 3 |
| Adv. COBOL/File Mgmt. | CSC 260 | 4 |
| Select two of following: | | 6 |
| Statistical Methods I | BUS 205 (3) | |
| Finite Math | MTH 170 (3) | |
| Co-op Training | CSC 299 (3) | |
| Intro. to Microeconomics | ECO 100 (3) | |
| Cost Accounting | ACC 203 (3) | |
| | | 16 |
| | **Fourth Semester** | |
| Job Entry Procedures | CSC 195 | 1 |
| Work Stand./Job Attitudes | CSC 196 | 1 |
| System Design | CSC 281 | 3 |
| MACRO-10 Assembly Lang. or | CSC 274 | |
| Data Processing Projects II | CSC 298 | 3–4 |
| Select two courses following sequence of third semester: | | 6–7 |
| Statistical Methods II | BUS 206 (3) | |
| Topics in Calculus | MTH 175 (3) | |
| Co-op Training | CSC 299 (3) | |
| Intro. to Macroeconomics | ECO 101 (3) | |
| Philosophy-Humanities Elective | (3–4) | |
| | | 14–16 |

**Systems Programmer**
**Advanced Certificate**
**For Direct Employment**

| Required Courses (29) | First Semester | Cr. Hrs. |
|---|---|---|
| FORTRAN IV Programming | CSC 140 | 3 |
| Operating Systems | CSC 296 | 3 |
| Anal. Geometry/Calculus I | MTH 180 | 3 |
| | | 9 |
| | **Second Semester** | |
| Systems Programming Theory | CSC 290 | 3 |
| MACRO-10 Assembly Lang. | CSC 274 | 4 |
| Anal. Geometry/Calculus II | MTH 185 | 3 |
| | | 10 |
| | **Third Semester** | |
| Teleprocessing Concepts | CSC 294 | 3 |
| Anal. Geometry/Calculus III | MTH 215 | 4 |
| Data Processing Projects II | CSC 298 | 3 |
| | | 10 |

# Dental Assisting Technology

Theoretical and practical preparation is provided to qualify graduates for immediate employment as Dental Assistants in hospitals, clinics and dental offices.

The total program consists of two semesters on campus and a minimum of 310 hours of externship practicum in an affiliated dental clinic and private dental office. Students having successfully completed this curriculum will graduate with a certificate from Pima Community College and be eligible to apply for National Certification.

**Acceptance Into Program:**

- Completion of college and division of health sciences acceptance requirements.
- One year of mathematics (including algebra).
- One semester of biology or zoology.
- One semester of typing.
- Receipt of placement examination results for Dental Assisting applicants.

**General Requirements:**

- Total credit: 34 credit hours.
- Work in residence: minimum, 28 credit hours of major (DAT) courses to be completed in residence or challenged. (Approval required by program coordinator.)

**Restrictions:**

- Correspondence study: maximum, 6 credit hours.
- Extension study: maximum, 6 credit hours (including correspondence study).

**Minimal Grade Achievement:**

"C" level.

**Advanced Certificate**
**For Direct Employment**

| Required Courses (34) | First Semester | Lec. | Lab | Cr. Hrs. |
|---|---|---|---|---|
| Writing I | WRT 101 | 3 | + 0 | 3 |
| Intro. Dental Assisting | DAT 61 | 3 | + 0 | 3 |
| Dental Assisting I | DAT 62 | 1 | + 6 | 3 |
| Oral Radiography | DAT 63 | 2 | + 3 | 3 |
| Dental Materials | DAT 64 | 2 | + 3 | 3 |
| Clinical Procedures I | DAT 65 | 0 | + 8 | 3 |
| | | | | 18 |
| | **Second Semester** | | | |
| Writing II | WRT 102 | 3 | + 0 | 3 |
| Dental Assisting II | DAT 66 | 1 | + 3 | 2 |
| Dental Assisting III | DAT 67 | 3 | + 6 | 5 |
| Clinical Procedures II | DAT 68 | 0 | +16 | 6 |
| | | | | 16 |

# Dental Laboratory Technology

This new four-semester curriculum is tentatively proposed and in the process of being developed.

# Drafting Technology

Architectural Drafting: Students can select from a basic certificate program, a technician certificate program and a two-year Associate of Applied Science degree program. The degree program provides experiences in drafting techniques, building construction systems and materials leading to employment in an architect's office and in construction oriented fields. Not designed for university transfer.

Electro-Mechanical Drafting: This two-year program, which leads to an Associate of Applied Science degree, provides an opportunity for developing skills which prepare students for a career in drafting as found in several types of industry. Also available is a Mechanical/Electro-Mechanical Drafting technician certificate program.

Mechanical Drafting: This is a two-year Associate in Applied Science degree program which provides experiences in fundamental techniques and drafting practices for employment in a wide variety of drafting oriented industries.

**Architectural Drafting**
**Basic Certificate**
**For Direct Employment**

| Required Courses | | | Cr. Hrs. |
|---|---|---|---|
| Construction Drafting I-II | DFT 110, 120 | | 6 |
| Nine credit hours selected from the following: | | | 9 |
| Construction Determinants I-II | DFT 114–115 | (6) | |
| Bldg. Utilities & Site Work | DFT 123 | (3) | |
| Construction Drafting III-IV | DFT 130, 140 | (6) | |
| Independent Study | DFT 149 | (3) | |
| Technical Drafting I | DFT 150 | (3) | |
| Construction Surveying | ENG 110 | (3) | |
| Blueprint Reading | GTC 99 | (3) | |
| | | | 15 |

**Architectural Drafting**
**Technical Certificate**
**For Direct Employment**

| Required Courses (30) | First Semester | Cr. Hrs. |
|---|---|---|
| Construction Drafting I | DFT 110 | 3 |
| Elective skill course* | | 3 |
| Math Elective | MTH | 3 |
| Writing I or | WRT 101 | |
| Practical Communications | WRT 150 | 3 |
| Elective | | 3 |
| | | 15 |
| | **Second Semester** | |
| Construction Drafting II | DFT 120 | 3 |
| Elective skill courses* | | 6 |
| Math Elective | MTH | 3 |
| Writing II or | WRT 102 | |
| Technical Communications | WRT 154 | 3 |
| | | 15 |

* Elective skill courses to be selected from the following:

| | | |
|---|---|---|
| Construction Determinants I-II | DFT 114–115 | (6) |
| Bldg. Utilities & Site Work | DFT 123 | (3) |
| Construction Drafting III-IV | DFT 130, 140 | (6) |
| Independent Study | DFT 149 | (3) |
| Construction Surveying | ENG 110 | (3) |

**Architectural Drafting**
**Associate of Applied Science Degree**
**For Direct Employment**

| Required Courses (63–65) | First Semester | Cr. Hrs. |
|---|---|---|
| Construction Drafting I | DFT 110 | 3 |
| Construction Determinants I | DFT 114 | 3 |
| Math Elective | MTH | 3 |
| Writing I or | WRT 101 | |
| Practical Communications | WRT 150 | 3 |
| Art Elective | ART | 4 |
| Physical Ed. Elective | PED | 1 |
| | | 17 |
| | **Second Semester** | |
| Construction Drafting II | DFT 120 | 3 |
| Construction Determinants II | DFT 115 | 3 |
| Math Elective | MTH | 3 |
| Writing II or | WRT 102 | |
| Technical Communications | WRT 154 | 3 |
| Art Elective | ART | 3 |
| Physical Ed. Elective | PED | 1 |
| | | 16 |
| | **Third Semester** | |
| Construction Drafting III | DFT 130 | 3 |
| Bldg. Utilities & Site Work | DFT 123 | 3 |
| Science Elective | | 3 |
| Math Elective | MTH | 3 |
| Electives | | 4 |
| | | 16 |
| | **Fourth Semester** | |
| Construction Drafting IV | DFT 140 | 3 |
| Independent Study | DFT 149 | 3 |
| Construction Surveying | ENG 110 | 3 |
| Science Elective | | 4 |
| Elective | | 1–3 |
| | | 14–16 |

Suggested Electives:

| | | |
|---|---|---|
| Humanities I–II | HUM 110–111 | (4–4) |
| Intro. to Western Civil. I | HIS 101 | (3) |
| Functional Design I | ART 150 | (3) |
| Art History | ART 231 | (1 to 4) |
| Art studio courses | ART | (3) |
| Blueprint Reading | GTC 99 | (3) |
| Building Materials | GTC 60 | (3) |
| Woodshop I | GTC 92 | (3) |
| Speech | SPE | (3) |
| Technical Drafting I | DFT 150 | (3) |
| Computer Science | CSC | (3) |
| Mathematics | MTH | (3) |
| Physics | PHY | (3–4) |
| Psychology | PSY | (3) |
| Sociology | SOC | (3) |

**Electro-Mechanical Drafting**
**Associate of Applied Science Degree**
**For Direct Employment**

| Required Courses (64) | First Semester | Cr. Hrs. |
|---|---|---|
| Technical Drafting I | DFT 150 | 3 |
| Human Relations | MAN 58 | 3 |
| Math Elective | MTH 60* | 3 |
| Practical Communications | WRT 150 | 3 |
| Physical Ed. Elective | PED | 1 |
| Suggested Elective: | | |
| Graphics I | ART 110 | 3 |
| | | 16 |
| | **Second Semester** | |
| Technical Drafting II | DFT 151 | 3 |
| Math Elective | MTH 110* | 3 |
| Manufacturing Processes I | MAC 240 | 3 |
| Technical Communications | WRT 154 | 3 |
| Intro. Electronics | ETR 1 | 4 |
| Physical Ed. Elective | PED | 1 |
| | | 17 |
| | **Third Semester** | |
| Technical Drafting III | DFT 152 | 3 |
| Electronic Drafting | DFT 154 | 3 |
| Manufacturing Process II | MAC 245 | 3 |
| Technical Physics I | PHY 101 | 3 |
| Suggested Elective: | | |
| Machine Shop I | MAC 110 | 4 |
| | | 16 |
| | **Fourth Semester** | |
| Electro-Mechanical Design | DFT 155 | 3 |
| Engineering Graphics | ENG 120 | 3 |
| Intro. to Computers | CSC 100 | 3 |
| Electives | | 6 |
| | | 15 |

*Or any math course more advanced.

**Mechanical/Electro-Mechanical Drafting**
**Technical Certificate**
**For Direct Employment**

| Required Courses (30) | First Semester | Cr. Hrs. |
|---|---|---|
| Technical Drafting I | DFT 150 | 3 |
| Elective skill course* | | 3 |
| Math Elective | MTH | 3 |
| Writing I or | WRT 101 | |
| Practical Communications | WRT 150 | 3 |
| Elective | | 3 |
| | | 15 |
| | **Second Semester** | |
| Technical Drafting II | DFT 151 | 3 |
| Elective skill courses* | | 6 |
| Math Elective | MTH | 3 |
| Writing II or | WRT 102 | |
| Technical Communications | WRT 154 | 3 |
| | | 15 |

*Elective skill courses to be selected from the following:

| | | |
|---|---|---|
| Technical Drafting III | DFT 152 | (3) |
| Tool Design | DFT 153 | (4) |
| Electronic Drafting | DFT 154 | (3) |
| Electro-Mechanical Design | DFT 155 | (3) |

**Mechanical Drafting**
**Associate of Applied Science Degree**
**For Direct Employment**

| Required Courses (66) | First Semester | Cr. Hrs. |
|---|---|---|
| Technical Drafting I | DFT 150 | 3 |
| Math Elective | MTH 60* | 3 |
| Manufacturing Processes I | MAC 240 | 3 |
| Writing I | WRT 101 | 3 |
| Humanities I | HUM 110 | 4 |
| Physical Education as suggested elective | PED | 1 |
| | | 17 |
| | **Second Semester** | |
| Technical Drafting II | DFT 151 | 3 |
| Math Elective | MTH 110* | 3 |
| Manufacturing Processes II | MAC 245 | 3 |
| Writing II | WRT 102 | 3 |
| Intro. to Electronics | ETR 1 | 4 |
| Physical Education as suggested elective | PED | 1 |
| | | 17 |
| | **Third Semester** | |
| Technical Drafting III | DFT 152 | 3 |
| Electronic Drafting | DFT 154 | 3 |
| Humanities II | HUM 111 | 4 |
| Technical Physics I | PHY 101 | 3 |
| Intro. to Computers | CSC 100 | 3 |
| | | 16 |
| | **Fourth Semester** | |
| Tool Design | DFT 153 | 4 |
| Engineering Graphics | ENG 120 | 3 |
| Graphics I | ART 110 | 3 |
| Human Relations | MAN 58 | 3 |
| Functional Design I | ART 150 | 3 |
| | | 16 |

*Or any math course more advanced.

# Drama

Drama Education: This program, which prepares students for transfer to a four-year college program leading to a Bachelor of Fine Arts in Drama Education, provides training in performing and other aspects of theatrical production. Students are encouraged to begin studies toward a teaching minor.

Drama Production: Students in this program, which prepares for transfer to a four-year college program leading to a Bachelor of Fine Arts in Drama (Production), receive extensive experience and training in performing and all other aspects of theatrical productions.

Drama Theory: Students receive some training in performing and other aspects of theatrical production, but the eventual focus is on drama as literature. This program prepares students to transfer to a four-year college program leading toward a Bachelor of Arts with a major in drama theory in which upper division concentration is on literature as well as drama.

**Drama Education**
**Associate of Arts Degree**
**For Transfer**

| Required Courses (63–65) | First Semester | | Cr. Hrs. |
|---|---|---|---|
| Intro. to Acting I | DRA 105 | | 3 |
| Make-Up | DRA 115 | | 1 |
| Stagecraft/Production I | DRA 120 | | 3 |
| Writing I | WRT 101 | | 3 |
| Science Elective | | | 4 |
| Electives* | | | 2–3 |
| | | | 16–17 |
| *Suggested Electives: | | | |
| Independent Studies | DRA 201 | (1–4) | |
| Ethnic Theatre | DRA 109 | (1–4) | |
| Dance, Music, Fencing | | | |
| | **Second Semester** | | |
| Intro. to Acting II | DRA 106 | | 3 |
| Stagecraft/Production II | DRA 121 | | 3 |
| Writing II | WRT 102 | | 3 |
| Science Elective | | | 4 |
| Electives* | | | 2–3 |
| | | | 15–16 |

*Suggested electives are the same as for the first semester.

| | **Third Semester** | |
|---|---|---|
| History of Theater I | DRA 240 | 3 |
| Intermediate Acting I | DRA 248 | 3 |
| Humanities I | HUM 110 | 4 |
| Social Sciences | | 3 |
| Teaching minor | | 3 |
| | | 16 |
| | **Fourth Semester** | |
| History of Theater II | DRA 241 | 3 |
| Intermediate Acting II | DRA 249 | 3 |
| Humanities II | HUM 111 | 4 |
| Social Sciences | | 3 |
| Teaching minor | | 3 |
| | | 16 |

**Drama Production**
**Associate of Arts Degree**
**For Transfer**

| Required Courses (63–66) | First Semester | Cr. Hrs. |
|---|---|---|
| Intro. to Acting I | DRA 105 | 3 |
| Make-Up | DRA 115 | 1 |
| Stagecraft/Production I | DRA 120 | 3 |
| Voice for Stage | SPE 115 | 2 |
| Writing I | WRT 101 | 3 |
| Social Sciences | | 3 |
| Electives* | | 1–2 |
| | | 16–17 |

*Suggested Electives: Music, Dance, Fencing.

| | Second Semester | |
|---|---|---|
| Intro. to Acting II | DRA 106 | 3 |
| Stagecraft/Production II | DRA 121 | 3 |
| Oral Interp. of Literature | SPE 136 | 3 |
| Writing II | WRT 102 | 3 |
| Social Sciences | | 3 |
| | | 15 |

| | Third Semester | |
|---|---|---|
| History of Theater I | DRA 240 | 3 |
| Intermediate Acting I | DRA 248 | 3 |
| Humanities I | HUM 110 | 4 |
| Science Elective | | 4 |
| Elective* | | 2–3 |
| | | 16–17 |

*Suggested Elective:

| | | |
|---|---|---|
| Independent Studies | | |
| Ethnic Theatre | DRA 201 | (1–4) |
| Dance, Music, Fencing | DRA 109 | (1–4) |

| | Fourth Semester | |
|---|---|---|
| History of Theater II | DRA 241 | 3 |
| Intermediate Acting II | DRA 249 | 3 |
| Humanities II | HUM 111 | 4 |
| Lab. Science | | 4 |
| Elective* | | 2–3 |
| | | 16–17 |

*Suggested Elective same as for third semester.

**Drama Theory**
**Associate of Arts Degree**
**For Transfer**

| Required Courses (63) | First Semester | Cr. Hrs. |
|---|---|---|
| Intro. to Acting I | DRA 105 | 3 |
| Stagecraft/Production I | DRA 120 | 3 |
| Foreign language | | 4 |
| Writing I | WRT 101 | 3 |
| Social Sciences | | 3 |
| | | 16 |

| | Second Semester | |
|---|---|---|
| Intro. to Acting II | DRA 106 | 3 |
| Stagecraft/Production II | DRA 121 | 3 |
| Foreign language | | 4 |
| Writing II | WRT 102 | 3 |
| Social Sciences | | 3 |
| | | 16 |

| | Third Semester | |
|---|---|---|
| Make-Up | DRA 115 | 1 |
| History of Theater I | DRA 240 | 3 |
| Humanities I | HUM 110 | 4 |
| Foreign language | | 4 |
| Lab. Science | | 4 |
| | | 16 |

| | Fourth Semester | |
|---|---|---|
| History of Theater II | DRA 241 | 3 |
| Humanities II | HUM 111 | 4 |
| Foreign language | | 4 |
| Science Elective | | 4 |
| | | 15 |

# Early Childhood Education

Programs offered in Early Childhood Education include teacher aide/assistant, teacher-director, self-employment; transfer to a four-year institution; and personal development in child rearing practices.

Career preparation sections are designed to give students an opportunity to prepare themselves in Early Childhood Education and Teacher Aide/Assistant.

Certificates are awarded to those successfully completing the teacher aide/assistant program. The other programs lead to an Associate of Arts degree.

Transfer programs are arranged primarily for transfer to Arizona universities. Students, however, should consult the catalog of the institution to which they plan to transfer for the first two-year requirements and programs should be arranged with an advisor.

Transfer programs offer study in the following areas:
Child Development and Family Relations; Early Childhood Education — Home Economics School; Early Childhood Education — College of Education.

**Teacher Aide/Assistant**
**Basic Certificate**
**For Direct Employment**

| Required Courses | | Cr. Hrs. |
|---|---|---|
| Human Development or | ECE 107 | |
| Child Development or | ECE 117 | |
| Effective Parenthood | ECE 114 | 3 |
| Lit. for Young Child | ECE 108 | 3 |
| Pre-School Ed. | ECE 118 | 3 |
| Tech. for Teacher Aide | ECE 126 | 3 |
| Math & Science/Young Child | ECE 124 | 3 |
| Music/Young Child | ECE 112 | 3 |
| ECE Practicum | ECE 240 | 3 |
| Language Arts/Young Child | ECE 110 | 3 |
| Electives | | 6 |
| | | 30 |

**Teacher-Director**
**Associate of Arts Degree**
**For Direct Employment**

| Required Courses | | Cr. Hrs. |
|---|---|---|
| Human Development or | ECE 107 | |
| Child Development or | ECE 117 | |
| Effective Parenthood | ECE 114 | 3 |
| Lit. for Young Child | ECE 108 | 3 |
| Lang. Arts/Young Child | ECE 110 | 3 |
| Understanding Young Child | ECE 116 | 3 |
| Music/Young Child | ECE 112 | 3 |
| Pre-School Ed. | ECE 118 | 3 |
| Supr. and Admin. | ECE 120 | 3 |
| Community Resources | ECE 122 | 3 |
| Math & Science/Young Child | ECE 124 | 3 |
| Tech. for Teacher Aides | ECE 126 | 3 |
| Planning for Play | ECE 128 | 3 |
| Current Trends in ECE | ECE 130 | 3 |
| ECE Practicum | ECE 240 | 6 |
| General Education Requirements* | | 18 |
| | | 60 |

*Select 18 hours from the following:

| | | |
|---|---|---|
| Writing | WRT | (3) |
| Math | MTH | (3) |
| Humanities | HUM | (4) |
| Music | MUS | (3) |
| Physical Education | PED | (3) |
| Art | ART | (3) |
| Language | | (4) |
| Nutrition or | HEC 114 | |
| Foods for Children | HEC 124 | (3) |

**Early Childhood Education**
**Associate of Arts Degree**
**For Transfer**

| General Education Requirements | | Cr. Hrs. |
|---|---|---|
| Writing I-II | WRT 101–102 | 6 |
| Intro. to Psychology I | PSY 100 | 3 |
| Intro. to Sociology | SOC 100 | 3 |
| Biology for Ed. Majors | LSC 112 | 3 |
| Concepts in Chemistry | CHM 130 | 3 |
| Geology for Ed. Majors | ESC 112 | 3 |
| Physics for Ed. Majors | PHY 112 | 3 |
| Humanities I-II | HUM 110–111 | 8 |
| Am. State/Local Govt. | POL 111 | 3 |
| Health | HED | 3 |
| Child Development or | ECE 117 | |
| Human Development | ECE 107 | 3 |
| | | 41 |

Note: All transfer programs take the above general education requirements. For required courses in a major field, see specific programs. Major field courses are to be added to this program.

**Early Childhood Education**
**Associate of Arts Degree**
**For Transfer to Education College**

| Required Courses | | Cr. Hrs. |
|---|---|---|
| General Education Requirement Program | | 41 |
| Anthropology | ANT | 3 |
| Math for Ed. Majors | MTH 140 | 3 |
| Geography | ESC 101, 102 or 103 | 4 |
| Electives (see advisor) | | 14 |
| | | 65 |

**Early Childhood Education**
**Associate of Arts Degree**
**For Transfer to Home Economics School**

| Required Courses | | Cr. Hrs. |
|---|---|---|
| General Education Requirement Program | | 41 |
| Anthropology | ANT | 3 |
| Understanding Young Child | ECE 116 | 3 |
| Pre-School Ed. | ECE 118 | 3 |
| Nutrition | HEC 114 | 3 |
| Electives (see advisor) | | 12 |
| | | 65 |

**Child Development and Family Relations**
**Associate of Arts Degree**
**For Transfer to Home Economics School**

| Required Courses | | Cr. Hrs. |
|---|---|---|
| General Education Requirement Program | | 41 |
| Understanding Young Child | ECE 116 | 3 |
| Perception | ART 100 | 4 |
| Pre-School Ed. | ECE 118 | 3 |
| Economics | ECO | 3 |
| Intro. Oral Communication | SPE 102 | 3 |
| Electives (see advisor) | | 8 |
| | | 65 |

# Education

Persons planning to enter the field of Education can fulfill their first two years of study requirements at Pima Community College. Students, however, should follow the first two-year requirements of the college or university to which they plan to transfer.

**Elementary or Special Education**
**For Transfer**

| Suggested Courses (60) | | Cr. Hr. |
|---|---|---|
| Biology for Ed. Majors | LSC 112 | 3 |
| Concepts in Chemistry | CHM 130 | 3 |
| Geology for Ed. Majors | ESC 112 | 3 |
| Physics for Ed. Majors | PHY 112 | 3 |
| Child Development | ECE 117 | 3 |
| Intro. Health Science | HED 136 | 3 |
| Math for Ed. Majors I-II | MTH 140, 145 | 6 |
| | | 24 |

| General Education Requirements | | |
|---|---|---|
| Humanities | HUM | 8 |
| Writing | WRT | 6 |
| Social Sciences* | | 12 |
| Electives | | 10 |
| | | 36 |

*Including two of following:

| | | |
|---|---|---|
| Intro. Cultural Anthro. | ANT 110 | (3) |
| Cultural Geography | ESC 103 | (4) |
| Intro. to Psychology I | PSY 100 | (3) |
| Intro. to Sociology | SOC 100 | (3) |

Note:

(1) If a student transfers before his junior year, he will be required to take physical education. If he has not had algebra and geometry in high school, he may be required to do so.

(2) If a student wishes, he may take American National Government (POL 110) and American State and Local Government (POL 111) as electives before transfer to fulfill the state certification requirements for elementary or special education majors.

**Secondary Education**
**For Transfer**

| General Education Requirements | Cr. Hr. |
|---|---|
| Writing | 6 |
| Humanities | 8 |
| Math or Science | 8 |
| Social Sciences* | 9 |
| Electives | 29 |
| | 60 |

*Including either:

| | | |
|---|---|---|
| Intro. Cultural Anthro. | ANT 110 | (3) |
| Intro. to Psychology I | PSY 100 | (3) |
| Intro. to Sociology | SOC 100 | (3) |

Note:

(1) If a student transfers before his junior year, he will be required to take a language and physical education until he is admitted to the College of Education. If he has not had algebra and geometry in high school, he may be required to do so.

(2) If a student wishes, he may take American National Government (POL 110) and American State and Local Government (POL 111) as electives before transfer to fulfill the state certification requirement for secondary education teachers.

# Electronics Technology

The Electronics Technology program offers many varied opportunities for the student through several certificate programs and two degree programs.

The certificate programs enable students looking for the shortest route to employment to specialize in certain areas. These credits may later be applied to degree programs if the student wishes either to return to or continue with his or her studies.

A two-year Associate of Applied Science degree program is available for students who do not anticipate transferring to a four-year technology program. Those who do plan to continue their studies at a four-year institution should enroll in the two-year Associate of Science degree program.

Extensive laboratory experiences are offered to reinforce classroom theory and develop skills in the use of basic test equipment such as multimeters, oscilloscopes and signal generators. The latest trainers and test equipment are available for use by students in advanced and specialized courses.

Students planning to enroll in an electronics program should consult with an electronics advisor so that a program can be set up to meet individual needs. Students also should plan their schedules to allow sufficient time for study — 1 to 2 hours outside study for each hour of class time.

***General Electronics**
**Basic Certificate**
**For Direct Employment**

| Suggested Course Sequence | | Cr. Hrs. |
|---|---|---|
| Electronics Math I or Algebra II | MTH 115<br>MTH 130 | 3 |
| Fundamentals of Electronics | ETR 100 | 6 |
| Electronics Math II or College Algebra | MTH 125<br>MTH 150 | 3 |
| Elec. Circuits/Systems I | ETR 105 | 6 |
| Digital Electronics | ETR 110 | 3 |
| | | 21 |

***Television Repair**
**Basic Certificate**
**For Direct Employment**

| Suggested Course Sequence | | Cr. Hrs. |
|---|---|---|
| TV Repair I/Black & White | ETR 140 | 6 |
| TV Repair/Color | ETR 145 | 6 |
| Human Relations | MAN 58 | 3 |
| | | 15 |

***Consumer Electronics**
**Basic Certificate**
**For Direct Employment**

| Suggested Course Sequence | | Cr. Hrs. |
|---|---|---|
| TV Repair Program | | 15 |
| Home Enter. Equip. Repair | ETR 150 | 6 |
| | | 21 |

*Students with no prior electronics experience or having a weak math background should take Intro. to Electronics (ETR 1) and Algebra I (MTH 70 series) as program entry prerequisites.

**Electronics Technology**
**Technical Certificate**
**For Direct Employment**

| Suggested Course Sequence (51) | First Semester | Cr. Hrs. |
|---|---|---|
| Electronics Math I or Algebra II | MTH 115<br>MTH 130 | 3 |
| Fundamentals of Electronics | ETR 100 | 6 |
| Technical Drafting I | DFT 150 | 3 |
| | | 12 |
| | **Second Semester** | |
| Electronics Math II or College Algebra | MTH 125<br>MTH 150 | 3 |
| Digital Electronics | ETR 110 | 3 |
| Electronics Circuits/Systems I | ETR 105 | 6 |
| Practical Communications or Writing I | WRT 150<br>WRT 101 | 3 |
| | | 15 |
| | **Third Semester** | |
| Electronics Math III or Trigonometry | MTH 205<br>MTH 155 | 3 |
| Electronics specialization* | ETR | 6 |
| Technical Communications or Writing II | WRT 154<br>WRT 102 | 3 |
| | | 12 |
| | **Fourth Semester** | |
| Electronics specialization* | ETR | 6 |
| Human Relations or Technical Communications | MAN 58<br>WRT 254 | 3 |
| Electronic Drafting | DFT 154 | 3 |
| | | 12 |

*Courses for specialization are:

| | |
|---|---|
| Communications Electronics | ETR 230 and 235 |
| Consumer Electronics | ETR 140, 145 and 150 |
| Digital Electronics | ETR 250 and 255 |
| Industrial Electronics | ETR 230 and 275 |

Note: F.C.C. License (ETR 290) should be considered by all communications majors. Students with no prior experience or having a weak math background should take Intro. to Electronics (ETR 1) and Algebra I (MTH 70 series) as program entry prerequisites.

**Electronics Technology**
**Associate of Applied Science Degree**
**For Direct Employment**

| Suggested Course Sequence (60–72) | First Semester | Cr. Hrs. |
|---|---|---|
| Electronics Math I or Algebra II | MTH 115<br>MTH 130 | 3 |
| Fundamentals of Electronics | ETR 100 | 6 |
| Technical Drafting I | DFT 150 | 3 |
| Practical Communications or Writing I | WRT 150<br>WRT 101 | 3 |
| Electives | | 0–3 |
| | | 15–18 |
| | **Second Semester** | |
| Electronics Math II or College Algebra | MTH 125<br>MTH 150 | 3 |
| Electronics Circuits/Systems I | ETR 105 | 6 |
| Digital Electronics | ETR 110 | 3 |
| Technical Communications or Writing II | WRT 154<br>WRT 102 | 3 |
| Electives | | 0–3 |
| | | 15–18 |
| | **Third Semester** | |
| Electronics Math III or Trigonometry | MTH 205<br>MTH 155 | 3 |
| Electronics specialization* | ETR | 6 |
| Technical Physics I | PHY 101 | 3 |
| Electives | | 3–6 |
| | | 15–18 |
| | **Fourth Semester** | |
| Electronics specialization* | ETR | 6 |
| Human Relations or Technical Communications | MAN 58<br>WRT 254 | 3 |
| Technical Physics II | PHY 102 | 3 |
| Electronic Drafting | DFT 154 | 3 |
| Electives | | 0–3 |
| | | 15–18 |

*Courses for specialization are:

| | |
|---|---|
| Communications Electronics | ETR 230 and 235 |
| Consumer Electronics | ETR 140, 145 and 150 |
| Digital Electronics | ETR 250 and 255 |
| Industrial Electronics | ETR 230 and 275 |

Note: F.C.C. License (ETR 290) should be considered by all communications majors. Students with no prior experience or having a weak mathematics background should take Intro. to Electronics (ETR 1) and Algebra I (MTH 70 series) as program entry prerequisites.

**Electronics Technology**
**Associate of Science Degree**
**For Transfer**

| Suggested Course Sequence (60–72) | First Semester | Cr. Hrs. |
|---|---|---|
| Algebra II | MTH 130 | 3 |
| Fundamentals of Electronics | ETR 100 | 6 |
| Technical Drafting I | DFT 150 | 3 |
| Writing I | WRT 101 | 3 |
| Electives* | | 0–3 |
| | | 15–18 |
| | **Second Semester** | |
| College Algebra | MTH 150 | 3 |
| Digital Electronics | ETR 110 | 3 |
| Electronics Circuits/Systems I | ETR 105 | 6 |
| Writing II | WRT 102 | 3 |
| Electives* | | 0–3 |
| | | 15–18 |
| | **Third Semester** | |
| Trigonometry | MTH 155 | 3 |
| Electronics specialization** | ETR | 6 |
| Electives* | | 6–9 |
| | | 15–18 |
| | **Fourth Semester** | |
| Electronics specialization** | ETR | 6 |
| Technical Communications | WRT 254 | 3 |
| Electronic Drafting | DFT 154 | 3 |
| Electives* | | 3–6 |
| | | 15–18 |

*Students must have 8 credits in any combination of humanities, literature, speech or philosophy and 9 credits — with at least 6 in one subject — from history, psychology, anthropology, economics or political science.

**Courses for specialization are:

| | |
|---|---|
| Communications Electronics | ETR 230 and 235 |
| Consumer Electronics | ETR 140, 145 and 150 |
| Digital Electronics | ETR 250 and 255 |
| Industrial Electronics | ETR 230 and 275 |

Note: F.C.C. License (ETR 290) should be considered by all communications majors. Students with no prior experience or having a weak math background should take Intro. to Electronics (ETR 1) and Algebra I (MTH 70 series) as program entry prerequisites.

# Emergency Medical Technology

This curriculum provides the theoretical and practical preparation to qualify graduates for immediate employment as Emergency Medical Technicians in hospitals, civil and private agencies.

This 114 clock hour, six credit hour program covers all techniques of emergency medical care currently considered within the responsibilities of the Emergency Medical Technician, as well as all operational aspects of the job which the technician will be expected to perform. Students successfully completing this program will graduate with a certificate from Pima Community College as well as an Emergency Medical Technicians Certificate from the Arizona Department of Public Safety.

**Acceptance Into Program:**

- Completion of college and health sciences applications.
- Evaluation and acceptance by program advisor.

**General Requirements:**

- Total credit: 6 credit hours.
- Work in residence: minimum 6 credit hours of major (EMT) courses to be completed in residence or challenged. (Approval required by program coordinator.)

**Restrictions:**

none.

**Minimal Grade Achievement:**

"C" level.

**Certificate**
**For Direct Employment**

| | | | Lec. | Lab | Cr. Hrs. |
|---|---|---|---|---|---|
| Emergency Medical Tech. | EMT | 51 | 4 | + 2 | 6 |

# Engineering

Students completing the two-year program should be able to transfer to a four-year college or university for further studies in Engineering. Before entering the program, each individual should consult the catalog of the institution to which he plans to transfer to make certain what courses are required there. Similar planning is necessary to qualify for specialist degrees in civil engineering, electrical engineering and other areas within the general field.

**Associate of Science Degree**
**For Transfer**

| Required Courses (68) | First Semester | Cr. Hrs. |
|---|---|---|
| Writing I | WRT 101 | 3 |
| Anal. Geometry & Calculus I | MTH 180 | 3 |
| General Chemistry I | CHM 120 | 4 |
| Engineering Graphics | ENG 120 | 3 |
| Fortran IV Programming | CSC 140 | 1 |
| Physical Ed. Elective | PED | 1 |
| | | 15 |
| | **Second Semester** | |
| Writing II | WRT 102 | 3 |
| Anal. Geometry & Calculus II | MTH 185 | 3 |
| General Chemistry II | CHM 121 | 4 |
| Introductory Mechanics | PHY 210 | 4 |
| Engineering Elective | ENG | 3 |
| Physical Ed. Elective | PED | 1 |
| | | 18 |
| | **Third Semester** | |
| Anal. Geometry & Calculus III | MTH 215 | 4 |
| Intro. Electricity & Magnetism | PHY 216 | 4 |
| Eng. Mechanics Statistics | ENG 210 | 3 |
| Engineering Elective | ENG | 3 |
| Social Sciences or Humanities Elective | | 4 |
| | | 18 |
| | **Fourth Semester** | |
| Linear Algebra & Differential | MTH 220 | 4 |
| Intro. to Waves & Heat | PHY 221 | 3 |
| Mechanics of Materials | ENG 230 | 3 |
| Eng. Mechanics-Dynamics | ENG 220 | 3 |
| Social Sciences or Humanities Elective | | 4 |
| | | 17 |

# Finance

The two-year Associate of Applied Science degree program was designed in affiliation with the various financial institutions in the Tucson area. It is flexible so as to allow for a variety of specialty options within the finance industry. These options currently include banking, savings and loan associations and credit unions. Basic and advanced certificate programs also are offered in savings and loan.

**Banking**
**Associate of Applied Science Degree**
**For Direct Employment**

| Required Courses (60) | First Semester | Cr. Hrs. |
|---|---|---|
| Prin. of Bank Operations | FIN 102 | 3 |
| Prin. of Accounting I | ACC 101 | 3 |
| Human Relations | MAN 58 | 3 |
| Writing I | WRT 101 | 3 |
| Elective* | | 3 |
| | | 15 |
| | **Second Semester** | |
| Intro. to Microeconomics | ECO 100 | 3 |
| Prin. of Accounting II | ACC 102 | 3 |
| Supervision | MAN 54 | 3 |
| Business Law I | BUS 110 | 3 |
| Elective* | | 3 |
| | | 15 |
| | **Third Semester** | |
| Intro. to Macroeconomics | ECO 101 | 3 |
| Bank Management | FIN 203 | 3 |
| Banking Electives | FIN | 6 |
| Elective* | | 3 |
| | | 15 |
| | **Fourth Semester** | |
| Money and Banking | FIN 210 | 3 |
| Banking Electives | FIN | 6 |
| Electives* | | 6 |
| | | 15 |

*Electives should include 3 credits of math.

**Credit Union**
**Associate of Applied Science Degree**
**For Direct Employment**

| Required Courses (60) | First Semester | Cr. Hrs. |
|---|---|---|
| Credit Union Basics | FIN 131 | 3 |
| Prin. of Accounting I | ACC 101 | 3 |
| Human Relations | MAN 58 | 3 |
| Business Math | BUS 51 | 3 |
| Elective | | 3 |
| | | 15 |
| | **Second Semester** | |
| Credit Union Mgmt. | FIN 132 | 3 |
| Prin. of Accounting II | ACC 102 | 3 |
| Supervision | MAN 54 | 3 |
| Writing I | WRT 101 | 3 |
| Elective | | 3 |
| | | 15 |
| | **Third Semester** | |
| Credit Union Operations* | FIN 231 | 3 |
| Business Law I | BUS 110 | 3 |
| Intro. to Microeconomics | ECO 100 | 3 |
| Installment Credit | FIN 208 | 3 |
| Elective | | 3 |
| | | 15 |
| | **Fourth Semester** | |
| Credit Union Adv. Mgmt.* | FIN 232 | 3 |
| Intro. to Macroeconomics | ECO 101 | 3 |
| Advertising | MKT 53 | 3 |
| Electives | | 6 |
| | | 15 |

*These courses are in the process of being developed.

**Savings and Loan**
**Basic Certificate**
**For Direct Employment**

| Required Courses | | Cr. Hrs. |
|---|---|---|
| Savings & Loan Business Oper. | FIN 101 | 3 |
| Insurance & Savings Accounts | FIN 104 | 3 |
| Teller Operations | FIN 106 | 3 |
| Human Relations | MAN 58 | 3 |
| | | 12 |

**Savings and Loan**
**Advanced Certificate**
**For Direct Employment**

| Required Courses | | Cr. Hrs. |
|---|---|---|
| Savings & Loan Business Oper. | FIN 101 | 3 |
| Insurance of Savings Accounts | FIN 104 | 3 |
| Real Estate Principles | RLS 65 | 4 |
| Home Mortgage Lending | FIN 205 | 3 |
| Financial Institutions | FIN 212 | 3 |
| Human Relations | MAN 58 | 3 |
| Supervision | MAN 54 | 3 |
| Writing I | WRT 101 | 3 |
| Finance Electives | FIN | 6 |
| | | 31 |

**Savings and Loan**
**Associate of Applied Science Degree**
**For Direct Employment**

| Required Courses (61) | First Semester | Cr. Hrs. |
|---|---|---|
| Savings & Loan Business Oper. | FIN 101 | 3 |
| Prin. of Accounting I | ACC 101 | 3 |
| Human Relations | MAN 58 | 3 |
| Writing I | WRT 101 | 3 |
| Elective* | | 3 |
| | | 15 |
| | **Second Semester** | |
| Intro. to Microeconomics | ECO 100 | 3 |
| Prin. of Accounting II | ACC 102 | 3 |
| Supervision | MAN 54 | 3 |
| Real Estate Principles | RLS 65 | 4 |
| Elective* | | 3 |
| | | 16 |
| | **Third Semester** | |
| Intro. to Macroeconomics | ECO 101 | 3 |
| Real Estate Law | RLS 67 | 3 |
| Home Mortgage Lending | FIN 205 | 3 |
| Installment Credit | FIN 208 | 3 |
| Insurance of Savings Accts. | FIN 104 | 3 |
| | | 15 |
| | **Fourth Semester** | |
| Real Estate Appraisals | RLS 68 | 3 |
| Insurance | FIN 216 | 3 |
| Anal. Financial Statements | FIN 217 | 3 |
| Financial Institutions | FIN 212 | 3 |
| Elective* | | 3 |
| | | 15 |

*Electives should include 3 credit hours of math.

# Fine Arts

This program provides four semesters of study appropriate for the student who plans to transfer to a four-year institution or professional school in the areas of painting, sculpture, printmaking, crafts, art history, photography, commercial art or industrial design. Students should consult the catalog of the institution to which they plan to transfer for assistance in selecting some courses.

**Associate of Arts Degree**
**For Transfer**

| Required Courses (61–65) | First Semester | Cr. Hrs. |
|---|---|---|
| Perception | ART 100 | 4 |
| Art and Culture I | ART 130 | 3 |
| Writing I | WRT 101 | 3 |
| Science or Math Elective | | 3–4 |
| Elective* | | 2–3 |
| | | 15–17 |
| | **Second Semester** | |
| Graphics I | ART 110 | 3 |
| Art and Culture II | ART 131 | 3 |
| Color and Design | ART 115 | 3 |
| Writing II | WRT 102 | 3 |
| Science or Math Elective | | 3–4 |
| | | 15–16 |
| | **Third Semester** | |
| Graphics II or | ART 210 | |
| Life Drawing | ART 213 | 3 |
| 3-D Design | ART 120 | 3 |
| Humanities I | HUM 110 | 4 |
| Social Science Elective | | 3 |
| Elective* | | 2–3 |
| | | 15–16 |
| | **Fourth Semester** | |
| Art Elective | ART | 3 |
| Art Electives | ART 200 level | 6 |
| Humanities II | HUM 111 | 4 |
| Social Science Elective | | 3 |
| | | 16 |

*Consult the four-year program requirements of the institution to which you plan to transfer.

# Fire Science

The Fire Science program prepares students for the occupation of a fire-fighter and also provides a continuing education opportunity for persons currently in fire-fighting. The program deals with the technical, managerial, para-medical and human aspects of fire-fighting tactics and the applications of modern methods of fire prevention and suppression.

At least half of the 60 credit hours required for an Associate of Science degree in Fire Science should be in courses directly related to the field. These courses prepare the graduate for service or additional responsibility in a governmental, rural, industrial or private fire department and other agencies in the fire protection field.

The other half of the program, selected after consultation with a faculty advisor, should include study in mathematics, physics, humanities, psychology, emergency medical technology, sociology and American government.

**Associate of Applied Science Degree**
**For Direct Employment**

| **Required Courses (60)** | | **Cr. Hrs.** |
|---|---|---|
| Intro. to Fire Science | FSC 51 | 3 |
| Fund. Fire Prevention | FSC 52 | 3 |
| Hazardous Mtls. I-II | FSC 53, 61 | 6 |
| Adv. Fire Prevention | FSC 54 | 3 |
| Hydraulics/Fire Suppression | FSC 62 | 3 |
| Fire Apparatus & Equip. | FSC 63 | 3 |
| Fire Protection Systems | FSC 64 | 3 |
| Building Construction | FSC 65 | 3 |
| Fire Suppression Tactics | FSC 66 | 3 |
| | | 30 |

| **General Education Requirements** | | |
|---|---|---|
| Writing I | WRT 101 | 3 |
| Algebra I | MTH 70 | 3 |
| Humanities I | HUM 110 | 4 |
| Tech. Physics I | PHY 101 | 3 |
| Electives* | | 17 |
| | | 30 |

*Suggested Electives:

| | | |
|---|---|---|
| Writing II | WRT 102 | (3) |
| Elem. Geometry | MTH 90 | (3) |
| Humanities II | HUM 111 | (4) |
| Public Safety Laws | FSC 71 | (3) |
| Police Comm./Human Relations | AJS 110 | (3) |
| Physical Fitness | PED 177 | (1) |
| Automotive Engines | AUT 210 | (3–5) |
| Supervision | MAN 54 | (3) |
| Human Relations | MAN 58 | (3) |
| Emergency Medical Tech. | EMT 51 | (6) |
| Ethnic Studies | | (3) |

# General Studies/Exploratory

Exploratory programs, meeting individual interests, may be arranged through conferences with Exploratory faculty members or members of the Student Development faculty.

# Programa de Exploración

Estudiantes que quieran cursos de diversos programas pueden inscribirse en el Programa Exploratorio. Para esto, es necesario hablar con algun profesor del Programa Exploratorio o con algun profesor de Student Development faculty.

# Geology

**Associate of Science Degree For Transfer**

| Suggested Courses (66–67) | First Semester | Cr. Hrs. |
|---|---|---|
| Intro. Geology I | ESC 120 | 4 |
| Writing I | WRT 101 | 3 |
| General Chemistry I | CHM 120 | 4 |
| Anal. Geometry/Calculus I | MTH 180 | 3 |
| | | 14 |
| | **Second Semester** | |
| Intro. Geology II | ESC 121 | 4 |
| Writing II | WRT 102 | 3 |
| General Chemistry II | CHM 121 | 4 |
| Anal. Geometry/Calculus II | MTH 185 | 3 |
| Intro. to Psychology I | PSY 100 | 3 |
| | | 17 |
| | **Third Semester** | |
| Anal. Geometry/Calculus III | MTH 215 | 4 |
| Fundamentals of Chem. I | CHM 110 | 4 |
| Intro. to Physics/Calculus I | PHY 131 | 4 |
| Engineering Graphics | ENG 120 | 3 |
| Elective in Humanities, Literature, Speech or Philos. | | 4 |
| | | 19 |
| | **Fourth Semester** | |
| Intro. to Physics/Calculus II | PHY 132 | 4 |
| Elementary Surveying | ENG 130 | 3 |
| Elective in Humanities, Literature, Speech or Philos. | | 3–4 |
| Electives in History, Psychology, Sociology, Anthropology, Economics or Political Science | | 6 |
| | | 16–17 |

Note: Students should consult the college to which they plan to transfer for requirements. A foreign language may be required in lieu of or in addition to courses listed.

# Health Sciences

Twelve Health Science programs are available at Pima Community College.

These are Dental Assisting Technology, Dental Laboratory Technology, Emergency Medical Technology, Nursing Assistant, Practical Nursing, Nursing (degree), Nursing (transfer), Operating Room Technology, Optical Laboratory Technology, Ophthalmic (Optical) Dispensing Technology, Radiologic (X-ray) Technology and Respiratory Therapy.

Students interested in entering any of the Health Science programs must apply directly with the health sciences counselor. Only those students satisfactorily completing all division entrance requirements will be considered for entrance into the programs' major courses of study. Enrollment in each program is limited on an annual basis .

**Acceptance Into College:**

Receipt of accepted college
Application by the Office of Admissions.

**Acceptance Into the Health Sciences Division:**

- Receipt of completed health sciences application.
- Receipt of verified physical examination form by licensed physician.
- Receipt of high school or college level transcripts or G.E.D. certificate.
- Receipt of placement examination results.
- Evaluation and acceptance by the Health Sciences Review Committee.

**Health Core Curriculum:**

A core curriculum operates in the Health Sciences Division providing a foundation of study and supportive-elective study to students pursuing a career in the health care industry. Three courses are offered in the core: A Survey of Health Care (HCA 53), Introduction to Health Care (HCA 54), and Independent Studies in Health Sciences (HCA 99). Course descriptions may be found under Health Sciences.

# Home Economics

The Home Economics area offers students a broad exposure to family and consumer sciences and specific opportunities in the following areas:
- Career preparation
- Transfer to a four-year institution
- Personal development for home and family living

**Career or Occupational Programs:**

Career preparation sections are designed to give students an opportunity to prepare themselves in —
- Alteration Specialist
- Professional Seamstress
- Fashion Design
- Interior Design Technician

**Transfer Programs:**

These programs are arranged primarily for transfer to Arizona universities and students should consult the catalog of the institution to which they plan to transfer for actual requirements. Programs also should be arranged with an advisor. Transfer programs offer study in the following areas —
- Merchandising and Fashion Promotion
- Interior Design
- Food, Nutrition, Dietetics
- Consumer Service in Food
- Food Service Management
- General Home Economics
- Home Economics Education
- Home Economics and Journalism
- Home Economics Extension

Child Development and Early Childhood Education programs are in a separate section of the catalog.

**Alteration Specialist**
**Basic Certificate**
**For Direct Employment**

| Required Courses | | Cr. Hrs. |
|---|---|---|
| Clothing Construction I | HEC 111 | 3 |
| History of Fashion | HEC 122 | 3 |
| Alteration & Repair | HEC 142 | 3 |
| Alteration & Designing | HEC 112 | 3 |
| Clothing Selection | HEC 131 | 3 |
| Textiles | HEC 126 | 3 |
| Suggested Electives: | | |
| Human Relations or | MAN 58 | |
| Small Business Mgmt. | MAN 52 | 3 |
| Electives (see advisor) | | 9 |
| | | 30 |

**Professional Seamstress**
**Associate of Applied Science Degree**
**For Direct Employment**

| Required Courses | | Cr. Hrs. |
|---|---|---|
| Alteration Specialist Program | | 30 |
| Clothing Construction II-III | HEC 211–212 | 6 |
| Applied Dress Design | HEC 121 | 3 |
| Psychology of Dress | HEC 132 | 3 |
| Today's World | HEC 137 | 3 |
| Co-op Training | HEC 299 | 6 |
| Electives (see advisor) | | 9 |
| | | 60 |

**Fashion Design**
**Associate of Arts Degree**
**For Direct Employment**

| Required Courses (64) | | Cr. Hrs. |
|---|---|---|
| Clothing Construction I-II | HEC 111, 211 | 6 |
| Alteration & Designing | HEC 112 | 3 |
| History of Fashion | HEC 122 | 3 |
| Applied Dress Design | HEC 121 | 3 |
| Fashion Design I-II | HEC 141, 241 | 6 |
| Clothing Selection | HEC 131 | 3 |
| Textiles | HEC 126 | 3 |
| Psychology of Dress | HEC 132 | 3 |
| Co-op Training | HEC 299 | 6 |
| Today's World | HEC 137 | 3 |
| | | 39 |

**General Education Requirements**

| | | |
|---|---|---|
| Perception | ART 100 | 4 |
| Retailing | MKT 51 | 3 |
| Advertising | MKT 53 | 3 |
| Human Relations | MAN 58 | 3 |
| Writing I or | WRT 101 | |
| Practical Communications | WRT 150 | 3 |
| Electives* | | 9 |
| | | 25 |

*Suggested Electives:

| | | |
|---|---|---|
| Stagecraft/Production I | DRA 120 | (3) |
| Graphics I | ART 110 | (3) |
| Fund. of Chemistry i | CHM 110 | (4) |
| Intro. to Psychology I | PSY 100 | (3) |
| Human Development | ECE 107 | (3) |

**Interior Design Technician**
**Associate of Arts Degree**
**For Direct Employment**

| Required Courses (64) | | Cr. Hrs. |
|---|---|---|
| Home Furnishings | HEC 125 | 3 |
| Interior Design I-III | HEC 115, 215, 216 | 9 |
| Textiles | HEC 126 | 3 |
| Co-op Training | HEC 299 | 6 |
| Today's World | HEC 137 | 3 |
| | | 24 |

**General Education Requirements**

| | | |
|---|---|---|
| Perception | ART 100 | 4 |
| Writing I or | WRT 101 | |
| Practical Communications | WRT 150 | 3 |
| Construction Drafting I | DFT 110 | 3 |
| Human Relations or | MAN 58 | |
| Small Business Mgmt. | MAN 52 | 3 |
| Suggested Electives* | | 18 |
| Other Electives | | 9 |
| | | 40 |

*Suggested Electives

| | | |
|---|---|---|
| Intro. to Psychology I | PSY 100 | (3) |
| Human Development | ECE 107 | (3) |
| Functional Design I | ART 150 | (3) |
| Functional Design II | ART 250 | (3) |
| Technical Drafting I | DFT 150 | (3) |
| Advertising | MKT 53 | (3) |

**For Transfer**

| Required Core Courses | | Cr. Hrs. |
|---|---|---|
| Home Ec. Profession | HEC 128 | 3 |
| Child Development or | ECE 117 | |
| Human Development | ECE 107 | 3 |
| Nutrition | HEC 114 | 3 |
| Home Management | HEC 117 | 3 |
| | | 12 |

| General Education Requirements | | |
|---|---|---|
| Perception | ART 100 | 4 |
| Writing I-II | WRT 101–102 | 6 |
| Intro. Oral Communication | SPE 102 | 3 |
| Humanities I-II | HUM 110–111 | 8 |
| Intro. to Chemistry I | CHM 101 | 4 |
| Intro. to Sociology | SOC 100 | 3 |
| Intro. to Psychology I | PSY 100 | 3 |
| General Biology I | LSC 103 | 4 |
| Physical Ed. Elective | PED | 1 |
| | | 48 |

Note: All transfer programs take the above general education and core requirements. For required courses in a major field, see specific programs.

**Clothing and Textiles**
**Merchandising and Fashion Promotion**
**Interior Design**
**Associate of Arts Degree**
**For Transfer**

| Required Courses | | Cr. Hrs. |
|---|---|---|
| Core and General Education Requirements | | 48 |
| Clothing Construction I-II | HEC 111, 211 | 6 |
| Clothing Selection | HEC 131 | 3 |
| Textiles | HEC 126 | 3 |
| Home Furnishings | HEC 125 | 3 |
| Electives | | 1–3 |
| | | 64–66 |

**Food, Nutrition, Dietetics**
**Consumer Service in Food**
**Food Service Management**
**Associate of Arts Degree**
**For Transfer**

| Required Courses | | Cr. Hrs. |
|---|---|---|
| Core and General Education Requirements | | 48 |
| Food Study | HEC 113 | 3 |
| Professional Food Services | HEC 214 | 3 |
| Textiles | HEC 126 | 3 |
| Meal Management | HEC 213 | 3 |
| Electives | | 4–6 |
| | | 64–66 |

**General Home Economics**
**Home Economics Education**
**Home Economics and Journalism**
**Home Economics Extension**
**Associate of Arts Degree**
**For Transfer**

| Required Courses | | Cr. Hrs. |
|---|---|---|
| Core and General Education Requirements | | 48 |
| Food Study | HEC 113 | 3 |
| Clothing Construction I | HEC 111 | 3 |
| Meal Management | HEC 213 | 3 |
| Textiles | HEC 126 | 3 |
| Electives | | 4–6 |
| | | 64–66 |

# Journalism

A two-year Liberal Arts program for students planning to enter Journalism should include courses in news writing and mass communications. Experience in producing a publication is offered through a laboratory course, JRN 57, which puts out the college newspaper "Campus News." Students planning to transfer to a four-year institution should follow the first two-year study requirements of the college or university to which they plan to transfer.

**Associate of Arts Degree**
**For Transfer**

| **Required Courses (68)** | **First Semester** | **Cr. Hrs.** |
|---|---|---|
| Expl. Mass Media | JRN 110 | 3 |
| Writing I | WRT 101 | 3 |
| Foreign language | | 4 |
| Social Science Elective | | 3 |
| Elective* | | 3 |
| | | 16 |
| | **Second Semester** | |
| Basic Reporting | JRN 101 | 3 |
| Writing II | WRT 102 | 3 |
| Foreign language | | 4 |
| Humanities I | HUM 110 | 4 |
| Social Science Elective | | 3 |
| | | 17 |
| | **Third Semester** | |
| Advanced Reporting | JRN 201 | 3 |
| Foreign language | | 4 |
| Science or Math Elective | | 4 |
| Social Science Elective | | 3 |
| Elective** | | 3 |
| | | 17 |
| | **Fourth Semester** | |
| Social Science Elective | | 3 |
| Foreign language | | 4 |
| Science or Math Elective | | 4 |
| Humanities II | HUM 111 | 4 |
| Elective** | | 3 |
| | | 18 |

*Journalism majors are expected to be able to type and OED 111 is suggested.

**Suggested electives:

| | | |
|---|---|---|
| Advertising | MKT 53 | (3) |
| Photography I | ART 140 | (3) |
| Public Relations | GEB 84 | (3) |

# Liberal Arts and Sciences

Included in the transfer program for Liberal Arts or Science majors are Behavioral or Social Sciences, Biology, Chemistry, Communicative Arts, Economics, Geography, Geology, History, Humanities, Languages, Literature, Mathematics, Philosophy, Political Science, Physics, Comparative Religions and Speech. Requirements differ slightly in the various areas and students are urged to confer with a faculty member in their proposed major area to determine specific recommendations for that field. Students, after successful completion of the program, may be eligible to transfer to upper class levels at a four-year university.

The typical baccalaureate program in Liberal Arts should include 16 hours of foreign language (all of which may be taken at the community college level), six hours of writing, eight hours of humanities, 9-12 hours of behavioral or social science and eight hours of mathematics or science, plus electives. Students, however, are urged to follow the requirements of the college or university to which they hope to transfer.

**Liberal Arts (General)**
**Associate of Arts Degree**
**For Transfer**

| **Required Courses** | | **Cr. Hrs.** |
|---|---|---|
| Writing I-II | WRT 101–102 | 6 |
| Humanities* I-II | HUM 110–111 | 8 |
| Foreign language | | 16 |
| Major Subject | | 12 |
| Math or Science** | | 6–8 |
| Behavioral or Social Science*** | | 6 |
| Electives (transferable) | | 12 |
| | | 66–68 |

*Or literature, philosophy, art, music.

**Math for B.S. science majors or 1 lab science.

***B.S. science majors need 9 hours.

Note: Use electives to start major or minor subjects. If major is not a behavioral or social science, one of the electives should be in behavioral or social science.

# Library Technician

This program prepares students for entry positions as Library Technicians in school libraries, public libraries, college and special libraries. It is designed for persons who wish to enter the library field at a level below the fifth year professional. Graduates are eligible for employment in the public services or the technical services department of any library. The program also prepares students for the Junior Federal Assistant examination with the Federal Civil Service. Options include an advanced certificate program requiring 30 credit hours and an Associate of Applied Science degree program requiring 64 credit hours.

**Advanced Certificate**
**For Direct Employment**

| Required Courses (30) | First Semester | Cr. Hrs. |
|---|---|---|
| Library Resources | LMT 50 | 3 |
| Library Public Services | LMT 52 | 3 |
| Typing II | OED 112 | 3 |
| Key Punch | CSC 50 | 3 |
| Instructional Media Tech. I | MET 81 | 3 |
| | | 15 |
| | **Second Semester** | |
| Library Serv. for Children* | LMT 53 | 4 |
| Library Tech. Services | LMT 51 | 4 |
| Word Processing | OED 122 | 4 |
| Implications of Media Tech. | MET 84 | 3 |
| | | 15 |

*This course is in the process of being developed.

**Associate of Applied Science Degree**
**For Direct Employment**

| Suggested Semester Sequence (65) | First Semester | Cr. Hrs. |
|---|---|---|
| Library Public Service | LMT 52 | 3 |
| Writing I | WRT 101 | 3 |
| Typing II | OED 112 | 3 |
| Humanities Elective | HUM | 4 |
| Social or Physical Science Elective | | 3 |
| | | 16 |
| | **Second Semester** | |
| Writing II | WRT 102 | 3 |
| Key Punch | CSC 50 | 3 |
| Library Resources | LMT 50 | 3 |
| Intro. to Computers | CSC 100 | 3 |
| Word Processing | OED 122 | 4 |
| | | 16 |
| | **Third Semester** | |
| Library Tech. Services | LMT 51 | 4 |
| Instructional Media Tech. I | MET 81 | 3 |
| Office Procedures | OED 257 | 3 |
| Humanities Elective | HUM | 4 |
| Social Science Elective | | 3 |
| | | 17 |
| | **Fourth Semester** | |
| Library Serv. for Children* | LMT 53 | 4 |
| Co-op Library Training | LMT 299 | 6 |
| Implications of Media Tech. | MET 84 | 3 |
| Science Elective | | 3 |
| | | 16 |

*This course is in the process of being developed.

# Machine Tool Technology

The Machine Tool Technology program offers a broad coverage of techniques used in metals manufacturing including machine shop, welding and sheet metal. It is accompanied by supporting courses in manufacturing processes, quality control, metallurgy and drafting. A two-year degree program is offered as well as basic certificate and technical certificate programs.

**Machine Shop Fundamentals**
**Basic Certificate**
**For Direct Employment**

| Required Courses | | Cr. Hrs. |
|---|---|---|
| Machine Shop I-II | MAC 110, 120 | 8 |
| Technical Math I-II | MTH 110, 120 | 6 |
| Technical Drafting I | DFT 150 | 3 |
| Basic Metallurgy | MAC 130 | 3 |
| | | 20 |

**Machinist's Standard, Certificate**
**Technical Certificate**
**For Direct Employment**

| Required Courses | | Cr. Hrs. |
|---|---|---|
| Machine Shop I-II | MAC 110, 120 | 8 |
| Jig & Fixture Design I-II | MAC 210, 220 | 8 |
| Quality Control | MAC 230 | 3 |
| Technical Math I-II | MTH 110, 120 | 6 |
| Basic Metallurgy | MAC 130 | 3 |
| Physical Metallurgy | MAC 135 | 3 |
| Technical Communications | WRT 154 | 3 |
| Human Relations | MAN 58 | 3 |
| Technical Drafting I-II | DFT 150–151 | 6 |
| | | 43 |

**Machine Tool Technology**
**Associate of Applied Science Degree**
**For Direct Employment**

| Required Courses (67) | First Semester | Cr. Hrs. |
|---|---|---|
| Machine Shop I | MAC 110 | 4 |
| Technical Math I | MTH 110 | 3 |
| Practical Communications | WRT 150 | 3 |
| Basic Metallurgy | MAC 130 | 3 |
| Technical Drafting I | DFT 150 | 3 |
| | | 16 |
| | **Second Semester** | |
| Machine Shop II | MAC 120 | 4 |
| Technical Math II | MTH 120 | 3 |
| Technical Communications | WRT 154 | 3 |
| Physical Metallurgy | MAC 135 | 3 |
| Technical Drafting II | DFT 151 | 3 |
| | | 16 |
| | **Third Semester** | |
| Jig & Fixture Design I | MAC 210 | 4 |
| Quality Control | MAC 230 | 3 |
| Human Relations | MAN 58 | 3 |
| Technical Physics I | PHY 101 | 3 |
| Manufacturing Processes I | MAC 240 | 3 |
| Humanities, Psychology, Sociology or Philosophy Elective | | 3 |
| | | 19 |
| | **Fourth Semester** | |
| Jig & Fixture Design II | MAC 220 | 4 |
| Intro. to Numerical Control | MAC 250 | 3 |
| Combination Welding | WLD 110 | 3 |
| Technical Physics II | PHY 102 | 3 |
| Manufacturing Processes II | MAC 245 | 3 |
| | | 16 |

# Management

Management is an occupation-oriented training program for students who plan to qualify for junior executive positions.

Options allow students to pursue a variety of areas of interest including Real Estate and Marketing. Students specializing in Fashion Merchandising work in both the Home Economics and Management area.

The two-year Real Estate program is aimed both at training persons new to the field and developing higher skill levels among those already in real estate sales and brokerage.

**Management**
**Basic Certificate**
**For Direct Employment**

| Required Courses | | Cr. Hrs. |
|---|---|---|
| Prin. of Accounting I | ACC 101 | 3 |
| Business Law I | BUS 110 | 3 |
| Intro. to Business | BUS 100 | 3 |
| Intro. to Microeconomics | ECO 100 | 3 |
| Human Relations | MAN 58 | 3 |
| | | 15 |

**Management**
**Advanced Certificate**
**For Direct Employment**

| Required Courses | | Cr. Hrs. |
|---|---|---|
| Basic Certificate Requirements | | 15 |
| Prin. of Accounting II | ACC 102 | 3 |
| Writing I | WRT 101 | 3 |
| Supervision | MAN 54 | 3 |
| Business Organ. & Mgmt. | MAN 55 | 3 |
| Salesmanship | MKT 50 | 3 |
| Intro. to Computers | CSC 100 | 3 |
| | | 33 |

**Management**
**Associate of Applied Science Degree**
**For Direct Employment**

| Required Courses (63) | First Semester | Cr. Hrs. |
|---|---|---|
| Prin. of Accounting I | ACC 101 | 3 |
| Business Math | BUS 51 | 3 |
| Writing Elective | WRT | 3 |
| General education elective* | | 3 |
| Business Elective** | | 3 |
| | | 15 |
| | **Second Semester** | |
| Prin. of Accounting II | ACC 102 | 3 |
| Business Law I | BUS 110 | 3 |
| Intro. to Microeconomics | ECO 100 | 3 |
| Business English | OED 154 | 3 |
| General education elective* | | 3 |
| | | 15 |
| | **Third Semester** | |
| Marketing | MKT 59 | 3 |
| Supervision | MAN 54 | 3 |
| Human Relations | MAN 58 | 3 |
| General education elective* | | 3 |
| Business Elective** | | 3 |
| | | 15 |
| | **Fourth Semester** | |
| Business Organ. & Mgmt. | MAN 55 | 3 |
| Salesmanship | MKT 50 | 3 |
| General education electives* | | 6 |
| Business Electives** | | 6 |
| | | 18 |

*General education electives should be selected from social sciences, political science, mathematics or business. Social sciences include anthropology, geography, government, history, psychology and sociology.

**Select business electives from business, management, real estate, and computer science courses. A total of four courses must be selected from the following:

| | | |
|---|---|---|
| Retailing | MKT 51 | (3) |
| Small Business Mgmt. | MAN 52 | (3) |
| Advertising | MKT 53 | (3) |
| Real Estate Principles | RLS 65 | (4) |
| Survey Data Processing | CSC 105 | (3) |
| Consumer Behavior | MKT 62 | (3) |

**Real Estate**
**Basic Certificate**
**For Direct Employment**

| Required Courses | | Cr. Hrs. |
|---|---|---|
| Prin. of Accounting I | ACC 101 | 3 |
| Business Law I | BUS 110 | 3 |
| Intro. to Microeconomics | ECO 100 | 3 |
| Salesmanship | MKT 50 | 3 |
| Real Estate Principles | RLS 65 | 4 |
| | | 16 |

**Real Estate**
**Advanced Certificate**
**For Direct Employment**

| Required Courses | | Cr. Hrs. |
|---|---|---|
| Basic Certificate Requirements | | 16 |
| Home Mortgage Lending | FIN 205 | 3 |
| Human Relations | MAN 58 | 3 |
| Real Estate Practices | RLS 66 | 4 |
| Real Estate Law | RLS 67 | 3 |
| Bus. & Prof. Communications | SPE 120 | 3 |
| | | 32 |

**Real Estate**
**Associate of Applied Science Degree**
**For Direct Employment**

| Required Courses (62) | First Semester | Cr. Hrs. |
|---|---|---|
| Prin. of Accounting I | ACC 101 | 3 |
| Real Estate Principles | RLS 65 | 4 |
| Business Math | BUS 51 | 3 |
| Business English | OED 154 | 3 |
| Elective* | | 3 |
| | | 16 |
| | **Second Semester** | |
| Business Law I | BUS 110 | 3 |
| Intro. to Microeconomics | ECO 100 | 3 |
| Bus. & Prof. Communications | SPE 120 | 3 |
| Real Estate Practices | RLS 66 | 4 |
| Salesmanship | MKT 50 | 3 |
| | | 16 |
| | **Third Semester** | |
| Business Law II | BUS 160 | 3 |
| Home Mortgage Lending | FIN 205 | 3 |
| Business Communications | BUS 259 | 3 |
| Electives* | | 6 |
| | | 15 |
| | **Fourth Semester** | |
| Real Estate Appraisals | RLS 68 | 3 |
| Real Estate Practicum | RLS 69 | 3 |
| Contemporary Eco. Topics | ECO 299 | 3 |
| Real Estate Law | RLS 67 | 3 |
| Elective* | | 3 |
| | | 15 |

*Four courses must be selected from the following:

| | | |
|---|---|---|
| Intro. to Cities & Comm. | SOC 99 | (3) |
| Intro. to Civil Rights | SOC 202 | (3) |
| Anal. Fin. Statements | FIN 217 | (3) |
| Construction Drafting I | DFT 110 | (3) |
| Human Relations | MAN 58 | (3) |
| Advertising | MKT 53 | (3) |
| Prin. of Accounting II | ACC 102 | (3) |
| Tax Accounting | ACC 204 | (3) |
| Intro. to Computers | CSC 100 | (3) |
| Consumer Behavior | MKT 62 | (3) |

# Mathematics

**Associate of Arts Degree**
**For Transfer**

| Suggested Courses (60–64) | Cr. Hrs. |
|---|---|
| Science/Math | 8–10 |
| Major/Minor Electives | 6–8 |
| | 14–18 |

**General Education Recommendations**

| | | |
|---|---|---|
| Writing I-II | WRT 101–102 | 6 |
| Foreign Language* | | 16 |
| Humanities or Communicative Arts Elective | | 8 |
| Social or Behavioral Science Elective** | | 12 |
| Physical Ed. Elective | | 4 |
| | | 46 |

*French, German or Russian are acceptable. Students should check language requirements at the transfer institution of their choice.

**Requirements for B.S. degree normally are 9 cr. hrs. and for B.A. degree, 13 cr. hrs. in social or behavioral science. The credits should all be in one subject or 6 cr. hrs. in one area and 7 cr. hrs. in another for the B.A.; and 6 cr. hrs. in one area and 3 cr. hrs. in another for the B.S. A semester of history and psychology are recommended.

Note: 10 units of program must be in MTH 180, 185.

# Media Technician

Upon completing the two-year Instructional Media Technology program, students will have the necessary basic knowledge and skills for entry level in the following areas: communigraphics, reprographics, telecommunications, photography and audiovisual equipment repair and maintenance.

The program is designed to prepare students for para-professional roles in educational institutions, public institutions, business and industry. Each of the areas is presented through discussion of modern techniques, and extensive laboratory experience in designing and producing instructional materials as well as in the operation of a media production center or instructional media services center.

Both a basic certificate program, requiring 21 credit hours of work, and an Associate in Applied Sciences degree program, requiring 64 credit hours, are offered.

**Basic Certificate**
**For Direct Employment**

| **Suggested Semester Sequence (21)** | **First Semester** | **Cr. Hrs.** |
|---|---|---|
| Library Public Services | LMT 52 | 3 |
| Communigraphics I | MET 50 | 3 |
| Media Technology I | MET 81 | 3 |
| | | 9 |
| | **Second Semester** | |
| Cinematography I | MET 53 | 3 |
| Repair and Maintenance | MET 70 | 3 |
| Implications of Media Tech. | MET 84 | 3 |
| Telecomm.-TV Productions | MET 90 | 3 |
| | | 12 |

**Associate of Applied Science Degree**
**For Direct Employment**

| **Suggested Semester Sequence (64)** | **First Semester** | **Cr. Hrs.** |
|---|---|---|
| Communigraphics I | MET 50 | 3 |
| Media Technology I | MET 81 | 3 |
| Writing I | WRT 101 | 3 |
| Library Public Services | LMT 52 | 3 |
| Science or Math | | 4 |
| | | 16 |
| | **Second Semester** | |
| Cinematography I | MET 53 | 3 |
| Media Technology II | MET 82 | 3 |
| Writing II | WRT 102 | 3 |
| Humanities I | HUM 110 | 4 |
| Social Science Elective | | 3 |
| | | 16 |
| | **Third Semester** | |
| Repair and Maintenance | MET 70 | 3 |
| Telecomm.-TV Productions | MET 90 | 3 |
| Intro. to Computers | CSC 100 | 3 |
| Science or Math | | 4 |
| Elective | | 3 |
| | | 16 |
| | **Fourth Semester** | |
| Implications of Media Tech. | MET 84 | 3 |
| Co-op Training | MET 299 | 6 |
| Art | ART | 3 |
| Elective | | 4 |
| | | 16 |

# Military Science

The general objective of the Military Science (R.O.T.C.) program is to furnish leaders suitable for commissioning as Reserve Officers. Intermediate objectives are to develop self discipline, integrity, a sense of responsibility, and capacities for thoughtful and decisive leadership.

Uniforms, insignia of rank and instructional materials used in Military Science are furnished by the Department of Army without cost to the student.

Students completing the two-year program and continuing training at a four-year institution will receive a subsistence pay of $100 per month, plus some $265 per month for prescribed summer training between the junior and senior years.

All Military Science courses are taught at the University of Arizona.

# Music

The suggested Music program provides the first two years of music experiences generally required by higher institutions of learning. Arizona's three universities also require an examination of all students who transfer applied work. Because of different or specific degree requirements, it is necessary that each student consult with the music faculty for advice on specific programs. Students also should follow the first two-year study requirements of the four-year institution to which they plan to transfer.

**Associate of Arts Degree**
**For Transfer**

| Required Courses (64) | First Semester | Cr. Hrs. |
|---|---|---|
| Music Theory I | MUS 103 | 4 |
| Band or | MUS 120 | |
| Chorale | MUS 130 | 1 |
| Applied Music/Private Instr. | MUS 145 | 1 |
| Piano Class I | MUS 141 | 1 |
| Writing I | WRT 101 | 3 |
| Science Elective | | 4 |
| | | 14 |
| | **Second Semester** | |
| Music Theory II | MUS 204 | 4 |
| Band or | MUS 120 | |
| Chorale | MUS 130 | 1 |
| Applied Music/Private Instr. | MUS 145 | 1 |
| Piano Class II | MUS 142 | 1 |
| Writing II | WRT 102 | 3 |
| Science Elective | | 4 |
| Speech Elective | SPE | 3 |
| | | 17 |
| | **Third Semester** | |
| Music Theory III | MUS 205 | 4 |
| History & Lit. of Music I | MUS 201 | 3 |
| Band or | MUS 120 | |
| Chorale | MUS 130 | 1 |
| Applied Music/Private Instr. | MUS 145 | 1 |
| Applied Music (Piano) | MUS 145 | 1 |
| Humanities I | HUM 110 | 4 |
| Social Science Elective | | 3 |
| | | 17 |
| | **Fourth Semester** | |
| Music Theory IV | MUS 206 | 4 |
| History & Lit. of Music II | MUS 202 | 3 |
| Band or | MUS 120 | |
| Chorale | MUS 130 | 1 |
| Applied Music/Private Instr. | MUS 145 | 1 |
| Applied Music (Piano) | MUS 145 | 1 |
| Humanities II | HUM 111 | 4 |
| Elective | | 2 |
| | | 16 |

# Nursing Careers

Nursing career programs prepare graduates to practice as a Nursing Assistant, Practical Nurse and Associate Degree Nurse. Both the Nursing Assistant and Practical Nurse curriculum are designed to permit students, if they later wish, to move upward in their nursing career.

# Nursing Assistant

This curriculum provides the theoretical and practical preparation to qualify graduates for immediate employment as Nursing Assistants in hospitals and nursing homes. The graduate is prepared to give patient care under the direct supervision of a licensed nurse.

The program consists of one semester on campus in affiliated hospitals. As a part of the total nursing careers program, some of the course work can be applied towards further education in the nursing field. Students having satisfactorily completed this curriculum will graduate with a Nursing Assistant Certificate.

**Acceptance Into Program:**

- Completion of college and division of health sciences acceptance requirements.
- Physical examination form to include T.B. screening.
- Receipt of placement examination results in math and reading comprehension (minimum requirements of eighth grade level).

**General Requirements:**

- Total credit: 12 credit hours.
- Work in residence: minimum 8 credit hours of major (NRS and HCA) courses to be completed in residence.

**Restrictions:**

None.

**Minimal Grade Achievement:**

"C" level.

**Basic Certificate**
**For Direct Employment**

| Required Courses | | | Lec. | Lab | Cr. Hrs. |
|---|---|---|---|---|---|
| Prin. of Human Anatomy | LSC | 50 | 3 | 3 | 4 |
| Intro. to Health Care | HCA | 54 | 3 | 0 | 3 |
| Nursing Assistant | NRS | 50 | 2 | 9 | 5 |
| | | | | | 12 |

Note: Nursing Assistant graduates requiring additional preparation for the Practical Nurse or Associate degree programs should enroll in:

| | | |
|---|---|---|
| Reading Improvement | REA 100 series | (4) |
| Health Careers Math | MTH 65 | (3) |
| Fund. Chemistry I | CHM 110 | (4) |

Upon completing the prerequisites for the practical nurse or Associate degree nursing programs, students may take the two credit hour Nursing Seminar (NRS 55) upon the recommendation of his or her nursing instructor and receive credit for Nursing I (NRS 70) in those programs.

# Practical Nurse

This curriculum provides the theoretical and practical preparation to qualify graduates for immediate employment as Practical Nurses in hospitals, clinics and medical offices. The graduate is prepared to give quality nursing care, as defined by the State Board of Nursing, and works under the direct supervision of the registered nurse or physician.

The program consists of three semesters on campus and in affiliated hospitals. Nursing courses must be taken in sequence as each course builds upon the previous one. Required general education courses in each semester must be completed or taken concurrently with the nursing course. Students having satisfactorily completed this curriculum will graduate with an advanced certificate from Pima Community College and be eligible to take the State Board examination for licensure as an L.P.N.

**Acceptance Into Program:**

- Completion of college and division of health sciences acceptance requirements.
- Receipt of placement examination results in reading and math comprehension (minimum requirements at the 12th grade reading level and 70 per cent in math test).
- Physical examination to include T.B. screening.

**General Requirements:**

- Total credit: 42 credit hours.
- Work in residence: minimum 23 credit hours of major (NRS) courses to be completed in residence.

**Restrictions:**

- Correspondence study: maximum 3 credit hours.
- Extension study: maximum 19 credit hours (including correspondence study).

**Minimal Grade Achievement:**

"C" level.

**Advanced Certificate**
**For Direct Employment**

| Required Courses (41) | First Semester | | Lec. | Lab | Cr. Hrs. |
|---|---|---|---|---|---|
| Prin. of Human Anatomy | LSC | 50 | 3 | 3 | 4 |
| Intro. to Health Care | HCA | 54 | 3 | 0 | 3 |
| Writing I or | WRT | 101 | 3 | 0 | |
| Practical Communications | WRT | 150 | 3 | 0 | 3 |
| Nursing I | NRS | 70 | 3 | 9 | 6 |
| | | | | | 16 |
| **Second Semester** | | | | | |
| Intro. to Infectious Diseases | LSC | 117 | 2 | 0 | 2 |
| Intro. to Psychology I | PSY | 100 | 3 | 0 | 3 |
| Intro. to Sociology | SOC | 100 | 3 | 0 | 3 |
| Nursing II | NRS | 72 | 4 | 9 | 7 |
| | | | | | 15 |
| **Third Semester** (10 Weeks) | | | | | |
| Practical Nursing III | NRS | 75 | 12 | 24 | 10 |

Note: Upon completing the prerequisites (chemistry and evidence of 13th grade reading ability) and the first year supportive courses (Anatomy and Physiology I, II) of the Associate Degree program, a student is eligible to apply for admission to the third semester of that program.

# Nursing

This curriculum provides the theoretical and practical preparation to qualify graduates to give quality nursing care within the broad legal nursing functions and to offer this care with some degree of independence under the supervision of an experienced professional nurse.

The program consists of four semesters on campus and in affiliated hospitals. Nursing courses must be taken in sequence as each course builds upon the previous one. Required general education courses in each semester must be completed or taken concurrently with the nursing course. Students satisfactorily completing this curriculum will graduate with an Associate of Science degree in Nursing and be eligible to take the State Registered Nurse licensing examination.

**Acceptance Into Program:**

- Completion of college and division of health sciences acceptance requirements.
- Physical examination to include T.B. screening.
- One year of chemistry (within the last five years).
- One year of math (including algebra).
- Placement examination results in math and reading comprehension with minimum requirements of 13th grade level.

**General Requirements:**

- Total credit: 67 credit hours.
- Work in residence: minimum, 33 credit hours of major (NRS) courses to be completed in residence.

**Restrictions:**

- Correspondence study: maximum 6 credit hours.
- Extension study: maximum 34 credit hours (including correspondence study).

**Minimal Grade Achievement:**

"C" level.

**Associate of Science Degree For Direct Employment**

| Required Courses (67–68) | First Semester | Lec. | Lab | Cr. Hrs. |
|---|---|---|---|---|
| Anatomy/Physiology I | LSC 120 | 3 | + 3 | 4 |
| Intro. to Health Care | HCA 54 | 3 | + 0 | 3 |
| Writing I | WRT 101 | 3 | + 0 | 3 |
| Nursing I | NRS 70 | 3 | + 9 | 6 |
| | | | | 16 |
| | **Second Semester** | | | |
| Anatomy/Physiology II | LSC 121 | 3 | + 3 | 4 |
| Intro. to Psychology I | PSY 100 | 3 | + 0 | 3 |
| Intro. to Sociology | SOC 100 | 3 | + 0 | 3 |
| Nursing II | NRS 72 | 4 | + 9 | 7 |
| | | | | 17 |
| | **Third Semester** | | | |
| Writing II | WRT 102 | 3 | + 0 | 3 |
| Microbiology I | LSC 207 | 3 | + 3 | 4 |
| A.D. Nursing III | NRS 80 | 5 | + 16 | 10 |
| | | | | 17 |
| | **Fourth Semester** | | | |
| A.D. Nursing IV | NRS 82 | 5 | + 16 | 10 |
| Science Elective | | | | 3–4 |
| Elective | | | | 4 |
| | | | | 17–18 |

**Pre-Baccalaureate For Transfer**

| Required Courses (66) | | Cr. Hrs. |
|---|---|---|
| Fund. Chemistry I-II | CHM 110–111 | 8 |
| Anatomy/Physiology I-II | LSC 120–121 | 8 |
| Microbiology I-II | LSC 207–208 | 8 |
| Human Development | ECE 107 | 3 |
| Child Development | ECE 117 | 3 |
| Gen. Genetics | LSC 210 | 4 |
| | | 34 |
| **General Education Requirements** | | |
| Writing I-II | WRT 101–102 | 6 |
| Intro. to Psychology I-II | PSY 100–101 | 6 |
| Intro. to Sociology | SOC 100 | 3 |
| U.S. Social Problems | SOC 101 | 3 |
| Humanities I-II | HUM 110–111 | 8 |
| Intro. Oral Communications | SPE 102 | 3 |
| Intro. Cultural Anthro. | ANT 110 | 3 |
| | | 32 |

Note: This pre-nursing curriculum meets the first two-year requirements for the baccalaureate degree in nursing at Arizona State University and the University of Arizona. General requirements for admission into the pre-nursing program include testing for reading and mathematic ability, completion of the Health Science application, a physical examination and a personal interview. The pre-nursing program of study includes general science and humanities courses selected to prepare students for advanced professional course work.

# Office Occupations

A wide variety of courses and programs is available in the secretarial and clerical fields. Two-year programs leading to an Associate of Applied Science degree are available in the areas of administrative assistant, executive secretary, general secretary, legal secretary and medical secretary. One year programs leading to an advanced certificate are offered for clerk-typist and receptionist. Certificate and degree programs also are offered for bilingual secretary.

The office occupations curriculum provides training in shorthand, typewriting, business and management subjects. Students also acquire skill in filing, using transcribing equipment and operating office machines. Two-year programs also include a minimum of 18 credits in general education: six in communications; three in mathematics; six or more in business, management or economics; and three or four in humanities, psychology, sociology or philosophy.

**Clerk-Typist**
**Advanced Certificate Program**
**For Direct Employment**

| Required Courses (33) | First Semester | Cr. Hrs. |
|---|---|---|
| Typing II | OED 112 | 3 |
| Business Math | BUS 51 | 3 |
| Prin. of Accounting I | ACC 101 | 3 |
| Business English | OED 154 | 3 |
| Human Relations | MAN 58 | 3 |
| | | 15 |
| | **Second Semester** | |
| Calculating Machines | OED 121 | 2 |
| Word Processing | OED 122 | 4 |
| Office Procedures | OED 257 | 3 |
| Business Communications | BUS 259 | 3 |
| Typing III | OED 252 | 3 |
| Records Management | OED 103 | 3 |
| | | 18 |

**Receptionist (Medical, Legal, General)**
**Advanced Certificate**
**For Direct Employment**

| Required Courses (30) | First Semester | Cr. Hrs. |
|---|---|---|
| Business English | OED 154 | 3 |
| Typing II | OED 112 | 3 |
| Business Math | BUS 51 | 3 |
| Office Procedures | OED 257 | 3 |
| Elective* | | 3 |
| | | 15 |
| | **Second Semester** | |
| Prin. of Accounting I or Business Communications | ACC 101 BUS 259 | 3 |
| Word Processing | OED 122 | 4 |
| Calculating Machines | OED 121 | 2 |
| Human Relations | MAN 58 | 3 |
| Records Management | OED 103 | 3 |
| | | 15 |

*For medical receptionist, the elective should be Medical Office Procedures (OED 166).

For legal receptionist, the elective should be Legal Secretarial Procedures I (OED 250).

**Administrative Assistant**
**Associate of Applied Science Degree**
**For Direct Employment**

| Required Courses (64–65) | First Semester | Cr. Hrs. |
|---|---|---|
| Business English | OED 154 | 3 |
| Typing II | OED 112 | 3 |
| Business Math | BUS 51 | 3 |
| Bus. & Prof. Communication | SPE 120 | 3 |
| Reading Improvement | REA 100 series | 4 |
| | | 16 |
| | **Second Semester** | |
| Typing III | OED 252 | 3 |
| Records Management | OED 103 | 3 |
| Human Relations | MAN 58 | 3 |
| Intro. to Computers | CSC 100 | 3 |
| Business Communications | BUS 259 | 3 |
| | | 15 |
| | **Third Semester** | |
| Business Law I | BUS 110 | 3 |
| Calculating Machines | OED 121 | 2 |
| Supervision | MAN 54 | 3 |
| Prin. of Accounting I | ACC 101 | 3 |
| Office Procedures | OED 257 | 3 |
| Intro. to Microeconomics | ECO 100 | 3 |
| | | 17 |
| | **Fourth Semester** | |
| Business Law II | BUS 160 | 3 |
| Prin. of Accounting II | ACC 102 | 3 |
| Word Processing | OED 122 | 4 |
| Business Organ. & Mgmt. | MAN 55 | 3 |
| General Ed. Elective* | | 3–4 |
| | | 16–17 |

*General education elective can be selected from:

| | | |
|---|---|---|
| Humanities I | HUM 110 | (4) |
| Intro. to Psychology I | PSY 100 | (3) |
| Intro. to Sociology | SOC 100 | (3) |
| Intro. to Philosophy I | PHI 101 | (3) |

**General Secretary**
**Associate of Applied Science Degree**
**For Direct Employment**

| Required Courses (63–65) | First Semester | Cr. Hrs. |
|---|---|---|
| Business English | OED 154 | 3 |
| Shorthand I | OED 101 | 3 |
| Typing I | OED 111 | 3 |
| Business Math | BUS 51 | 3 |
| Elective* | | 3–4 |
| | | 15–16 |
| | **Second Semester** | |
| Shorthand II | OED 102 | 3 |
| Typing II | OED 112 | 3 |
| Calculating Machines | OED 121 | 2 |
| Records Management | OED 103 | 3 |
| Word Processing | OED 122 | 4 |
| | | 15 |
| | **Third Semester** | |
| Typing III | OED 252 | 3 |
| Shorthand III | OED 253 | 3 |
| Office Procedures | OED 257 | 3 |
| Prin. of Accounting I | ACC 101 | 3 |
| Intro. to Computers or | CSC 100 | |
| Intro. to Business | BUS 100 | 3 |
| Elective | | 3 |
| | | 18 |
| | **Fourth Semester** | |
| Human Relations | MAN 58 | 3 |
| Business Law I | BUS 110 | 3 |
| Transcription | OED 264 | 3 |
| Business Communications | BUS 259 | 3 |
| General Ed. Elective** | | 3–4 |
| | | 15–16 |

*Recommended: Reading Improvement (REA 100 series).
**General education elective can be selected from:

| | | |
|---|---|---|
| Humanities I | HUM 110 | (4) |
| Intro. to Psychology I | PSY 100 | (3) |
| Intro. to Sociology | SOC 100 | (3) |
| Intro. to Philosophy I | PHI 101 | (3) |

**Executive, Legal, Medical Secretary**
**Associate of Applied Science Degree**
**For Direct Employment**

| Required Courses (60–62) | First Semester | Cr. Hrs. |
|---|---|---|
| Business English | OED 154 | 3 |
| Shorthand II | OED 102 | 3 |
| Typing II | OED 112 | 3 |
| Business Math | BUS 51 | 3 |
| Elective* | | 3–4 |
| | | 15–16 |
| | **Second Semester** | |
| Business Communications | BUS 259 | 3 |
| Shorthand III | OED 253 | 3 |
| Typing III | OED 252 | 3 |
| Human Relations | MAN 58 | 3 |
| Prin. of Accounting I | ACC 101 | 3 |
| | | 15 |
| | **Third Semester** | |
| Word Processing | OED 122 | 4 |
| Calculating Machines | OED 121 | 2 |
| Business Law I | BUS 110 | 3 |
| Option 1 | | 3 |
| Option 2 | | 3 |
| | | 15 |
| | **Fourth Semester** | |
| Records Management | OED 103 | 3 |
| General Ed. Elective** | | 3–4 |
| Option 3 | | 3 |
| Option 4 | | 3 |
| Option 5 | | 3 |
| | | 15–16 |

*Recommended: Reading Improvement (REA 100 series).
**General education elective can be selected from:

| | | |
|---|---|---|
| Humanities I | HUM 110 | (4) |
| Intro. to Psychology I | PSY 100 | (3) |
| Intro. to Sociology | SOC 100 | (3) |
| Intro. to Philosophy I | PHI 101 | (3) |

Note: Students interested in a secretarial specialization should choose appropriate courses from the three options given for Executive, Legal and Medical Secretary —

**Executive Secretary**

| Option | | Units |
|---|---|---|
| 1 | Office Procedures (OED 257) | (3) |
| 2 | Intro. to Business (BUS 100) | (3) |
| or | Intro. to Computers (CSC 100) | (3) |
| 3 | Transcription (OED 264) | |
| or | Prin. of Accounting II (ACC 102) | (3) |
| 4–5 | Electives | (3) |

**Legal Secretary**

| Option | | |
|---|---|---|
| 1 | Office Procedures (OED 257) | (3) |
| 2 | Legal Secretarial Procedures I (OED 250) | (3) |
| 3 | Legal Secretarial Procedures II (OED 251) | (3) |
| 4 | Business Law II (BUS 160) | |
| or | Criminal Law I (AJS 172) | (3) |
| 5 | Transcription (OED 264) | (3) |

**Medical Secretary**

| Option | | |
|---|---|---|
| 1 | Medical Office Procedures (OED 166) | (3) |
| 2 | Medical Terms (OED 255) | (3) |
| 3 | Medical Transcription (OED 256) | (3) |
| 4–5 | Electives | (6) |

**Bilingual Secretary**
**Basic Certificate**
**For Direct Employment**

| Required Courses | | Cr. Hrs. |
|---|---|---|
| Business English | OED 154 | 3 |
| Commercial Spanish | SPA 30 | 2 |
| Inter. Spanish I or II | SPA 210 or 211 | 4 |
| Office Procedures | OED 257 | 3 |
| | | 12 |

*Students also may take Spanish 102 (for native speakers), Spanish 205 or 225, depending on their entry level.

Note: Spanish 111 or equivalent is a prerequisite.

**Bilingual Secretary**
**Advanced Certificate**
**For Direct Employment**

| Required Courses (39–40) | | Cr. Hrs. |
|---|---|---|
| Business English | OED 154 | 3 |
| Elementary Spanish II | SPA 101 | 4 |
| Typing III | OED 252 | 3 |
| Business Communications | BUS 259 | 3 |
| Inter. Spanish I | SPA 210 or 102 | 4 |
| Commercial Spanish | SPA 30 | 2 |
| Inter. Spanish II* or | SPA 211 | |
| Inter. Spanish Comp. & Con. I | SPA 225 | 3–4 |
| Office Procedures | OED 257 | 3 |
| Commercial Spanish II** | SPA | 3 |
| Elective | | 2 |
| | | 30–31 |

Following courses to be added if not previously taken:

| | | |
|---|---|---|
| Shorthand I | OED 101 | 3 |
| Shorthand II | OED 102 | 3 |
| Shorthand III | OED 253 | 3 |
| | | 9 |

*Students also may take Spanish 205, depending on entry level.

**Course being developed.

Note: Spanish 111 or equivalent and Typing II or equivalent are prerequisites.

**Bilingual Secretary**
**Associate in Applied Science Degree**
**For Direct Employment**

| Required Courses (62–63) | First Semester | Cr. Hrs. |
|---|---|---|
| Typing II | OED 112 | 3 |
| Shorthand I or | OED 101 | |
| Business Math | BUS 51 | 3 |
| Business English | OED 154 | 3 |
| Elem. Spanish II or Int. Span. | SPA 111 | |
| for Native Speakers I | SPA 101 | 4 |
| General Education Elective* | | 3 |
| | | 16 |
| | **Second Semester** | |
| Typing III | OED 252 | 3 |
| Shorthand II | OED 102 | 3 |
| Business Math | BUS 51 | 3 |
| Business Communications | BUS 259 | 3 |
| Inter. Spanish I or Int. Span. | SPA 210 | |
| for Native Speakers II | SPA 102 | 4 |
| | | 16 |
| | **Third Semester** | |
| Human Relations | MAN 58 | 3 |
| Calculating Machines | OED 121 | 2 |
| Commercial Spanish I | SPA 30 | 2 |
| Shorthand III | OED 253 | 3 |
| Inter. Spanish II or | SPA 211 | |
| Int. Span. Comp. & Con. I | SPA 225 | 3–4 |
| Elective | | 2 |
| | | 15–16 |
| | **Fourth Semester** | |
| Office Procedures | OED 257 | 3 |
| Commercial Spanish II** | SPA | 3 |
| Imaginative Writing | SPA 205 | 3 |
| Records Management | OED 103 | 3 |
| General Education Elective*** | | 3 |
| | | 15 |

*General Education Elective: 3 units may be selected from the following areas — humanities, psychology, sociology and philosophy.

**Course being developed.

***General Education Electives: select three units from Accounting 1 (ACC 101), Business Law I (BUS 110) or economics.

Note: Prerequisites for the program are Typing I and Spanish 110 or equivalent.

# Operating Room Technology

This curriculum provides the theoretical and practical preparation to qualify graduates for immediate employment as Operating Room Technologists in hospitals, clinics, medical offices or for transfer into specialized four-year programs.

The total program consists of three semesters on campus including a minimum of 500 hours of externship practicum in an affiliated hospital operating room department. Students having satisfactorily completed all required prerequisites will be scheduled to enter the hospital portion of their practicum beginning with the third semester. Graduates will be qualified for an advanced certificate in Operating Room Technology.

**Acceptance Into Program:**

- Completion of college and division of health sciences acceptance requirements.
- One year of algebra.
- One year of chemistry.
- One semester of biology or zoology.

**General Requirements:**

- Total credit: 40 credit hours.
- Work in residence: minimum 17 credit hours of major (ORT) courses to be completed in residence. (Approval required by program coordinator.)

**Restrictions:**

- Correspondence study: maximum 3 credit hours.
- Extension study: maximum 13 hours (including correspondence study).

**Minimal Grade Achievement:**

"C" level.

**Advanced Certificate For Direct Employment**

| Required Courses (40) | First Semester | Lec. | Lab | Cr. Hrs. |
|---|---|---|---|---|
| Intro. to Health Care | HCA 54 | 3 | + 0 | 3 |
| Writing I | WRT 101 | 3 | + 0 | 3 |
| Intro. to Psychology I | PSY 100 | 3 | + 0 | 3 |
| Prin. Human Anatomy | LSC 50 | 3 | + 3 | 4 |
| | | | | 13 |
| | **Second Semester** | | | |
| Basic Surgical Tech. | ORT 52 | 2 | + 10 | 5 |
| Surgical Biology | ORT 53 | 3 | + 0 | 3 |
| Surgical Procedures | ORT 54 | 3 | + 0 | 3 |
| Surgical Anatomy | ORT 55 | 3 | + 3 | 4 |
| | | | | 15 |
| | **Third Semester** | | | |
| Hospital Externship Prac. | ORT 91 | 4 | + 32 | 12 |

# Optical Laboratory Technology and Ophthalmic Dispensing Technology

The first year of this program provides the theoretical and practical preparation to qualify graduates for employment as Optical Laboratory Technicians. With completion of the second year, the graduate will qualify for employment as an Ophthalmic Dispenser and/or Contact Lens Technician in private offices and clinics. Other opportunities may be found as private practitioners, optical laboratory managers, ophthalmic sales representatives and ophthalmic research technicians.

The Optical Laboratory program consists of two semesters of theory and laboratory practice on campus. Graduates will receive a basic certificate in Optical Laboratory Technology. Two additional semesters of theory and practical laboratory on campus will provide the graduate with an Associate of Science degree in Ophthalmic Dispensing Technology. In order to establish private practice in Arizona, the graduate must complete 24 calendar months of apprenticeship as required by the Arizona State Board of Dispensing Opticians.

**Acceptance Into Program:**

- Completion of college and division of health sciences acceptance requirements.
- One year of math (including algebra).
- Receipt of placement examination results in math and reading comprehension.

**General Requirements:**

- Total credit:

OPTICAL LABORATORY — 31 credit hours.

OPHTHALMIC DISPENSING — 64 credit hours.

- Work in residence:

OPTICAL LABORATORY — minimum 15 credit hours of major (ODT) and related courses to be completed in residence or challenged.

OPHTHALMIC DISPENSING — minimum 44 credit hours of major (ODT) and related courses to be completed in residence.

**Restrictions:**

- Correspondence Study:

OPTICAL LABORATORY — maximum 3 credit hours.

OPHTHALMIC DISPENSING — maximum 6 credit hours.

- Extension Study:

OPHTHALMIC DISPENSING — maximum 22 credit hours (including correspondence study).

**Minimal Grade Achievement:**

"C" level.

**Optical Laboratory Technology**
**Basic Certificate**
**For Direct Employment**

| Required Courses (31) | First Semester | Lec. | Lab | Cr. Hrs. |
|---|---|---|---|---|
| Writing I | WRT 101 | 3 | 0 | 3 |
| Algebra I | MTH 70 | 3 | 0 | 3 |
| Fund. Physics | PHY 105 | 3 | 3 | 4 |
| Optical Orient. I | ODT 51 | 5 | 3 | 6 |
| | | | | 16 |
| | **Second Semester** | | | |
| Practical Communications | WRT 150 | 3 | 0 | 3 |
| Algebra II | MTH 130 | 3 | 0 | 3 |
| Social Science Elective | | 3 | 0 | 3 |
| Optical Orient. II | ODT 52 | 3 | 0 | 3 |
| Optical Lab I | ODT 53 | 0 | 5 | 3 |
| | | | | 15 |

**Ophthalmic Dispensing Technology**
**Associate of Science Degree**
**For Direct Employment**

| Required Courses (64) | | Lec. | Lab | Cr. Hrs. |
|---|---|---|---|---|
| Certificate Requirements | | | | 31 |
| | **Third Semester** | | | |
| Optical Dispensing I | ODT 54 | 4 | 6 | 6 |
| Contact Lens Ant. & Phy. | ODT 55 | 4 | 0 | 4 |
| Opthalmic Assistant | ODT 56 | 2 | 3 | 3 |
| Business or Mktg. Elective* | | 3 | 0 | 3 |
| | | | | 16 |
| | **Fourth Semester** | | | |
| Small Business Mgmt. | MAN 52 | 3 | 0 | 3 |
| Contact Lenses | ODT 57 | 4 | 3 | 5 |
| Optical Dispensing II | ODT 58 | 4 | 0 | 4 |
| Senior Seminar | ODT 59 | 2 | 0 | 2 |
| Co-op Ophthalmic Dis. | ODT 299 | 0 | 15 | 3 |
| | | | | 17 |

*Coordinator's approval needed.

# Park/Forest Service Technician

This program is offered in cooperation with the western regional office of the U.S. National Park Service and is geared to providing the student with skills needed to accomplish a variety of tasks under the direction of a district ranger. These include working on fire fighting crews, search and rescue, conservation, public information, aiding in law enforcement, campground supervision and maintenance, and projects involving the preservation and restoration of buildings and historical sites.

**Associate of Science Degree**
**For Direct Employment**

| Required Courses (65) | First Semester | Cr. Hrs. |
|---|---|---|
| Ecology I | LSC 101 | 4 |
| Writing I | WRT 101 | 3 |
| Intro. to Parks/Recreation | REC 101 | 3 |
| Survival | REC 118 | 2 |
| Federal Lands/Mgmt. | LSC 76 | 1 |
| Outdoor Rec.-Ed. | REC 115 | 3 |
| | | 16 |
| | **Second Semester** | |
| Ecology II | LSC 102 | 4 |
| Tech. Communications | WRT 154 or 254 | 3 |
| Group Leadership | REC 102 | 2 |
| Rec. Admin. & Finance | REC 103 | 3 |
| Intro. Oral Communications | SPE 102 | 3 |
| Fed. Lands & Urbanization | LSC 77 | 1 |
| | | 16 |
| | **Spring Recess** | |
| Fed. Lands/Fire Control | LSC 78 | 2 |
| Fed. Lands/Visitor Services | LSC 79 | 1 |
| | | 3 |
| | **Third Semester** | |
| Algebra I or<br>Algebra II or<br>College Algebra | MTH 70<br>MTH 130<br>MTH 150 | 3 |
| Intro. to Game Mgmt. | LSC 173 | 3 |
| Geology Western U.S. | ESC 70 | 3 |
| Western Land Vertebrates | LSC 172 | 3 |
| Public Relations | REC 74 | 3 |
| | | 15 |
| | **Fourth Semester** | |
| Con. Natural Resources | LSC 170 | 3 |
| Survey Western Flora | LSC 171 | 3 |
| Cultural Geography* | ESC 103 | 4 |
| Adv. Federal Lands | LSC 80 | 1 |
| Elective | | 4 |
| | | 15 |

*Introduction to Cultural Anthropology (ANT 110) may be substituted.

# Physical Education

The Physical Education program is based on the philosophy of acquiring a leisure-time education for life with classes providing skill development. Options available under the Physical Education program are service activity classes; special interest classes; and teaching majors and minors.

Students planning to enroll in physical education courses should first consult with a faculty member for specific information. Requirements include providing the Student Health Services Office with a current, valid medical examination showing acceptable health standards and dated prior to enrollment; and obtaining health insurance which is available during registration.

Some courses may require a special fee or special dress to insure safety.

**Associate of Arts Degree**
**For Transfer**

| Required Courses (60) | | Cr. Hrs. |
|---|---|---|
| Intro. to Leisure Ed. | PED 139 | 3 |
| Elem. School Phys. Ed. | PED 130 | 3 |
| Professional Activities | PED 140–143 | 12 |
| Practicum | PED 1–4 | 4 |
| Phys. Ed. History | PED 149 | 2 |
| Facilities | PED 120 | 2 |
| | | 26 |

| General Education Requirements | | |
|---|---|---|
| Writing I-II | WRT 101–102 | 6 |
| Algebra II | MTH 130 | 3 |
| Intro. to Psychology I | PSY 100 | 3 |
| Humanities I-II | HUM 110–111 | 8 |
| Anatomy & Physiology I-II | LSC 120–121 | 8 |
| National Government | POL 110 | 3 |
| Electives* | | 3 |
| | | 34 |

*Suggested Electives for a minimum of three credits:

| | | |
|---|---|---|
| Sports Officiating | PED 145 | (2) |
| Dance | PED 144 | (2) |
| Athletic Training | PED 125 | (2) |
| Co-op Training | PED 299 | (3–12) |
| Intro. to Sociology | SOC 100 | (3) |
| Human Biology | LSC 58 | (3) |
| Intro. Health Science | HED 136 | (3) |
| Prep. for Teaching | HED 137 | (3) |
| Child Development | ECE 117 | (3) |

# Physics

**Associate of Science Degree**
**For Transfer**

| Suggested Courses (61–68) | | Cr. Hrs. |
|---|---|---|
| Anal. Geometry/Calculus I-II | MTH 180, 185 | 6 |
| Intro. Mechanics | PHY 210 | 4 |
| Differential Equations | MTH 220 | 4 |
| Electricity & Magnetism | PHY 216 | 4 |
| Waves and Heat | PHY 221 | 3 |
| Modern Physics | PHY 230 | 3 |
| Electronics | ETR | 3 |
| | | 27 |

| General Education Recommendations | | |
|---|---|---|
| Writing I-II | WRT 101–102 | 6 |
| Humanities I-II | HUM 110–111 | 8 |
| Social Science Elective | | 3 |
| Foreign language | | 8–16 |
| Physical Ed. Elective | PED | 2 |
| Elective* | | 6 |
| | | 33–41 |

*(Can be used in place of 2 years language)

# Pre-Environmental Design

This is a preparatory program leading to studies in architecture, urban design or landscape architecture. Students should consult the catalog of the four-year institution which they might plan to attend for required courses.

**Associate of Arts Degree**
**For Transfer**

| Required Courses (65) | First Semester | Cr. Hrs. |
|---|---|---|
| Perception | ART 100 | 4 |
| Writing I | WRT 101 | 3 |
| Math Elective | MTH | 3 |
| Social Science Elective | | 3 |
| Elective in program of interest | | 3 |
| | | 16 |
| | **Second Semester** | |
| Graphics I | ART 110 | 3 |
| Photography I or | ART 140 | |
| Crafts | ART 160 to 190 | 3 |
| Writing II | WRT 102 | 3 |
| Math Elective | MTH | 3 |
| Social Science Elective | | 3 |
| | | 15 |
| | **Third Semester** | |
| Art and Culture I | ART 130 | 3 |
| Functional Design I or | ART 150 | |
| Dome Building | ART 151 | 3 |
| Graphics II or | ART 210 | |
| Color and Design | ART 115 | 3 |
| Humanities I | HUM 110 | 4 |
| Introductory Physics I or | PHY 121 | |
| Intro. Physics/Calculus | PHY 131 | 4 |
| | | 17 |
| | **Fourth Semester** | |
| Art and Culture II | ART 131 | 3 |
| Functional Design II | ART 250 | 3 |
| Art Elective | ART 115, 120, 212, 213 or 215 | 3 |
| Humanities II | HUM 111 | 4 |
| Introductory Physics II or | PHY 122 | |
| Intro. Physics/Calculus | PHY 132 | 4 |
| | | 17 |

# Pre-Law

Colleges of law usually have no specific pre-legal course requirements. Students interested in pursuing a legal career are urged to select courses which would reflect a well-rounded general education with perhaps an emphasis on history, political science and economics. A four-year college degree generally is required to enter a college of law as well as an acceptable score on the Law School Admissions Test.

Each law school determines its own requirements for grade point average. Students can select from the following courses:

**For Transfer**

| Suggested Courses | | Cr. Hrs. |
|---|---|---|
| Writing I-II | WRT 101–102 | 6 |
| College Algebra | MTH 150 | 3 |
| Intro. to Politics | POL 100 | 3 |
| National Government | POL 110 | 3 |
| State & Local Govt. | POL 111 | 3 |
| Comparative Politics | POL 120 | 3 |
| Int'l. Relations | POL 130 | 3 |
| Minority Groups | POL 140 | 3 |
| Independent Study | POL 149 | 3 |
| Immigration Law | POL 50 | 3 |
| Intro. to Sociology | SOC 100 | 3 |
| U.S. Social Problems | SOC 101 | 3 |
| Humanities I-II | HUM 110–111 | 4–8 |
| Western Civil. I-II | HIS 101–102 | 6 |
| Am. Civilization I-II | HIS 143–144 | 6 |
| U.S. History I-II | HIS 141–142 | 6 |
| Math Elective | MTH | 3–6 |
| Economics Elective | ECO | 3–9 |
| Intro. to Psychology I | PSY 100 | 3 |

# Pre-Medical and Pre-Dental

Minimum requirements for admission to a medical school have been established by the Association of American Medical Colleges and the council on medical education of the American Medical Association. Those for admission to a dental school have been established by the council on dental education of the American Dental Association.

While the minimum requirements are less than a bachelor's degree, all leading medical schools require a bachelor's degree as a prerequisite for students seeking admission. The medical associations strongly urge students to acquire a broad general education in all areas, particularly in the social or behavioral sciences and humanities rather than concentrate their studies in the sciences.

The completion of four years of college work with a bachelor's degree will not assure admission to a medical school. Admission to such schools is based on several factors including the quality of the student's work in college and his rank on the Medical College Admissions Test.

Admission into dental schools depends on the Dental Admission Testing Program.

Courses offered at Pima Community College include those normally required for the first two years of a four-year curriculum leading to a B.S. degree in biology, zoology, chemistry or physics. The following courses, which lead to an Associate of Science degree, are recommended for students who plan to transfer to a four-year institution to complete their pre-professional course requirements.

**Associate of Science Degree For Transfer**

| Required Courses (68) | First Semester | Cr. Hrs. |
|---|---|---|
| Algebra II | MTH 130 | 3 |
| General Chemistry I | CHM 120 | 4 |
| Writing I | WRT 101 | 3 |
| Suggested Electives*: | | |
| Intro. to Psychology I | PSY 100 | 3 |
| Humanities I | HUM 110 | 4 |
| | | 17 |
| | **Second Semester** | |
| General Chemistry II | CHM 121 | 4 |
| Organismic Biology I | LSC 205 | 4 |
| College Algebra** | MTH 150 | 3 |
| Writing II | WRT 102 | 3 |
| Suggested Elective*: | | |
| Humanities II | HUM 111 | 4 |
| | | 18 |
| | **Third Semester** | |
| Organic Chemistry I | CHM 240 | 4 |
| Organismic Biology II | LSC 206 | 4 |
| Introductory Physics I | PHY 121 | 4 |
| Suggested Electives*: | | |
| Intro. to Psychology I | PSY 101 | 3 |
| Cultural Anthropology | ANT 210 | 3 |
| | | 18 |
| | **Fourth Semester** | |
| Organic Chemistry II | CHM 241 | 4 |
| Introductory Physics II | PHY 122 | 4 |
| General Genetics | LSC 210 | 4 |
| Suggested Elective*: | | |
| Intro. to Sociology | SOC 100 | 3 |
| | | 15 |

*For alternate course electives in Humanities and Social Sciences, consult the college catalog of the medical or dental school of your choice.

**Mathematics requirements differ for medical schools. Consult the catalog of the medical school of your choice.

# Pre-Medical Technology

Students wishing to pursue a course of study leading toward a medical technology degree and/or certification should consider the following courses. However, specific requirements of the institution granting the degree may vary and students should check the catalog of the institution to which they plan to transfer. A background of high school algebra, biology and chemistry is recommended.

**For Transfer**

| Suggested Courses (67) | First Semester | Cr. Hrs. |
|---|---|---|
| Writing I | WRT 101 | 3 |
| Algebra II or | MTH 130 | |
| College Algebra | MTH 150 | 3 |
| General Chemistry I | CHM 120 | 4 |
| Human Anatomy/Phy. I | LSC 120 | 4 |
| Social Science Elective | | 3 |
| | | 17 |
| | **Second Semester** | |
| Writing II | WRT 102 | 3 |
| College Algebra or | MTH 150 | |
| Introductory Statistics | MTH 210 | 3 |
| General Chemistry II | CHM 121 | 4 |
| Human Anatomy/Phy. II | LSC 121 | 4 |
| Social Science Elective | | 3 |
| | | 17 |
| | **Third Semester** | |
| Organic Chemistry I | CHM 240 | 4 |
| Microbiology I | LSC 207 | 4 |
| Humanities I | HUM 110 | 4 |
| Trigonometry or | MTH 155 | |
| Introductory Statistics | MTH 210 | 3 |
| Social Science Elective | | 3 |
| | | 18 |
| | **Fourth Semester** | |
| Organic Chemistry II | CHM 241 | 4 |
| Microbiology II | LSC 208 | 4 |
| Humanities II | HUM 111 | 4 |
| Intro. to Computers or | CSC 100 | |
| Fortran IV Programming | CSC 140 | 3 |
| | | 15 |

Note: Additional courses available at Pima which may be required are a foreign language, Introductory Physics (PHY 121, 122), General Genetics (LSC 210) and physical education classes.

# Pre-Pharmacy

As one of the basic health professions, pharmacy offers a wide range of career choices to the student interested in the delivery of health care and services. Among career choices open to the graduate pharmacist are clinical pharmacy, governmental service (i.e., Food and Drug Administration) and pharmaceutical research with public and private agencies. The graduate pharmacist additionally is prepared to pursue further study leading to advanced degrees in the pharmaceutical and related biomedical sciences.

A five-year curriculum became mandatory for the pharmacy degree in 1960. Colleges of pharmacy vary in the requirement of one or two years pre-pharmacy before admission. The student is urged to contact the college of his choice for specific pre-pharmacy requirements. The following courses, offered at Pima Community College, meet the two-year pre-pharmacy requirement of the University of Arizona College of Pharmacy.

**For Transfer**

| Required Courses (63) | First Semester | Cr. Hrs. |
|---|---|---|
| Algebra II | MTH 130 | 3 |
| General Chemistry I | CHM 120 | 4 |
| Writing I | WRT 101 | 3 |
| Suggested Electives*: | | |
| Intro. to Psychology I | PSY 100 | 3 |
| Humanities I | HUM 110 | 4 |
| | | 17 |
| | **Second Semester** | |
| General Chemistry II | CHM 121 | 4 |
| College Algebra | MTH 150 | 3 |
| Introductory Physics I | PHY 121 | 4 |
| Suggested Electives*: | | |
| Intro. to Psychology II | PSY 101 | 3 |
| Humanities II | HUM 111 | 4 |
| | | 18 |
| | **Third Semester** | |
| Organic Chemistry I | CHM 240 | 4 |
| Introductory Physics II | PHY 122 | 4 |
| Trigonometry | MTH 155 | 3 |
| Suggested Elective*: | | |
| Intro. to Sociology | SOC 100 | 3 |
| | | 14 |
| | **Fourth Semester** | |
| Organic Chemistry II | CHM 241 | 4 |
| Topics in Calculus | MTH 175 | 3 |
| Human Anatomy I | LSC 120 | 4 |
| Suggested Elective*: | | |
| Intro. to Macroeconomics | ECO 101 | 3 |
| | | 14 |

*Check the College of Pharmacy to which you plan to transfer for alternate suggested electives.

# Pre-Veterinary

Career options open to graduate veterinarians include private practice in large and small animal clinics; college instruction; veterinary practice in the Agricultural Research Service, U.S. Department of Agriculture; livestock management; and veterinary microbiology and pathology.

Minimum standards for admission to veterinary schools have been established by the American Veterinary Medical Association. Generally, before the student is considered for admission to a veterinary school, he must have completed not less than two pre-professional years of college credit (60 semester credits). The following courses, offered at Pima Community College, are suggested for students interested in pursuing a career in veterinary medicine. Students, however, are urged to contact the school of their choice to determine specific admission requirements.

**For Transfer**

| Suggested Courses (68) | First Semester | Cr. Hrs. |
|---|---|---|
| Algebra II | MTH 130 | 3 |
| General Chemistry I | CHM 120 | 4 |
| Writing I | WRT 101 | 3 |
| Suggested Electives*: | | |
| Intro. to Psychology I | PSY 100 | 3 |
| Humanities I | HUM 110 | 4 |
| | | 17 |
| | **Second Semester** | |
| General Chemistry II | CHM 121 | 4 |
| Organismic Biology I | LSC 205 | 4 |
| College Algebra** | MTH 150 | 3 |
| Writing II | WRT 102 | 3 |
| Suggested Elective*: | | |
| Humanities II | HUM 111 | 4 |
| | | 18 |
| | **Third Semester** | |
| Organic Chemistry I | CHM 240 | 4 |
| Organismic Biology II | LSC 206 | 4 |
| Introductory Physics I | PHY 121 | 4 |
| Suggested Electives*: | | |
| Intro. to Psychology II | PSY 101 | 3 |
| Cultural Anthropology | ANT 210 | 3 |
| | | 18 |
| | **Fourth Semester** | |
| Organic Chemistry II | CHM 241 | 4 |
| Introductory Physics II | PHY 122 | 4 |
| General Genetics | LSC 210 | 4 |
| Suggested Elective*: | | |
| Intro. to Sociology | SOC 100 | 3 |
| | | 15 |

*For alternate course electives in Humanities and Social Sciences consult the catalog of the veterinary school of your choice.

**Mathematics requirements differ for veterinary schools. Consult the catalog of the veterinary school of your choice.

Note: Additional courses available at Pima which may be required are microbiology I (LSC 207), speech (SPE 102) and physical education classes.

# Radiologic Technology

This curriculum provides the theoretical and practical preparation to qualify graduates for immediate employment as Radiologic Technologists in hospitals, clinics, medical offices or for transfer into specialized four-year programs.

The total program consists of four semesters on campus and a minimum of 2,200 hours of externship practicum in an affiliated hospital radiology department. Students having successfully completed all required prerequisites will be scheduled to enter the hospital portion of their practicum beginning with the third semester. Graduates will be qualified for the Associate of Science degree in Radiologic Technology.

**Acceptance Into Program:**

- Completion of college and division of health sciences acceptance requirements.
- Physical examination to include full-size chest x-ray and C.B.C. reports.
- High school mathematics — algebra and geometry required.
- One year of chemistry.
- One semester of biology or zoology.

**General Requirements:**

- Total credit: 105 credit hours.
- Work in residence: minimum of 75 credit hours of major (RAD) courses to be completed in residence, 30 of which may be challenged. (Approval required by program coordinator.)

**Restrictions:**

- Correspondence study: maximum 6 credit hours.
- Extension study: maximum 27 credit hours (including correspondence study).

**Minimal Grade Achievement:**

"C" level.

**Associate of Science Degree**
**For Direct Employment**

| Required Courses (105) | First Semester | Lec. | Lab | Cr. Hrs. |
|---|---|---|---|---|
| Writing I | WRT 101 | 3 | 0 | 3 |
| Intro. to Health Care | HCA 54 | 3 | 0 | 3 |
| Algebra II | MTH 130 | 3 | 0 | 3 |
| Human Anat. & Phys. I | LSC 120 | 3 | 3 | 4 |
| Radiographic Fund. | RAD 71 | 3 | 3 | 4 |
| | | | | 17 |
| | **Second Semester** | | | |
| Fundamental Physics | PHY 105 | 3 | 3 | 4 |
| Human Anat. & Phys. II | LSC 121 | 3 | 3 | 4 |
| Rad. Processing & Tech. | RAD 72 | 3 | 3 | 4 |
| Rad. Positioning I | RAD 73 | 3 | 3 | 4 |
| | | | | 16 |
| | **Third Semester** | | | |
| Writing II | WRT 102 | 3 | 0 | 3 |
| Rad. Positioning II | RAD 81 | 4 | 3 | 5 |
| Radiologic Physics I | RAD 82 | 4 | 3 | 5 |
| Clinical Procedures I | RAD 83 | 0 | 6 | 2 |
| Rad. Therapy/Biology | RAD 84 | 3 | 0 | 3 |
| | | | | 18 |
| | **Fourth Semester** | | | |
| Intro. to Psychology I | PSY 100 | 3 | 0 | 3 |
| Rad. Positioning III | RAD 85 | 4 | 3 | 5 |
| Clinical Procedures II | RAD 86 | 0 | 6 | 2 |
| Radiologic Physics II | RAD 88 | 4 | 3 | 5 |
| Elective* | | 3 | 0 | 3 |
| | | | | 18 |

*(Coordinator's permission required)

| | Fifth Semester (Summer) | | | |
|---|---|---|---|---|
| Hospital Extern. Pract. I | RAD 91 | 0 | 40 | 12 |
| | **Sixth Semester** | | | |
| Hospital Extern. Pract. II | RAD 92 | 0 | 40 | 12 |
| | **Seventh Semester** | | | |
| Hospital Extern. Pract. III | RAD 93 | 0 | 40 | 12 |

# Recreation

Recreation or the use of leisure time is becoming one of the fastest growing facets of American life. With the increased interest in recreation is a need for trained recreation personnel — trained not only in the technical aspects of the field, but in leadership as well.

Recreational programs at Pima Community College are divided into three areas: degree programs for recreational leader and natural resource recreation, with both aimed at direct employment; and the pre-professional transfer program.

Students enrolled in the programs will be able to enter the career ladder at any stage functioning as a recreation attendant, park aide, activity specialist, facility manager or natural resource technician. With increased education and recreational experience, the student will be able to enter positions requiring more responsibility on the career ladder approach.

Graduates planning to enter positions with state, municipal or federal agencies will be required to take Civil Service examinations.

**Natural Resource Recreation**
**Associate of Applied Science Degree**
**For Direct Employment**

| Required Courses(63) | | Cr. Hrs. |
|---|---|---|
| Intro. to Recreation | REC 101 | 3 |
| Ecology I-II | LSC 101–102 | 8 |
| Group Leadership | REC 102 | 2 |
| Admin. & Finance | REC 103 | 3 |
| Outdoor Recreation | REC 115 | 3 |
| Survival | REC 118 | 2 |
| Electives* | | 30 |
| | | 51 |
| **General Education Requirements** | | |
| Writing | WRT 101, 154 or WRT 101–102 | 6 |
| College Algebra | MTH 150 | 3 |
| Bus. & Prof. Communication | SPE 120 | 3 |
| | | 12 |

*Recommended electives for a minimum of 30 credits:

| | | |
|---|---|---|
| Human Relations | MAN 58 | (3) |
| Facilities | REC 120 | (2) |
| Park Administration | REC 59 | (3) |
| Conservation | REC 70 | (3) |
| Rec. Systems/Mgmt. | REC 52 | (3) |
| Public Relations | REC 74 | (3) |
| Arizona Flora | REC 71 | (3) |
| Recreational Activities | REC 150 to 256 | (1–4) |
| Water Recreation | REC 75 | (3) |
| Co-op Training | REC 299 | (3–12) |

Note: Employment requirements vary depending upon the degree of responsibility. Among employment possibilities are park attendant, guide, wrangle, outdoor recreation facilities management, conservation technician, campground caretaker, game protector, fish warden, wildlife aide and hunter safety coordinator.

**Recreation Leader**
**Associate of Applied Science Degree**
**For Direct Employment**

| Required Courses (60–63) | | Cr. Hrs. |
|---|---|---|
| Intro. to Recreation | REC 101 | 3 |
| Admin. & Finance | REC 103 | 3 |
| Group Leadership | REC 102 | 2 |
| Survival | REC 118 | 2 |
| Outdoor Recreation | REC 115 | 3 |
| Ecology I-II | LSC 101–102 | 8 |
| Recreation Activities | REC 150 to 256 | 1–4 |
| Electives* | | 26 |
| | | 48–51 |

| General Education Requirements | | |
|---|---|---|
| Writing | WRT 101, 154 or WRT 101–102 | 6 |
| College Algebra | MTH 150 | 3 |
| Bus. & Prof. Communication | SPE 120 | 3 |
| | | 12 |

*Recommended electives for a minimum of 26 credits:

| | | |
|---|---|---|
| Facilities | REC 120 | (2) |
| Recreation Games | REC 119 | (2) |
| Drug Education | REC 121 | (2) |
| Program Planning | REC 114 | (3) |
| Sports Officiating | REC 145 | (2) |
| Rec. for Special Groups | REC 116 | (3) |
| Arts & Crafts | REC 51 | (3) |
| Dance | REC 144 | (2) |
| Stagecraft I | DRA 120 | (3) |
| Child Development | REC 117 | (3) |
| Co-op Training | REC 299 | (3–12) |
| Recreational Activities | REC 150 to 256 | (1–3) |

Note: Employment possibilities include youth organization, community centers, commercial recreation areas, playgrounds, amusements, camp sites, sports specialist, crafts specialist, life guard, industrial plants and camp counselors.

**Pre-Professional Recreation**
**Associate of Applied Science Degree**
**For Transfer**

| Required Courses (62) | | Cr. Hrs. |
|---|---|---|
| Intro. to Recreation | REC 101 | 3 |
| Ecology I-II | LSC 101–102 | 8 |
| Group Leadership | REC 102 | 2 |
| Admin. & Finance | REC 103 | 3 |
| Survival | REC 118 | 2 |
| Outdoor Recreation | REC 115 | 2 |
| | | 20 |

| General Education Requirements | | |
|---|---|---|
| Writing I-II | WRT 101–102 | 6 |
| Public Speaking | SPE 110 | 3 |
| College Algebra | MTH 150 | 3 |
| Electives* | | 30 |
| | | 42 |

*To be selected from catalog of institution to which student is planning to transfer.

Note: Employment requirements vary depending upon the degree of responsibility. Among employment possibilities are community centers, nature centers guide, camp counselor, industrial plants, youth agencies and sports specialist.

# Respiratory Therapy

This curriculum provides the theoretical and practical preparation to qualify graduates for immediate employment as Respiratory Therapists in hospitals, clinics, medical offices or for transfer into specialized four-year programs.

The total program consists of two semesters of supportive course work followed by a summer session and two semesters of major curriculum work. Students having successfully completed all required prerequisites will be scheduled to enter the hospital portion of their practicum beginning with the first semester for the core curriculum. Graduates will be qualified for the Associate of Science degree in Respiratory Therapy. Students needing to complete only the summer session and the last two semesters will be qualified for a certificate in Respiratory Therapy. Graduates will be eligible to apply for the National Registry of Inhalation Therapy (ARIT).

**Acceptance Into Program (Major Curriculum):**

- Completion of college and division of health sciences acceptance requirements.
- Receipt of high school or college level transcripts to indicate the student —
  Has successfully completed the support course work, or
  Is a registered nurse, or
  Is a college graduate holding a degree in a biological science, or
  Is a college graduate holding a degree in liberal arts.
- Receipt of placement examination results in math and reading comprehension.

**General Requirements:**

- Total credit:
  CERTIFICATE — 41 credit hours
  ASSOCIATE DEGREE — 75 credit hours
- Work in residence: minimum 41 credit hours of major (RTH) courses to be completed in residence.

**Restriction:**

Correspondence study: maximum 6 credit hours
Extension study: maximum 34 credit hours (including correspondence study).

**Minimal Grade Achievement:**

"C" level.

**Certificate**
**For Direct Employment**

| Required Courses (34) | First Semester | Lec. | Lab | Cr. Hrs. |
|---|---|---|---|---|
| Intro. to Health Care | HCA 54 | 3 | 0 | 3 |
| Human Ana. & Phys. I | LSC 120 | 3 | 3 | 4 |
| Algebra I | MTH 70 | 3 | 0 | 3 |
| Fund. Chemistry I | CHM 110 | 3 | 3 | 4 |
| Writing I | WRT 101 | 3 | 0 | 3 |
| | | | | 17 |
| | **Second Semester** | | | |
| Writing II | WRT 102 | 3 | 0 | 3 |
| Human Ana. & Phys. II | LSC 121 | 3 | 3 | 4 |
| Fund. Chemistry II | CHM 111 | 3 | 3 | 4 |
| Intro. to Psychology I | PSY 110 | 3 | 0 | 3 |
| Humanities Elective | HUM | 3 | 0 | 3 |
| | | | | 17 |

**Associate of Science Degree**
**For Direct Employment**

| Required Courses (75) | | Lec. | Lab | Cr. Hrs. |
|---|---|---|---|---|
| Certificate Requirements | | | | 34 |
| | **Third Semester** (Summer) | | | |
| Intro. to Respiratory Ther. | RTH 71 | 3 | 6 | 5 |
| Respiratory Physiology | RTH 82 | 5 | 0 | 5 |
| | | | | 10 |
| | **Fourth Semester** | | | |
| Diseases I | RTH 86 | 4 | 0 | 4 |
| Clinical Medicine | RTH 73 | 3 | 0 | 3 |
| Respiratory Care I | RTH 83 | 4 | 3 | 5 |
| Clinical Procedures | RTH 91 | 0 | 15 | 5 |
| | | | | 17 |
| | **Fifth Semester** | | | |
| Diseases II | RTH 89 | 4 | 0 | 4 |
| Respiratory Care II | RTH 84 | 4 | 3 | 5 |
| Clinical Procedures II | RTH 92 | 0 | 15 | 5 |
| | | | | 14 |

Note: In the third and fourth semesters, the student should spend 3 hours a day, 5 days a week in clinical procedures. Clinical hours will be flexible so that a student would need spend only as much time in a clinical setting as necessary to successfully complete each clinical objective.

# Social Services

The Social Services program qualifies students for employment in a variety of community service agencies which deal with mental health, welfare, child care, education, retardation, counseling and community organization. Agencies offering job possibilities are connected with city, county, state and school governments; religious groups; private organizations; neighborhood councils; and other social action groups.

The Associate degree graduate is a relatively new addition to the human services team, but the field for him currently is expanding on the local and national level due to a concentrated effort to approach social problems on a more human and individual basis. Job responsibilities for the graduate include working directly with clients, handling initial interviews, collecting data, making home visits, making recommendations for staff action, and easing communication channels between the professional worker and the client.

Various study programs have been designed to meet the different needs of students. Both a one-year certificate program and a two-year Associate of Arts program are available. Students planning to transfer to four-year colleges or universities can satisfy their freshman and sophomore requirements at Pima, but should check the first two-year requirements of the university they plan to attend.

A subspecialty in drug counseling is available within the Social Services program. This course of study includes units on various treatment modalities, the physiological and psychological effects of drugs, the current legislation and legal aspects of the drug situation in this country, case management of clients, and other topics important for the effective functioning of the counselor.

The various study programs require that students receive at least six units of field experience in a social service agency as part of the study process.

**Social Services**
**Basic Certificate**
**For Direct Employment**

| Required Courses | | Cr. Hrs. |
|---|---|---|
| Intro. Social Welfare | SSE 133 | 3 |
| Casework Methods | SSE 134 | 3 |
| Group Work | SSE 235 | 3 |
| Community Organization | SSE 216 | 3 |
| Co-op Training | SSE 299 | 6 |
| Writing I-II | WRT 101–102 | 6 |
| Electives | | 6 |
| | | 30 |

**Social Services (Subspecialty in Drug Counseling)**
**Advanced Certificate**
**For Direct Employment**

| Required Courses | | Cr. Hrs. |
|---|---|---|
| Intro. Social Welfare | SSE 133 | 3 |
| Casework Methods | SSE 134 | 3 |
| Drugs in Am. Society | SSE 115 | 3 |
| Political/Legal Aspects Drug Use | SSE 127 | 3 |
| Group Work | SSE 235 | 3 |
| Evaluation/Support Drug User | SSE 217 | 3 |
| Treatment Drug Abuser | SSE 218 | 3 |
| Co-op Training | SSE 299 | 6 |
| Writing I-II | WRT 101–102 | 6 |
| Community Organization | SSE 216 | 3 |
| | | 36 |

**Social Services**
**Associate of Arts Degree**
**For Direct Employment**

| Required Courses (60) | | Cr. Hrs. |
|---|---|---|
| Intro. Social Welfare | SSE 133 | 3 |
| Casework Methods | SSE 134 | 3 |
| Group Work | SSE 235 | 3 |
| Community Organization | SSE 216 | 3 |
| Co-op Training | SSE 299 | 6 |
| | | 18 |
| **General Education Requirements** | | |
| Writing I-II | WRT 101–102 | 6 |
| Oral Communication | SPE 102 | 3 |
| Intro. Psychology I | PSY 100 | 3 |
| Intro. Sociology | SOC 100 | 3 |
| Electives | | 27 |
| | | 42 |

**Social Services (Subspecialty in Drug Counseling)**
**Associate of Arts Degree**
**For Direct Employment**

| Required Courses (60) | | Cr. Hrs. |
|---|---|---|
| Intro. Social Welfare | SSE 133 | 3 |
| Casework Methods | SSE 134 | 3 |
| Drugs in Am. Society | SSE 115 | 3 |
| Political/Legal Aspects Drug Use | SSE 127 | 3 |
| Group Work | SSE 235 | 3 |
| Community Organization | SSE 216 | 3 |
| Evaluation/Support of Drug User | SSE 217 | 3 |
| Treatment of Drug Abuser | SSE 218 | 3 |
| Co-op Training | SSE 299 | 6 |
| | | 30 |
| **General Education Requirements** | | |
| Writing I-II | WRT 101–102 | 6 |
| Oral Communication | SPE 102 | 3 |
| Intro. Psychology I | PSY 100 | 3 |
| Intro. Sociology | SOC 100 | 3 |
| Electives | | 15 |
| | | 30 |

# Speech

The two-year degree program assists students preparing for careers requiring extensive interaction with the public: business, law, education, politics, public relations, sales and theology. The student who plans to transfer to a four-year institution will find the program includes courses generally required of a Speech major in the first four semesters of study. However, the student should check the specific requirements of the institution to which he plans to transfer.

The speech curriculum is designed to improve the student's skills in public address, interpersonal and group communication, and to develop his understanding of communication behavior in social and career situations.

**Associate of Arts Degree**
**For Transfer**

| Suggested Semester Sequence (68) | First Semester | Cr. Hrs. |
|---|---|---|
| Intro. to Oral Communications | SPE 102 | 3 |
| Forensics | SPE 125 | 1 |
| Writing I | WRT 101 | 3 |
| Foreign language | | 4 |
| Science Elective | | 4 |
| Elective | | 3 |
| | | 18 |
| | **Second Semester** | |
| Public Speaking | SPE 110 | 3 |
| Writing II | WRT 102 | 3 |
| Foreign language | | 4 |
| Science Elective | | 4 |
| Intro. to Logic as a suggested elective | PHI 120 | 3 |
| | | 17 |
| | **Third Semester** | |
| Voice and Diction | SPE 105 | 2 |
| Humanities I | HUM 110 | 4 |
| Intro. to Psychology I | PSY 100 | 3 |
| Foreign language | | 4 |
| Small Group Discussion as a suggested elective | SPE 130 | 3 |
| | | 16 |
| | **Fourth Semester** | |
| Oral Interp. of Literature | SPE 136 | 3 |
| Humanities II | HUM 111 | 4 |
| Intro. to Psychology II | PSY 101 | 3 |
| Foreign language | | 4 |
| Elective | | 3 |
| | | 17 |

# Welding

Welding courses and equipment have been expanded and programs now are offered for a basic certificate, a technical certificate and an Associate of Applied Science degree.

**Basic Certificate**
**For Direct Employment**

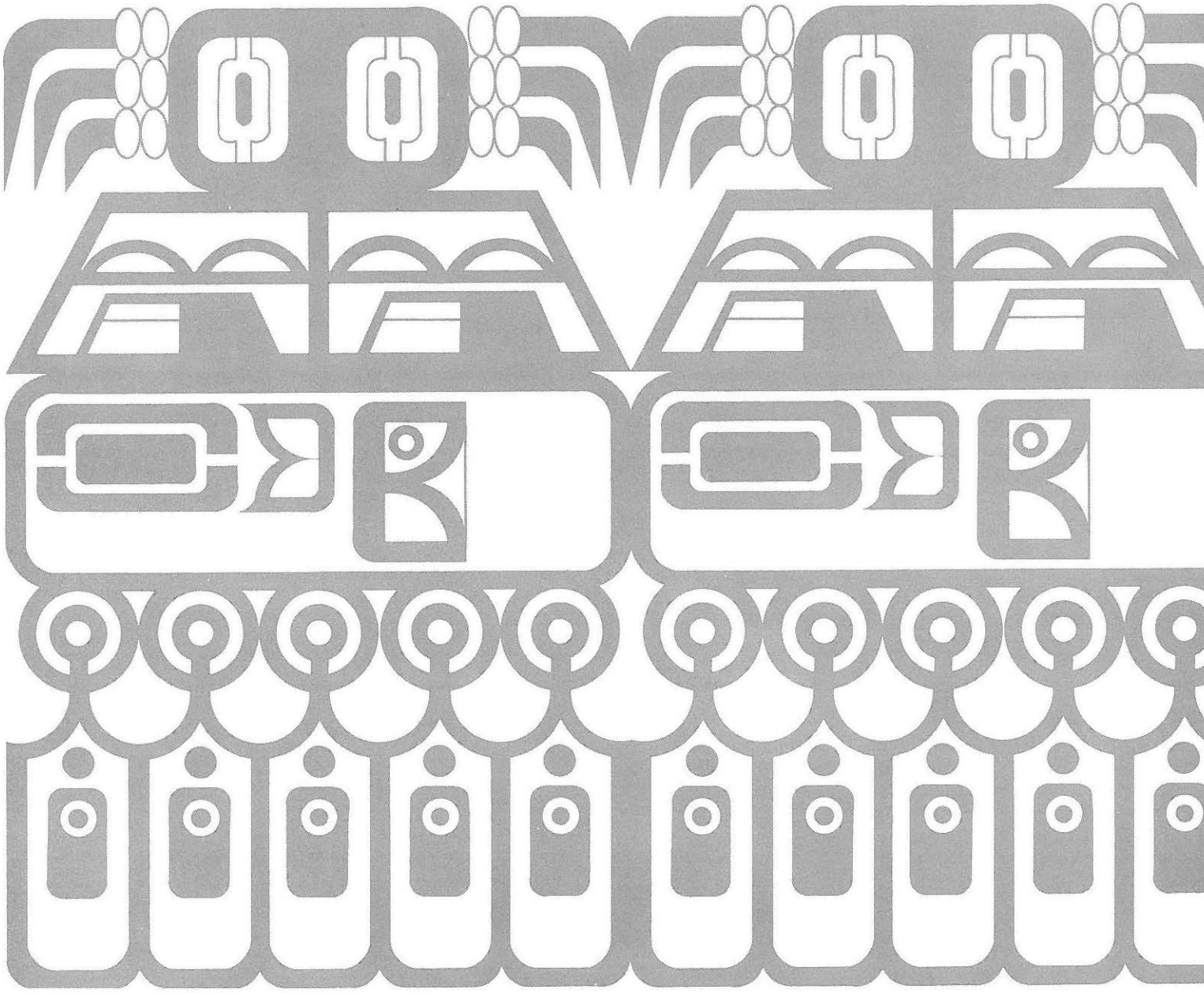
| Required Courses | | Cr. Hrs. |
|---|---|---|
| Oxy-Acetylene Welding | WLD 150 | 4 |
| Arc Welding | WLD 160 | 4 |
| Technical Drafting I | DFT 150 | 3 |
| Technical Math I | MTH 110 | 3 |
| Basic Metallurgy | MAC 130 | 3 |
| Blueprint Reading | WLD 115 | 3 |
| | | 20 |

**Technical Certificate**
**For Direct Employment**

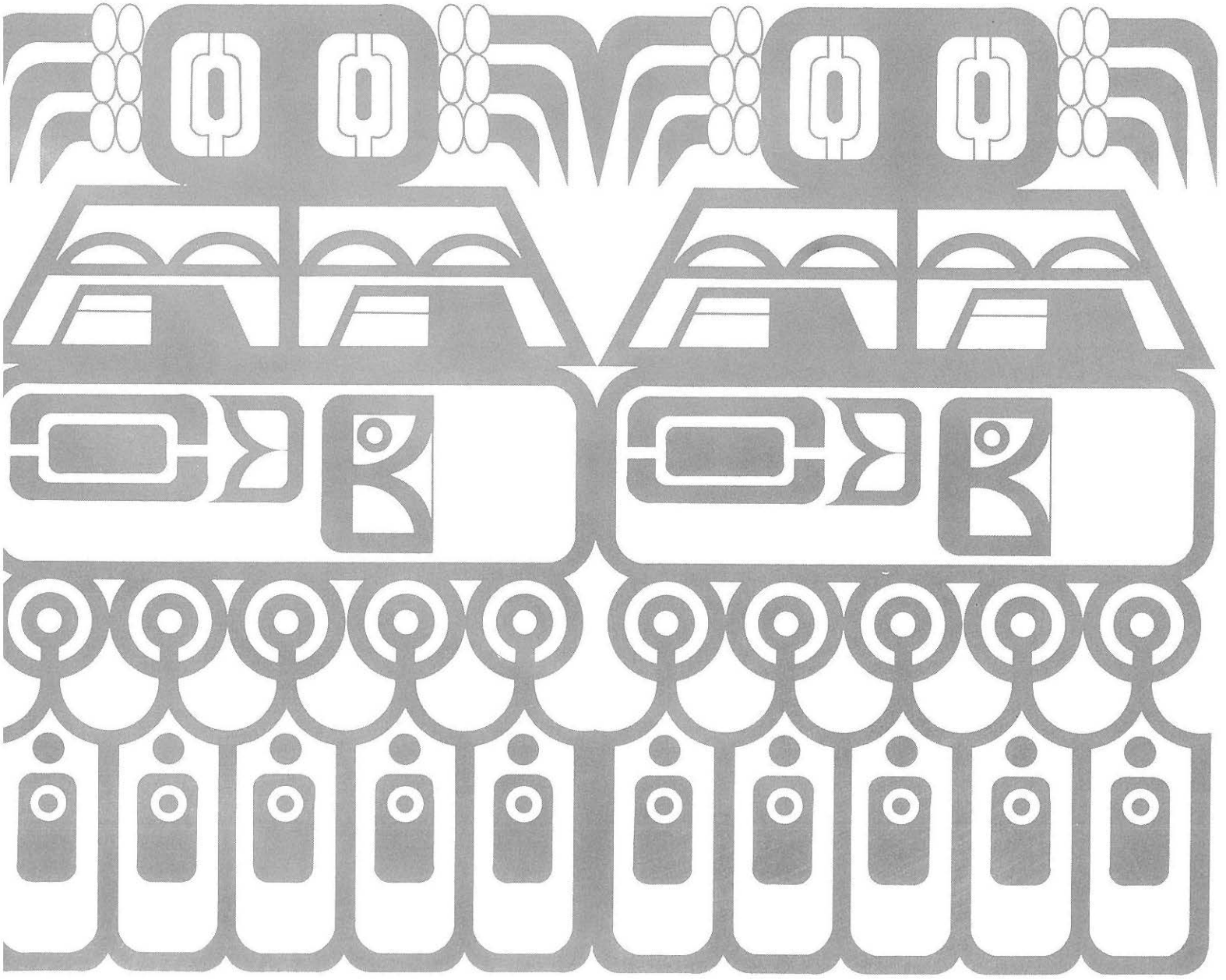
| Required Courses | | Cr. Hrs. |
|---|---|---|
| Oxy-Acetylene Welding | WLD 150 | 4 |
| Arc Welding | WLD 160 | 4 |
| Pipe Welding | WLD 250 | 4 |
| Inert Gas Welding | WLD 260 | 4 |
| Technical Drafting I | DFT 150 | 3 |
| Technical Math I-II | MTH 110, 120 | 6 |
| Basic Metallurgy | MAC 130 | 3 |
| Physical Metallurgy | MAC 135 | 3 |
| Blueprint Reading | WLD 115 | 3 |
| Practical Communications | WRT 150 | 3 |
| Human Relations | MAN 58 | 3 |
| Machine Shop I | MAC 110 | 4 |
| Sheet Metal Layout I | SML 130 | 3 |
| | | 47 |

**Welding Technology**
**Associate of Applied Science Degree**
**For Direct Employment**

| Required Courses (68) | First Semester | Cr. Hrs. |
|---|---|---|
| Oxy-Acetylene Welding | WLD 150 | 4 |
| Basic Metallurgy | MAC 130 | 3 |
| Blueprint Reading | WLD 115 | 3 |
| Technical Math I | MTH 110 | 3 |
| Sheet Metal Layout I | SML 130 | 3 |
| | | 16 |
| | **Second Semester** | |
| Arc Welding | WLD 160 | 4 |
| Physical Metallurgy | MAC 135 | 3 |
| Technical Drafting I | DFT 50 | 3 |
| Technical Math II | MTH 120 | 3 |
| Sheet Metal Layout II | SML 135 | 3 |
| | | 16 |
| | **Third Semester** | |
| Pipe Welding | WLD 250 | 4 |
| Technical Physics I | PHY 101 | 3 |
| Machine Shop I | MAC 110 | 4 |
| Sheet Metal Layout III | SML 210 | 3 |
| Practical Communications | WRT 150 | 3 |
| Humanities, Psychology, Sociol. or Philosophy Elective | | 3 |
| | | 20 |
| | **Fourth Semester** | |
| Inert Gas Welding | WLD 260 | 4 |
| Technical Physics II | PHY 102 | 3 |
| Human Relations | MAN 58 | 3 |
| Estimating I | ACD 250 | 3 |
| Technical Communications | WRT 154 | 3 |
| | | 16 |



# courses



## COURSE NUMBERING SYSTEM

In general, courses numbered from 001–099 are those unique to the community college and are not anticipated to be transferable.

Courses numbered 100–199 generally have no prerequisite and are considered to be on the freshman level.

Courses numbered 200–299 may have prerequisites and may be considered to be on the sophomore level.

Sample Course Listing

| ACC | 101 | Principles of Accounting I | 3 cr. hrs. | 3 periods |
|---|---|---|---|---|
| course prefix | course number | course title | semester hours of credit | hours of lecture &/or lab per week* |

*Unless otherwise indicated, the total periods per week will be assumed to consist of lecture periods only. When total periods per week consist of lecture and laboratory periods, the number of each are designated in parentheses: 6 periods (3 lec., 3 lab).

## ACCOUNTING

**ACC 101 Principles of Accounting I / 3 cr. hrs. / 3 periods**

Business administration students are provided with the basic concepts and uses of accounting, and accounting majors with a broad foundation for advanced study. Topics include basic concepts and methods, income measurement and valuation problems. (formerly ACC 1)

**ACC 101 Principio de Contabilidad I / 3 cr. hrs. / 3 periods**

Este curso le dara a los estudiantes de administracion de negocios el concepto basico y uso de la contabilidad, tambien ayudara a los estudiantes de contabilidad dandoles una base solida para estudios avanzados. Es topico incluye conceptos dasicos y metodos de valuaciones. Nivel de Primer Ano. (Se estan ACC 1)

**ACC 102 Principles of Accounting II / 3 cr. hrs. / 3 periods**

Continuation of Principles of Accounting I. Topics include income measurement and valuation problems, financial reporting, cost accumulation, cost control and financial planning. (formerly ACC 2)

**ACC 201 Intermediate Accounting I / 3 cr. hrs. / 3 periods**

☐ Prerequisite: ACC 102.
Study of accounting theory and practice applicable to current assets, fixed assets, liabilities, sources and application of funds. This course is for those who plan to specialize in accounting. (formerly ACC 54)

**ACC 202 Intermediate Accounting II / 3 cr. hrs. / 3 periods**

☐ Prerequisite: ACC 201.
Accounting theory and practice applicable to corporate net worth accounts, investments, reserves and income. This course is for those who plan to specialize in accounting. (formerly ACC 55)

**ACC 203 Cost Accounting / 3 cr. hrs. / 3 periods**

☐ Prerequisite: ACC 102.
Interpretation, use and analysis of cost data for management planning, coordination and control. The application of theories and concepts which underlie cost accounting and budgeting. (formerly ACC 56)

**ACC 204 Tax Accounting / 3 cr. hrs. / 3 periods**

☐ Prerequisite: ACC 102.
Course includes all aspects of federal income tax in business operations. (formerly ACC 57)

**ACC 299 Cooperative Accounting Training / 3 cr. hrs. 15 periods (lab)**

A supervised cooperative work program for students in an accounting occupation for a minimum of 15 hours per week. Course may be repeated.

## ADMINISTRATION OF JUSTICE

**AJS 12 Defensive Tactics / 2 cr. hrs. / 2 periods**

The theory of rough and tumble fighting, fundamentals and precautions, close-in defense and attack; control over an adversary; the armed and unarmed opponent; club maneuvers; prisoner handling and control; and physical fitness. (formerly LEN 12)

**AJS 60 Fundamentals of Crime and Delinquency / 3 cr. hrs. 3 periods**

A survey of the nature and extent of crime and delinquency together with the major theory and approaches to causation, prevention and treatment. Course examines current problems in dealing with crime and delinquency with an attempt to understand man in relation to these phenomena.

**AJS 71 Patrol Procedures / 3 cr. hrs. / 3 periods**

☐ Prerequisite: AJS 172, 101 or 204, or consent of the instructor.
Patrol as one of the primary police operations; conspicuous presence as a means of suppressing crime and preserving peace; organization and functions of police patrol; methods, techniques and responsibility in patrol operations; use of special equipment; application of laws on arrest, search and seizure. (formerly LEN 71)

**AJS 72 Crime Scene Technology I — Fingerprinting 3 cr. hrs. / 3 periods**

☐ Prerequisite: AJS 204 or consent of instructor.
This course is a survey of technical terms used in fingerprinting, pattern interpretations, classification of fingerprints, searching and filing procedures. It also teaches the student the procedures for taking fingerprints. (formerly LEN 72)

**AJS 76 Basic Criminalistics / 3 cr. hrs. / 3 periods**

☐ Prerequisite: AJS 204 or consent of instructor.
A study and examination of the criminalistics field with concentration on the crime lab. Also a study of documents, ballistics, polygraphic techniques and comparative micrography. (formerly LEN 76)

**AJS 101 Introduction to Administration of Justice Systems 3 cr. hrs. / 3 periods**

The history and philosophy of administration of justice in America; recapitulation of the system; identifying the various sub-systems, role expectations, and their interrelationships; theories of crime, punishment and rehabilitation; ethics, education and training for professionalism in the system; career opportunities related to local criminal justice agencies.

**AJS 106 Traffic Safety Functions — Vehicle Code 3 cr. hrs. / 3 periods**

Traffic law enforcement and the policeman's role in overseeing the movement of vehicles and pedestrians. An introduction to the fundamentals of accident investigation and reporting, traffic court procedures, and public education for traffic safety against a background of Arizona law. (formerly LEN 106)

**AJS 110 Police Community and Human Relations 3 cr. hrs. / 3 periods**

The police officer's role in getting and maintaining public support is reviewed; also, the recognition and understanding of community problems, community action programs, methods of coping with crisis situations, ethnic and minority cultures, environments and police operations in relation to these. (formerly LEN 82)

**AJS 152 Beginning Marksmanship / 1 cr. hr. / 1 period**

A lecture-lab course introducing students to firearms. Moral and legal aspects of firearms are emphasized along with firearms safety. Course includes range practice. (Same as Recreation 152.)

**AJS 172 Criminal Law I / 3 cr. hrs. / 3 periods**

The historical development and philosophy of law, and constitutional provisions; definitions, classifications of crime and their application to the system of administration of justice; legal research, study of case law, methodology, and concepts of law as a social force. (formerly LEN 78)

**AJS 204 Criminal Investigation and Report Preparation 3 cr. hrs. / 3 periods**

☐ Prerequisite: AJS 172, 101 or consent of instructor.
Introduction to the fundamentals of modern criminal investigation; procedures and skills in search and investigation; conduct at the crime scene; collection and preservation of evidence; developing sources of information; preparation of cases for court prosecution; report-writing requirements for administration and court use. (formerly LEN 104)

**AJS 208 Police Administration / 3 cr. hrs. / 3 periods**

☐ Prerequisite: AJS 101 or consent of instructor.
An introduction to the principles of police organization, administration and service. All phases of police matters are discussed including recruitment, training, promotion, complaints, records and communications. (formerly LEN 108)

**AJS 212 Juvenile Justice Procedures / 3 cr. hrs. / 3 periods**

A study of the organization, functions and jurisdiction of juvenile agencies and courts; Arizona juvenile statutes, detention, court procedures and case disposition; custody and treatment of the offender; crime prevention methods and reporting procedures applicable to juvenile offenders. (formerly LEN 84)

**AJS 214 Firearms / 2 cr. hrs. / 2 periods**

☐ Prerequisite: Student must be a law enforcement major with previous firearms training.
Use of firearms, the moral aspects, legal provisions, safety precautions and restrictions; combat procedures for police, target analysis and range drill procedures. This course is taught on the range. Students must furnish their own pistols and ammunition. (formerly LEN 14)

**AJS 216 Criminal Justice Procedures / 3 cr. hrs. / 3 periods**

An in-depth study of the role and responsibilities of each segment within the administration of justice systems: law enforcement, judicial and corrections; a past, present and future exposure to each sub-system procedure from initial entry to final disposition; and the relationship each segment maintains with its system members.

**AJS 272 Criminal Law II — Evidence / 3 cr. hrs. / 3 periods**

Origin, development, philosophy and constitutional basis of evidence; constitutional and procedural considerations affecting arrest, search and seizure; kinds and degrees of evidence and rules governing admissibility; judicial decisions interpreting individual rights; and case studies. (formerly LEN 79)

**AJS 273 Crime Scene Technology II / 3 cr. hrs. / 3 periods**

☐ Prerequisite: AJS 72, 101 or 204, or consent of instructor.
Advanced procedures in the scientific identification of evidence, crime scene recording, collecting and preserving evidence; also, casting and analysis of physical evidence. (formerly LEN 73)

**AJS 277 Advanced Criminalistics / 3 cr. hrs. / 3 periods**

☐ Prerequisite: AJS 76 or consent of instructor.
Examined are the fields of firearms identification, pathology, toxicology, related matters and courtroom procedures. (formerly LEN 77)

**AJS 299 Cooperative Administration of Justice Training 3 cr. hrs. / 15 periods (lab)**

A supervised cooperative work program for students in a law enforcement occupation for a minimum of 15 hours per week. Course may be repeated. (formerly LEN 299)

## AIR CONDITIONING

**ACD 101 Air Conditioning Fundamentals / 3 cr. hrs. 3 periods**

Emphasis is on detail and specific treatment of air conditioning and problem solving techniques. Areas covered are psychrometry, ventilation, heating and cooling load calculations, dew point determination and precision measurement of air temperatures, quantities and velocities. (formerly ACD 60)

**ACD 120 Air Conditioning Phase I / 4 cr. hrs. / 6 periods (3 lec., 3 lab)**

☐ Prerequisite: Or concurrent with ACD 101, MTH 110.
Emphasis is on cooling and heating components and application; basic electricity; tools in heating and cooling maintenance; service and maintenance of electronic air cleaners and electronic humidifiers. (formerly ACD 65)

**ACD 125 Air Conditioning Phase II / 4 cr. hrs. / 6 periods (3 lec., 3 lab)**

☐ Prerequisite: ACD 120.
Course covers the control of electrical circuits, use of electrical test instruments, troubleshooting of gas and electric cooling. (formerly ACD 66)

**ACD 210 Air Conditioning Phase III / 4 cr. hrs. / 6 periods (3 lec., 3 lab)**

☐ Prerequisite: ACD 125.
Concentration is on light commercial equipment including gas-electric packages, heat pumps and three-phase power. Live equipment is used to teach service and repair work. (formerly ACD 67)

**ACD 220 Air Conditioning Phase IV / 4 cr. hrs. / 6 periods (3 lec., 3 lab)**

☐ Prerequisite: ACD 210.
Stress is on the more complicated larger units including multi-zone and single-zone rooftop pieces of equipment, and controls on these units. Also included is an introduction to pneumatic controls as used on some models of equipment. (formerly ACD 68)

**ACD 250 Air Conditioning Estimating I / 3 cr. hrs. / 3 periods**

☐ Prerequisite: MTH 120.
The basic concepts of computing material costs from actual construction drawings through use of handbooks and formulas; pricing of all items associated with sheet metal products and air conditioning units. (formerly ACD 85)

**ACD 260 Air Conditioning Estimating II / 3 cr. hrs. / 3 periods**

☐ Prerequisite: ACD 250.
Bid preparation and procedures including material quantity, make-up sheets, equipment usage, manpower requirements, labor rates, amount of contract work, progress reports, material ordering procedures, overhead and profits. (formerly ACD 86)

**ACD 270 Air Movement and Design / 4 cr. hrs. / 6 periods (3 lec., 3 lab)**

☐ Prerequisite: ACD 210, MTH 120, SML 110.
Residential area includes load calculation, duct sizing and equipment selection. Commercial area includes specialized types of equipment such as make-up air units and exhaust air. (formerly ACD 70)

**ACD 299 Cooperative Air Conditioning Training / 3 cr. hrs. 15 periods (lab)**

A supervised cooperative work program for students in an air conditioning occupation for a minimum of 15 hours per week. Course may be repeated.

## ANTHROPOLOGY

**ANT 103 Cultural Geography / 4 cr. hrs. / 6 periods (3 lec., 3 lab)**

This course is about people, where and how they live and some of the reasons why they live as they do. Race, language, religion and the physical environment are interwoven and changed by time to produce many different economic and settlement patterns. (Same as Earth Sciences 103.)

**ANT 110 Introduction to Cultural Anthropology / 3 cr. hrs. 3 periods**

A survey of cultural anthropology and linguistics; and an introduction to the comparative study of cultures. Emphasis is on non-literate cultures. (formerly ANT 1)

**ANT 140 Contemporary Indian Groups of the Southwest 3 cr. hrs. / 3 periods**

A study of contemporary Indian cultures of the Southwest with emphasis on Arizona. (formerly ANT 6)

**ANT 144 The Mexican-American in Transition / 3 cr. hrs. 3 periods**

What is it like to be a Mexican-American in today's society? Problems resulting from differences in cultures, values and needs are examined through class discussion and participation in related activities in the community. (formerly ANT 10)

**ANT 145 Papago History and Culture / 3 cr. hrs. / 3 periods**

Where have the Papago people been, who are they, where are they going? In answering these questions, the class examines the history and culture of the Papago. (Same as History 145.) (formerly ANT 7)

**ANT 146 Culture and Personality of the Mexican-American 3 cr. hrs. / 3 periods**

A review of how the culture and personality of the Mexican-American differs from others and what it means to the individual. (formerly ANT 11)

**ANT 148 History of Indians of North America / 3 cr. hrs. 3 periods**

Origin and distribution of native populations of North America; and the historical development and interrelations of cultures. (Same as History 148.) (formerly ANT 8)

**ANT 149 History and Culture of the Mexican-American in the Southwest I / 3 cr. hrs. / 3 periods**

Who is the Mexican-American? What is his cultural heritage, and what has happened to it in the United States? (Same as History 149.) (formerly ANT 9)

**ANT 150 Afro-American History and Peoples / 3 cr. hrs. 3 periods**

What does the Afro-American have to face because he is a Black in American society? His past, present and future are examined. (Same as History 150.) (formerly ANT 12)

**ANT 160 History and Peoples of Latin America / 3 cr. hrs. 3 periods**

The history of Latin America from the pre-Colombian period to the present with emphasis on the evolution of nationalism through the struggles for economic, cultural, political and social freedoms. (Same as History 160.) (formerly ANT 14)

**ANT 170 History and Peoples of Africa / 3 cr. hrs. / 3 periods**
A survey of the political and cultural history of Africa, south of the Sahara. (Same as History 170.) (formerly ANT 13)

**ANT 210 Cultural Anthropology / 3 cr. hrs. / 3 periods**
☐ Prerequisite: ANT 110.
An in-depth exploration of methods used in studying and comparing cultures, with particular attention given to anthropological theory and methods. Selected topics will be pursued. (formerly ANT 3)

**ANT 220 Physical Anthropology / 3 cr. hrs. / 3 periods**
An in-depth inquiry into the origin, evolution and future of the human species. The course centers on a comprehensive study of human evolution, including the topics of human variability, heredity and environment, mechanisms of evolution, race and racism, and non-human primates. (formerly ANT 2)

**ANT 225 Archaeology / 3 cr. hrs. / 3 periods**
The history of archaeological research plus a survey of the concepts and methods used for studying prehistoric cultures. Students also learn how archaeologists reconstruct human history from materials found in the field. (formerly ANT 4)

**ANT 250 Archaeology Laboratory / 2 cr. hrs. / 2 periods (lab)**
☐ Prerequisite: ANT 110 or 220.
Students have an opportunity to receive research and field experience in the various sub-fields of anthropology. Emphasis is placed on applying the tools and methodology used by anthropologists to solving research problems designed by the students. (formerly ANT 5)

**ANT 290 Individual Studies in Anthropology / 1 to 3 cr. hrs.**
☐ Prerequisite: ANT 110 or 220 and consent of instructor.
The student independently pursues his or her further development in anthropology with the help of a faculty member.
(formerly ANT 19)

## ART AND DESIGN

**ART 60 Principles of Lapidary / 3 cr. hrs. / 4 periods (2 lec., 2 lab)**
A practical laboratory course in the identification, polishing and mounting of semi-precious materials.
(Same as Earth Sciences 60.)

**ART 100 Perception / 4 cr. hrs. / 5 periods (4 lec., 1 lab)**
An introduction to design and the study of light, color, pattern, space and operation of the sensory receptors. Students may work with graphics and model construction. (formerly ART 1)

**ART 110 Graphics I / 3 cr. hrs. / 5 periods (2 lec., 3 lab)**
☐ Prerequisite: ART 100 or concurrent enrollment.
An exploration of visual experience and communication, and also an introduction to the problems of drawing and concept, offering extensive studio practice and experimentation. (formerly ART 10)

**ART 111 Industrial Graphics I / 3 cr. hrs. / 4 periods (3 lec., 1 lab)**
Course concentrates on the representation of products, equipment and exteriors/interiors through shaded and line drawings in several media. (formerly ART 10)

**ART 115 Color and Design / 3 cr. hrs. / 5 periods (2 lec., 3 lab)**
☐ Prerequisite: ART 100 or concurrent enrollment.
An exploration of color theory and color relationships. Classroom projects utilizing various media are offered. (formerly ART 21)

**ART 120 Three-Dimensional Design / 3 cr. hrs. / 5 periods (2 lec., 3 lab)**
A study of processes utilized for design in three dimensions. Materials used are wax, plaster, wood, stone, aluminum and bronze. (formerly ART 21)

**ART 130–131 Art and Culture I, II / 3 cr. hrs. / 3 periods**
A presentation and discussion of art forms from various traditional and contemporary cultures. Some studio experience included. (formerly ART 15, 25)

**ART 140 Photography I / 3 cr. hrs. / 5 periods (2 lec., 3 lab)**
☐ Prerequisite: ART 100 or concurrent enrollment.
The basic principles and techniques of photography. Emphasis is on photography as a means of communication and self-expression. Includes developing, printing, enlarging, image concepts and critiques. (formerly ART 13)

**ART 141 Photography II – 3 cr. hrs. / 5 periods (2 lec., 3 lab)**
☐ Prerequisite: ART 140 or consent of instructor.
An expansion of still photography and/or film experience. Individual or group projects involve slides, book production, 8mm motion pictures and video-tape presentations. Can be repeated for credit. (formerly ART 23)

**ART 150 Functional Design I / 3 cr. hrs. / 4 periods (3 lec., 1 lab)**
Designs of objects and systems are studied and solutions then developed to satisfy the problems encountered. Students select their own area of design interest. (formerly ART 12)

**ART 151 Dome Building / 3 cr. hrs. /4 periods (3 lec., 1 lab)**
An investigation of energetic/synergetic geometry used in the design and construction of geodesic structures. (formerly ART 12)

**ART 160 Ceramics I / 3 cr. hrs. / 5 periods (2 lec., 3 lab)**
A study of clay, glazes and firing including hand-built and wheel-thrown work. (formerly ART 9)

**ART 170 Metalwork I / 3 cr. hrs. / 5 periods (2 lec., 3 lab)**
An exploration of the basic tools and techniques used in the fabrication of jewelry and other metalwork. Includes enameling, casting and hollow-ware. (formerly ART 9)

**ART 180 Weaving I / 3 cr. hrs. / 5 periods (2 lec., 3 lab)**
The study of finger weaving, rigid heddle loom (back strap), and two shed frame loom. Drafting of textiles and weaving of a finished pattern on a four harness loom are included.
(formerly ART 9)

**ART 181 Fabric Design I / 3 cr. hrs. / 5 periods (2 lec., 3 lab)**
Provides an understanding of creative and practiced aspects of fabric design through the study of texture, color application and cultural emphasis as evidenced in ethnic costumes. Applique, patchwork, embroidery, braids and trims are considered.
(formerly ART 9)

**ART 190 Leatherwork / 3 cr. hrs. / 5 periods (2 lec., 3 lab)**
Provides an understanding of various properties of leathers and the development of skills in the use of basic leatherworking tools. Projects are selected to meet individual interests and levels of skill development. (formerly ART 9)

**ART 210 Graphics II / 3 cr. hrs. / 5 periods (2 lec., 3 lab)**
☐ Prerequisite: ART 100, 110.
Advanced study of graphic media in two dimensions with emphasis on various techniques and materials. (formerly ART 20)

**ART 211 Commercial Graphics / 3 cr. hrs. / 5 periods (2 lec., 3 lab)**

Offers training in composition, layout, typography, color selection and design of logos, catalogs and brochures. Emphasis is on preparation for the advertising and graphics industry. (formerly ART 20)

**ART 212 Printmaking / 3 cr. hrs. / 5 periods (2 lec., 3 lab)**

☐ Prerequisite: ART 100, 110 or consent of instructor.
A study of printmaking processes for synthesis into a form of personal expression. Emphasis is on monotypes, etching, intaglio, block printing and silk screen processes. Students may choose to work in areas of particular interest. (formerly ART 21)

**ART 213 Life Drawing / 3 cr. hrs. / 5 periods (2 lec., 3 lab)**

☐ Prerequisite: ART 100 and 110 recommended.
Course is concerned with the acquisition of proficiency in relating the human figure to two dimensions, utilizing the result as a graphic vehicle of expression. Students have opportunities to work in various media. (formerly ART 21)

**ART 215 Painting / 3 cr. hrs. / 5 periods (2 lec., 3 lab)**

☐ Prerequisite: ART 100, ART 110 and 115 recommended.
A studio course concerned with the exploration of basic painting techniques and processes. (formerly ART 21)

**ART 230 History of Photography / 3 cr. hrs. / 3 periods**

An in-depth study of the history of photography from its inception to the present, and an analysis of its impact on the visual arts and society. Technical developments, aesthetic concerns and individual photographers are studied. (formerly ART 25)

**ART 231 History, Philosophy, Psychology of Art and Design 2 to 4 cr. hrs. / 2 to 4 periods**

A study of particular movements, periods, ideas and problems in art and design arranged each semester by separate sections or for individual study, according to need. (formerly ART 25)

**ART 250 Functional Design II / 3 cr. hrs. / 4 periods (3 lec., 1 lab)**

An extended study of design with emphasis on solutions to problems in fabrication and reproducibility of various products. (formerly ART 22)

**ART 260 Ceramics II /3 cr. hrs. / 5 periods (2 lec., 3 lab.)**

☐ Prerequisite: ART 160 or the equivalent.
Offers an opportunity to further perfect skills developed in ART 160 through a series of design problems. Lecture-discussion dealing with ceramic materials and processes. (formerly ART 21)

**ART 299 Cooperative Art Training / 3 cr. hrs. / 15 periods (lab)**

A supervised cooperative work program for students in an art occupation for a minimum of 15 hours per week. Course may be repeated.

## ASTRONOMY

**AST 101–102 Introduction to Astronomy / 4–4 cr. hrs. 6 periods (3 lec., 3 lab)**

An introduction to the basic principles and methods of astronomy. Laboratory included. (formerly AST 1–2)

## AUTOMOTIVE TECHNOLOGY

**AUT 101 Automotive Maintenance / 2 cr. hrs. / 3 periods (1 lec., 2 lab)**

For those who have little or no automotive service experience. Covered are the proper techniques of routine vehicle maintenance. (formerly AUT 88)

**AUT 111 Automotive Body and Fender Repair / 3 cr. hrs. 4 periods (2 lec., 2 lab)**

The fundamentals of sheet metal repair, using basic metalworking tools. Instruction is limited to minor damage repair, parts replacement and alignment. (formerly AUT 90)

**AUT 120 Internal Combustion Engines / 4 cr. hrs. / 5 periods (3 lec., 2 lab)**

Construction, design, operating principles, diagnosis procedures and common repairs of modern internal combustion engines. Stress is on the interrelationship of various engine systems. (formerly AUT 52)

**AUT 121 Automotive Engine Rebuilding / 4 cr. hrs. 5 periods (3 lec., 2 lab)**

☐ Prerequisite: AUT 120.
The diagnosis, measuring, estimating, repairing and machining of the automotive engine. (formerly AUT 55)

**AUT 125 Automotive Engine Tune-Up / 4 cr. hrs. / 5 periods (3 lec., 2 lab)**

☐ Prerequisite: AUT 120 and 128; AUT 128 may be taken concurrently.
The interpretation and application of electric test equipment results to maintain engine efficiency and exhaust emission. Proper tune-up procedures are stressed. (formerly AUT 56)

**AUT 128 Automotive Electricity I / 3 cr. hrs. / 4 periods (2 lec., 2 lab)**

The fundamentals of electricity and electrical circuits as applied to the automobile. (formerly AUT 68)

**AUT 129 Automotive Electricity II / 3 cr. hrs. / 4 periods (2 lec., 2 lab)**

☐ Prerequisite: AUT 128.
Diagnosis and repair of automotive electrical systems using modern diagnostic equipment. (formerly AUT 69)

**AUT 132 Automatic Transmissions I / 4 cr. hrs. / 5 periods (3 lec., 2 lab)**

The identification and classification of all parts and principles of hydraulics, planetary gear assemblies, multiple clutches and bands. At least one complete transmission overhaul is completed during the semester. (formerly AUT 50)

**AUT 133 Automatic Transmissions II / 4 cr. hrs. / 5 periods (3 lec., 2 lab)**

☐ Prerequisite: AUT 132.
Hydraulic circuits and controls, hydraulic pressure controls, diagnosis and repair of hydraulic pressure loss and internal oil leaks. At least one complete transmission overhaul is completed during the semester. (formerly AUT 51)

**AUT 136 Automotive Drive Line / 4 cr. hrs. / 5 periods (3 lec., 2 lab)**

The construction ,operation, diagnosis and repair of manual shift transmissions, clutches, universal joints and differentials. (formerly AUT 57)

**AUT 138 Automotive Chassis / 4 cr. hrs. / 5 periods (3 lec., 2 lab)**

Front wheel alignment, wheel balancing, suspension overhaul, manual and power steering gears. (formerly AUT 61)

**AUT 140 Automotive Brakes / 4 cr. hrs. / 5 periods (3 lec., 2 lab)**

The diagnosis and repair of automotive brakes. Includes hydraulic systems, drum and disc brakes and power brakes. (formerly AUT 62)

**AUT 142 Automotive Air Conditioning / 3 cr. hrs. / 4 periods (2 lec., 2 lab)**

Fundamentals of refrigeration and automotive application of refrigeration. Stressed is system operation and diagnosis. (formerly AUT 63)

**AUT 200 Performance Engines / 3 cr. hrs. / 3 periods**

☐ Prerequisite: Second year level in automotive program or proven ability to diagnose and repair standard vehicles. A sound math background is helpful.

Engine design theory and construction, and modifications used to improve power output. Course also covers related drive train and suspension and suspension modifications necessitated by increased power. (formerly AUT 87)

**AUT 210 Independent Study in Automotive / 3 to 5 cr. hrs.**

☐ Prerequisite: 30 credit hours in an approved automotive technology program.

The student is permitted latitude in pursuing special interest projects related to the automotive field. A written technical report is required. (formerly AUT 99)

**AUT 299 Cooperative Automotive Training / 3 cr. hrs. 15 periods (lab)**

A supervised cooperative work program for students in an automotive occupation for a minimum of 15 hours per week. Course may be repeated.

## AVIATION MECHANICS

**AVM 88 Preventive Maintenance for Pilots / 3 cr. hrs. 3 periods**

Topics include engine design and function, aircraft design and function, safety aspects in the operation of aircraft, federal aviation regulations, and an examination of the industry. (formerly GTC 88)

**AVM 220 Airframe Mechanics / 6 cr. hrs. / 6 periods**

☐ Prerequisite: 30 months' experience concurrently performing the duties of airframe and powerplant maintenance and instructor's approval; or 18 months of experience performing the duties appropriate to this rating and instructor's approval.

Covered are aircraft rigging, weight and balance, woodwork, welding, fabric coverings, sheet metal, hydraulics, aircraft electrical systems, environmental systems, instrumentation and federal aviation regulations (formerly AVM 50)

**AVM 230 Powerplant Mechanics / 5 cr. hrs. / 6 periods (5 lec., 1 lab)**

☐ Prerequisite: 30 months' experience concurrently performing the duties of airframe and powerplant maintenance and instructor's approval; or 18 months performing the duties appropriate to this rating and instructor's approval.

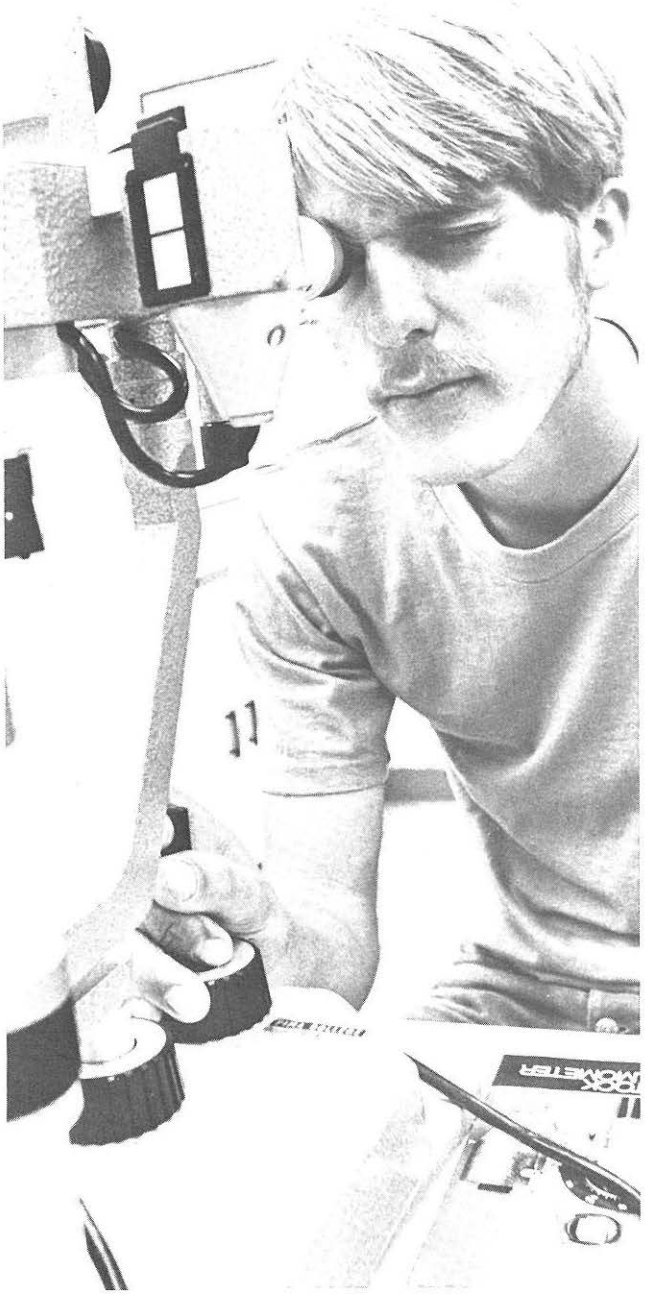
Reciprocating and jet engine design and function, electrical systems, fuel systems, induction systems, lubrication systems and propellers. (formerly AVM 51)

## BUSINESS

**BUS 51 Mathematics of Business / 3 cr. hrs. / 3 periods**

☐ Prerequisite: MTH 60 or equivalent.

Basic mathematical procedures are applied to business problems. Includes mark-up, payroll, simple and compound interest.



**BUS 100 Introduction to Business / 3 cr. hrs. / 3 periods**
A survey of fundamental characteristics and functions of modern business involving business principles, marketing, record keeping and risks; and a historical review of business development including the viewpoint of various ethnic groups. (formerly BUS 60)

**BUS 110 Business Law I / 3 cr. hrs. / 3 periods**
This course covers such legal topics as the nature and sources of business law, the judicial system, law of contracts, torts, agency, consumer credit protection and sales. (formerly BUS 10)

**BUS 160 Business Law II / 3 cr. hrs. / 3 periods**
☐ Prerequisite: BUS 110.
This is a continuation of BUS 110 and covers such legal topics as the law of commercial paper, personal property, real property, partnerships and corporations. (formerly BUS 60)

**BUS 205–206 Statistical Methods in Economics and Business I, II / 3–3 cr. hrs. / 3 periods**
☐ Prerequisite: MTH 150, BUS 205 (for BUS 206).
Students develop an understanding of statistical techniques and their application for use in economic and business decision making. (formerly BUS 5–6)

**BUS 259 Business Communications / 3 cr. hrs. / 3 periods**
☐ Prerequisite: OED 154.
The general principles of effective communication as well as techniques pertinent to specific types of business correspondence. Social and business writing, claim and adjustment letters, interoffice memos, sales letters, credit letters, collection letters and letters of application and data sheet are covered. (formerly BUS 59)

## CHEMISTRY

**CHM 50 Topics in Physical Science / 1 to 4 cr. hrs.**
☐ Prerequisite: Consent of instructor.
Special topics are selected according to the needs of students requiring material not covered in regular listings. The emphasis is on laboratory projects.

**CHM 101–102 Introductory Chemistry I, II / 4–4 cr. hrs. 6 periods (3 lec., 3 lab)**
Classification and structure of matter along with basic principles of chemical reactions and their relevancy to common environments. Designed to meet the needs and interests of non-science majors. (formerly CHM 1–2)

**CHM 110–111 Fundamentals of Chemistry I, II / 4–4 cr. hrs. 6 periods (3 lec., 3 lab)**
The classification, structure and general chemical behavior of inorganic, organic and biochemical systems as a basis for the study of some life processes. Adapted to the needs of nursing and health science students. (formerly CHM 5–6)

**CHM 120–121 General Chemistry I, II / 4–4 cr. hrs. 6 periods (3 lec., 3 lab)**
☐ Prerequisite: MTH 130 or consent of instructor.
The principles of chemistry, essential concepts, models and problem solving techniques. Emphasis is on chemical bonding, periodicity, chemical properties, stoichiometry, kinetics and descriptive inorganic chemistry. Course is required for science, pre-medical and pre-dental majors. (formerly CHM 3–4)

**CHM 130 Concepts in Chemistry / 3 cr. hrs. / 6 periods (3 lec., 3 lab)**
The study of basic concepts in chemistry and their applications. For elementary education majors. (formerly CHM 12)

**CHM 240–241 Organic Chemistry I, II / 4–4 cr. hrs. 6 periods (3 lec., 3 lab)**
☐ Prerequisite: CHM 121 or equivalent or consent of instructor.
An integrated course in the fundamentals of organic chemistry covering classification, occurrence, synthesis, analysis and reaction mechanisms of important classes of organic compounds. (formerly CHM 40–41)

**CHM 299 Cooperative Chemistry Training / 3 cr. hrs. 15 periods (lab)**
A supervised cooperative work program for students in a chemistry occupation for a minimum of 15 hours per week. Course may be repeated.

## COMPUTER SCIENCE

**CSC 50 Key Punch, Data Entry and Procedures / 3 cr. hrs. 4 periods (3 lec., 1 lab)**
☐ Prerequisite: Typing speed 40 wpm or consent of instructor.
Student learns to create and use program drum cards, to punch numeric and alphameric data, and computer program formats. Both the key punch and verifier are learned, with stress on high volume/low error rates. Other methods of data entry are presented with controls and procedures in a key punch department. (formerly CSC 52)

**CSC 55 Advanced Key Punch / 3 cr. hrs. / 4 periods (3 lec., 1 lab)**
☐ Prerequisite: CSC 50 or consent of instructor.
Course provides further practice to increase skills for job placement. Includes punching of specialized and unusual data, other data entry machines, estimating job costs for customers, ordering of materials and supplies, and supervision activities. (formerly CSC 53)

**CSC 100 Introduction to Computers / 3 cr. hrs. / 4 periods (3 lec., 1 lab)**
Establishes the relationship of computer to manual, mechanized and unit-record systems. Introduces concepts of computer configurations, stored program, flow charting, block diagramming and documentation. Business problems will be programmed in a simple language. (formerly CSC 47)

**CSC 105 Survey of Data Processing / 3 cr. hrs. / 3 periods**
A history and overview of data processing with emphasis on the use of computers as tools and their applications in business, industry, social and natural sciences. Students are introduced to at least one computer language and are acquainted with the social impact of man's relationships to computers. Not for programming or engineering majors. (formerly CSC 50)

**CSC 140 Fortran IV Programming / 1 to 3 cr. hrs. / 3 periods**
Application of programming to the numerical solution of problems. Includes flow charting, block diagramming, documentation and writing of programs. Problems are suited to business, engineering or math, depending upon students' objectives. First half of course satisfies the one unit transfer credit. (formerly CSC 40)

**CSC 150 Computer Operations / 3 cr. hrs. / 4 periods (3 lec., 1 lab)**
Instruction and lab experience in computer operations covering tape, disk, printer, reader-punch, console and in-house role of the operations section including scheduling of jobs. Hands-on training in at least one operating system is required. (formerly CSC 56)

**CSC 155 Job Stream Concepts and Operations / 3 cr. hrs. 4 periods (3 lec., 1 lab)**

☐ Prerequisite: CSC 100, 150.
A study of control statements and functions needed for computer operation. Multi-programming considerations, system flow, device assignment, labels on tape and disk, directories, text editors and utility programs are covered. Hands-on operation required. (formerly CSC 58)

**CSC 160 COBOL Programming / 3 cr. hrs. / 4 periods (3 lec., 1 lab)**

☐ Prerequisite: CSC 100 or consent of instructor.
Comprehensive study and practice of writing programs in COBOL, standard business language. Proper documentation and programming standards are included as are programming techniques to utilize auxiliary storage devices. (formerly CSC 60)

**CSC 195 Job Entry Procedures / 1 cr. hr. / 1 period**

Applying for employment, letter and resume writing, interviewing and related topics.

**CSC 196 Work Standards and Job Attitudes / 1 cr. hr. 1 period**

Includes ethics ,work relationships and human relations using role playing.

**CSC 197 Key Punch for Programmers and Operators 1 cr. hr. / 1 period**

Students learn the keyboard, functions of special keys, use of program drum cards to punch programs, and procedures to correct error cards.

**CSC 198 Data Processing Projects I / 1 to 2 cr. hrs.**

☐ Prerequisite: Consent of instructor.
Credit is given for practical work experience on assigned data processing projects in key punching, controls and operations. (formerly CSC 68)

**CSC 250 Introduction to Numerical Control / 2 cr. hrs. 2 periods**

☐ Prerequisite: MTH 120, MAC 120, or approval of instructor.
The student is introduced to numerical control and its application to machines, processes and manufacturing processes. The basics of manual programming for point-to-point and absolute position machines are covered. Occupational opportunities also are reviewed. (Same as Machine Tool Technology 250.)

**CSC 255 Numerical Controlled Machines / 3 cr. hrs. 4 periods (2 lec., 2 lab)**

☐ Prerequisite: MAC 120, 250.
This course starts continuous path programming and computer aided programming. Calculations are made manually and by computer for two and three axis numerical control machines. Numerical control languages are taught. (Same as Machine Tool Technology 255.)

**CSC 260 Advanced COBOL and File Management / 4 cr hrs. 6 periods (4 lec., 2 lab)**

☐ Prerequisite: CSC 160.
Advanced COBOL programming techniques and language are thoroughly explored. Report writer, sort verbs, file organization, debugging aids and interaction with the operating system are included. (formerly CSC 62)

**CSC 270 Basic Assembly Language Programming / 3 cr. hrs. 4 periods (3 lec., 1 lab)**

☐ Prerequisite: CSC 160 or consent of instructor.
A study of an assembly level language and its relationship to machine language. Emphasis on standard and decimal instruction sets, sub-routine control and linkage. Debugging techniques and basic input/output control system applications are covered. Includes lab experience. (formerly CSC 70)

**CSC 274 MACRO-10 Assembly Language / 4 cr. hrs. 6 periods (4 lec., 2 lab)**

☐ Prerequisite: CSC 260, 270, or consent of instructor.
A study of fixed work machine language formats with emphasis on binary arithmetic instructions, variations of logical and control instructions and word-bit-byte manipulations. File creations using sequential and random organizations are also covered. Students, in addition, use interactive terminal input/output conversing with a DEC-10 to test their programs and various debugging techniques. (formerly CSC 74)

**CSC 280 Systems Analysis / 3 cr. hrs. / 3 periods**

☐ Prerequisite: CSC 160 or consent of instructor.
A case study using the tools of systems analysis; project planning, identification of problems, defining objectives, determining information required, documentation, procedures, flow charts and interviewing. A feasibility study is prepared to present alternatives and recommend a course of action. (formerly CSC 80)

**CSC 281 Systems Design / 3 cr. hrs. / 3 periods**

☐ Prerequisite: CSC 160, recommended CSC 280.
Application of the tools of systems design to solve the problems identified in CSC 280. Techniques used include design of codes, printed output, source documents, cards, record layouts, and the application of controls to provide an audit trail. File organization and run timings also are covered. (formerly CSC 81)

**CSC 290 Systems Programming Theory / 3 cr. hrs. 4 periods (3 lec., 1 lab)**

☐ Prerequisite: CSC 274 or consent of instructor.
The writing of compilers, operating systems and utility programs. Sorting and timing techniques included. (formerly CSC 90)

**CSC 294 Teleprocessing Concepts / 3 cr. hrs. / 4 periods (3 lec., 1 lab)**

☐ Prerequisite: CSC 274, 281, or consent of instructor.
Topics covered are terminology of teleprocessing systems, hardware characteristics, considerations of direct access, back-up and recovery procedures, buffering and queuing techniques. (formerly CSC 94)

**CSC 296 Operating Systems / 3 cr. hrs. / 4 periods (3 lec., 1 lab)**

☐ Prerequisite: CSC 270, 274, or consent of instructor.
A study of the design and functions of a computer's operating system. Emphasizes system generation as affected by computer size, configuration, needed library routines and macros. Students work through an actual generation of an operating system. (formerly CSC 76)

**CSC 298 Data Processing Projects II / 1 to 5 cr. hrs. 3 to 15 periods**

☐ Prerequisite: Consent of instructor.
Credit is given for practical work experience on assigned data processing projects. (formerly CSC 98)

**CSC 299 Cooperative Computer Science Training / 3 cr. hrs 15 periods (lab)**

A supervised cooperative work program for students in a computer science occupation for a minimum of 15 hours per week. Course may be repeated.

## DENTAL ASSISTING

**DAT 61 Introduction to Dental Assisting / 3 cr. hrs. 3 periods**

☐ Prerequisite: Consent of program coordinator.
Component I — Designed to help students understand the history of the profession and the variety of areas of dental practice. Also included are health and grooming, dental hygiene, job opportunities and demands. Component II — The object of this course is to enable students to develop a knowledge of basic science as it relates to dentistry; body structure, tissue and tooth development; methods of sterilization; how to select and perform sterilization of instruments and equipment.

**DAT 62 Dental Assisting I /3 cr. hrs. / 7 periods (1 lec., 6 lab)**

☐ Prerequisite: Consent of program coordinator.
Students learn dental terminology and morphology of the human dentition; prepare patients for operative procedures; select instruments used in various operative procedures; learn to demonstrate and maintain proper care of dental and laboratory equipment.

**DAT 63 Oral Radiography / 3 cr. hrs. / 5 periods (2 lec., 3 lab)**

☐ Prerequisite: Consent of program coordinator.
Students learn the importance of dental roentgenography as a diagnostic aid; develop knowledge of safety factors when exposing radiograms; learn to expose, process, mount, label and file radiographs; and learn to recognize radiographs that are acceptable for diagnosis.

**DAT 64 Dental Materials / 3 cr. hrs. / 5 periods (2 lec., 3 lab)**

☐ Prerequisite: Consent of program coordinator.
Course enables students to understand the chemical and physical properties of dental materials; the use of materials in specific operative procedures; units of measure and use of various measuring devices; use and maintenance of all related equipment.

**DAT 65 Clinical Procedures I / 3 cr. hrs. / 8 periods (lab)**

☐ Prerequisite: Consent of program coordinator.
Students apply their acquired skill of routine and special procedures in dental assisting under the direct supervision of a dentist and the faculty.

**DAT 66 Dental Assisting II /2 cr. hrs. / 4 periods (1 lec., 3 lab)**

☐ Prerequisite: Satisfactory completion of DAT 61 through 65.
Students learn to administer first aid in emergency situations; classifications of drugs and methods of administration; normal effects of drugs and anesthetics used in dentistry; etiology and control of dental caries; an understanding of common developmental anomalies of the human dentition; an understanding of nutrition and how it affects dental and total health.

**DAT 67 Dental Assisting III / 5 cr. hrs. / 9 periods (3 lec., 6 lab)**

☐ Prerequisite: Satisfactory completion of DAT 61 through 65.
Students demonstrate the use of armamentaria for specialty procedures; identify terminology characteristics of each area of dental practice; maintain dental office records and manage appointment schedules; learn to order and keep a running inventory of supplies; learn dental laboratory procedures.

**DAT 68 Clinical Procedures II / 6 cr. hrs. / 16 periods (lab)**

☐ Prerequisite: Satisfactory completion of DAT 61 through 65.
A continuation of DAT 65. Students apply advanced skills in private dental offices under the direct supervision of the dentist and instructor.

## DRAFTING

**DFT 110 Construction Drafting I / 3 cr. hrs. / 6 periods (3 lec., 3 lab)**

An introduction to drafting and blueprint reading. Plot plans, floor plans, elevations, sections, details, structural plans, plumbing, heating, ventilating and air conditioning, and electrical plans are involved in developing a basic understanding of construction drawings and drafting techniques. (formerly DFT 61)

**DFT 114–115 Construction Determinants I, II / 3–3 cr. hrs. 3 periods**

An introduction to architecture and construction with emphasis on materials, methods of construction, building equipment systems, codes and standards, contract documents, office procedures, ethics, architectural practice and estimating. (formerly DFT 66–67)

**DFT 120 Construction Drafting II / 3 cr. hrs. / 6 periods (3 lec., 3 lab)**

☐ Prerequisite: DFT 110.
Introduces the development of a set of residential and wood frame construction working drawings from a given sketch. (formerly DFT 62)

**DFT 123 Building Utilities and Site Work / 3 cr. hrs. 6 periods (3 lec., 3 lab)**

☐ Prerequisite: DFT 120.
The basic concepts for building service support systems and site development. (formerly DFT 65)

**DFT 130 Construction Drafting III / 3 cr. hrs. / 6 periods (3 lec., 3 lab)**

☐ Prerequisite: DFT 120.
A continuation of DFT 120, developing construction drawings for a masonry and wood frame residence from house sketches selected by students. (formerly DFT 63)

**DFT 140 Construction Drafting IV / 3 cr. hrs. / 6 periods (3 lec., 3 lab)**

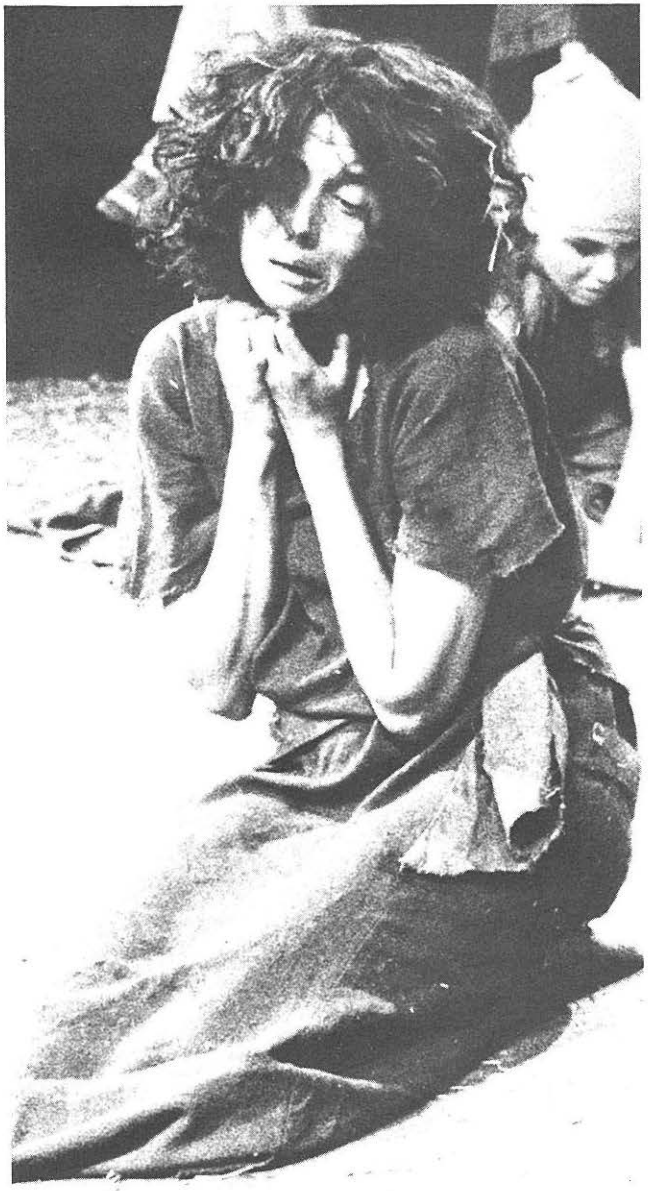
☐ Prerequisite: DFT 130.
A continuation of DFT 130, developing construction drawings for a medium size steel or concrete building. (formerly DFT 64)

**DFT 149 Independent Study in Drafting / 1 to 3 cr. hrs. 3+ periods (lab)**

Independent study or a special project not included in regular courses. The student is required to obtain a sponsoring instructor in this area, establish objectives, a method of procedure and a method of evaluation. (formerly DFT 99)

**DFT 150 Technical Drafting I / 3 cr. hrs. / 6 periods (3 lec., 3 lab)**

The student proceeds through problems he will meet in his association with engineers and designers, and becomes familiar with drafting tools, sketching, lettering, geometric construction, orthographic projection, dimensioning, isometrics, sections and auxiliary views using military standards and specifications as a guide. (formerly DFT 55)



**DFT 151 Technical Drafting II / 3 cr. hrs. / 6 periods (3 lec., 3 lab)**

☐ Prerequisite: DFT 150.
A continuation of DFT 150, furthering the skills of the student. First course procedures are reviewed with the following topics occurring for problem solution: dimensioning, tolerancing, detail and assembly drawings, and hardware selection with Mil Standards and Specifications as the guide. (formerly DFT 56)

**DFT 152 Technical Drafting III / 3 cr. hrs. / 6 periods (3 lec., 3 lab)**

☐ Prerequisite: DFT 150, 151.
This course follows DFT 151 and covers additional problems in mechanical drafting. The student is given more advanced problems, typical of industry, to develop skill, accuracy and speed. (formerly DFT 57)

**DFT 153 Tool Design / 4 cr. hrs. / 6 periods (4 lec., 2 lab)**

☐ Prerequisite: DFT 150, 151 and 152.
Introduction to the problems of tool design, drill jigs, radius dies, fixtures, welding jigs and assembly jigs. Drawings are prepared concurrently with the study of related shop practices, mathematics, geometry, materials and basic tools of jig and fixture fabrications. (formerly DFT 58)

**DFT 154 Electronic Drafting / 3 cr. hrs. / 6 periods (3 lec., 3 lab)**

☐ Prerequisite: DFT 150, ETR 1.
Offered primarily for the drafting technician student. Instruction stresses schematics, logic diagrams, printed circuit and integrated circuit layout, including taping. (formerly DFT 73)

**DFT 155 Electro-Mechanical Design / 3 cr. hrs. / 6 periods (3 lec., 3 lab)**

☐ Prerequisite: DFT 150, 151, 152.
Practical packaging problems, common to the electronics industry, are studied. Includes electrical, mechanical, environmental, functional and manufacturing involvement in the design of electromechanical gear. (formerly DFT 77)

**DFT 156 Drafting for Machine Technology I / 3 cr. hrs. 6 periods (3 lec., 3 lab)**

Course provides the information and skill needed for an understanding of the tooling trade related to numerical control. The student will demonstrate his knowledge by preparing reports and drawings pertaining to basic tools (fixtures and jigs) for machine operator's documents. (formerly DFT 76)

**DFT 299 Cooperative Drafting Training / 3 cr. hrs. 15 periods (lab)**

A supervised cooperative work program for students in a drafting occupation for a minimum of 15 hours per week.
Course may be repeated.

## DRAMA

**DRA 105–106 Introduction to Acting I, II / 3–3 cr. hrs. 5 periods (3 lec., 2 lab)**

☐ Prerequisite: DRA 105 for DRA 106.
Introduction to performance techniques and the development of physical skills for effective performance; techniques of acting and characterization, and the actor's relationship to all aspects of theatrical production. (formerly DRA 5–6)

**DRA 109 Ethnic Theater / 1 to 4 cr. hrs. / 3+ periods (lab)**

Experience in and study of theater as a social communication, including Mexican-American, Black and American Indian forms of dramatic presentation. (formerly DRA 9)

**DRA 115 Make-Up / 1 cr. hr. / 3 periods (1 lec., 2 lab)**
The study and practice of straight and character make-up under various conditions. Also, the history of make-up and masks in various cultures. (formerly DRA 15)

**DRA 120–121 Stagecraft and Production I, II / 3–3 cr. hrs. 5 periods (3 lec., 2 lab)**
Study and experience in the technical organization of the theater, stage management, scenery construction and painting, basic drafting, special effects, and lighting mounting and operations. (DRA 120–121 need not be taken in sequence). (formerly DRA 20–21)

**DRA 201 Independent Studies in Drama / 1 to 4 cr. hrs. 3+ periods (lab)**
Students pursue independent study under guidance of an instructor. (formerly DRA 1)

**DRA 240–241 History of the Theater I, II / 3–3 cr. hrs. 3 periods**
A study of theater and drama from primitive rituals to the present, including European, Oriental, African and American cultural influences on the development of various dramatic levels. (formerly DRA 40–41)

**DRA 248–249 Intermediate Acting I, II / 3–3 cr. hrs. 4 periods (3 lec., 1 lab)**
The theories and experiences in creating sustained and logical character portrayals, using all types of dramatic literature from various cultures. (formerly DRA 48–49)

## EARLY CHILDHOOD EDUCATION

**ECE 107 Human Development and Relations / 3 cr. hrs. 3 periods**
An interdisciplinary and intercultural approach to human development and interpersonal relationships. (formerly ECE 7)

**ECE 108 Literature for the Young Child / 3 cr. hrs. / 3 periods**
History and development of young children's literature; survey of materials, principles and techniques in the selection and presentation of various types of materials. (formerly ECE 38)

**ECE 110 Language Arts for the Young Child / 3 cr. hrs. 3 periods**
Investigation of language development of the young child; principles, methodology and techniques surveyed for the purpose of curriculum development. (formerly ECE 57)

**ECE 112 Music for the Young Child / 3 cr. hrs. / 3 periods**
The role of music for the young child; presentation of materials, activities and procedures for teaching music to young children. (formerly ECE 58)

**ECE 114 Effective Parenthood / 3 cr. hrs. / 3 periods**
Discussion of specific behavior problems related to personality development. Background for understanding parent-child relationships. (formerly ECE 67)

**ECE 116 Understanding the Young Child / 3 cr. hrs. 3 periods**
Intensive study of increased understanding of the young child's behavior, guidance, social and cultural influence. (formerly ECE 68)

**ECE 117 Child Development / 3 cr. hrs. / 3 periods**
A study of the growth, development and acculturation of the child from conception through adolescence. (Same as Recreation 117.) (formerly ECE 17)

**ECE 117 La Ninez / 3 cr. hrs. / 3 periods**
Estudio del crecimiento, desarrollo y aculturacion del ser humano desde la concepcion hasta el nacimiento, y a traves de la ninez.

**ECE 118 Pre-School Education / 3 cr. hrs. / 3 periods**
A study of various philosophies, theories and methodologies of curriculum for early childhood education with supervised field experience. (formerly ECE 77)

**ECE 120 Supervision and Administration / 3 cr. hrs. 3 periods**
A study of all administrative responsibilities and duties of management, and supervision within all areas of Early Childhood Education. (formerly ECE 78)

**ECE 122 Community Resources / 3 cr. hrs. / 3 periods**
A study of the local early childhood education community resources and agencies through investigation and field work. (formerly ECE 79)

**ECE 124 Math and Science for the Young Child / 3 cr. hrs. 3 periods**
Concepts, methods and materials in teaching math and science to the young child; techniques in the presentation and use of teacher-made materials. (formerly ECE 85)

**ECE 126 Techniques for Teacher Aides / 3 cr. hrs. 3 periods**
A course designed primarily for the development of skills of the teacher aide. A thorough investigation of special duties and the role of the teaching staff. Supervised field work is a part of the course. (formerly ECE 87)

**ECE 128 Planning for Play / 3 cr. hrs. / 3 periods**
Conflicting theories of play and the educational implications of each in a curriculum. Selected observation assignments are required. (formerly ECE 88)

**ECE 130 Current Trends in Early Childhood Education 3 cr. hrs. / 3 periods**
Current trends and the history of the pre-school movement; philosophy underlying pre-schools; survey of the contemporary pre-school programs; and evaluation of various teaching methods.

**ECE 240 Early Childhood Education Practicum / 3 cr. hrs. 15 periods (lab)**
Participation in community pre-schools for the purpose of gaining experience in program planning for the growth and learning of children up to six years of age. Weekly seminars are conducted to discuss theory and practice pertinent to the involvement of the pre-schools.

**ECE 299 Cooperative Early Childhood Education Training 3 cr. hrs. / 15 periods (lab)**
A supervised cooperative work program for students in an early childhood education occupation for a minimum of 15 hours per week. Course may be repeated.

## EARTH SCIENCES

**ESC 60 Principles of Lapidary / 3 cr. hrs. / 5 periods (3 lec., 2 lab)**
A practical laboratory course in the identification, polishing and mounting of semi-precious materials. (Same as ART 60.)

**ESC 70 Geology of the Western United States / 3 cr. hrs. 4 periods (2 lec., 2 lab)**

This course provides an introduction to physical and historical geology using examples from the western United States including national parks and monuments.

**ESC 101 Physical Geography I / 4 cr. hrs. / 6 periods (3 lec., 3 lab)**

The physical elements — weather, climate, vegetation and soils — are interrelated and form patterns of great importance to man. This course is about those elements, their interrelationships, the resulting patterns and why they are important. (formerly ESC 1)

**ESC 102 Physical Geography II / 4 cr. hrs. / 6 periods (3 lec., 3 lab)**

☐ Prerequisite: ESC 101 suggested but not required.
Topics include geographic characteristics of the major types of land forms plus an introduction to the oceans of the world and their relationship to man.

**ESC 103 Cultural Geography / 4 cr. hrs. / 6 periods (3 lec., 3 lab)**

This course is about people, where and how they live and some of the reasons why they live as they do. Race, language, religion and the physical environment are interwoven and changed by time to produce many different economic and settlement patterns. (Same as Anthropology 103.) (formerly ESC 2)

**ESC 112 Geology for Education Majors / 3 cr. hrs. 4 periods (2 lec., 2 lab)**

☐ Prerequisite: Majoring in education.
The processes, characteristics, origin and evolution of the earth; development of life; and man's dependence upon the earth. Applicability to elementary education is stressed. Credit is not allowed for ESC 112 if student has credit for either ESC 120 or 121. (formerly ESC 12)

**ESC 115 Human Ecology / 4 cr. hrs. / 6 periods (3 lec., 3 lab)**

Focus is on the question of survival for mankind and other life forms, exploring both present problems and alternatives for the future. Included are lectures, discussions and field trips. (Same as Life Sciences and Sociology 115.) (formerly ESC 15)

**ESC 120 Introductory Geology I / 4 cr. hrs. / 6 periods (3 lec., 3 lab)**

An introduction to the physical aspects of the earth's crust; rock and minerals, their relationship to one another, and the surface and subsurface processes that operate on and in the earth. (formerly ESC 20)

**ESC 121 Introductory Geology II / 4 cr. hrs. / 6 periods (3 lec., 3 lab)**

This course traces the history of the earth and life on earth as indicated by the sequence of rock layers, the distribution of surface sediments, former geographic relationships, the fossil record and the nature of ancient environments. (formerly ESC 21)

**ESC 299 Cooperative Earth Sciences Training / 3 cr. hrs. 15 periods (lab)**

A supervised cooperative work program for students in an earth sciences occupation for a minimum of 15 hours per week. Course may be repeated.

## ECONOMICS

**ECO 50 Economic History / 3 cr. hrs. / 3 periods**

The contributions of major economists such as Smith, Marx, Keynes and Galbraith to economics, and how they influenced contemporary economics. (formerly ECO 1)

**ECO 100 Introduction to Microeconomics / 3 cr. hrs. 3 periods**

The role of prices in the allocation of economic resources with an emphasis on how individual consumers and producers make economic decisions. (formerly ECO 2)

**ECO 101 Introduction to Macroeconomics / 3 cr. hrs. 3 periods**

The determinants of the level of national income, employment and the price level are analyzed from the viewpoint of an economic policy maker. (formerly ECO 3)

**ECO 298 Topics in Contemporary Economics / 3 cr. hrs. 3 periods**

☐ Prerequisite: ECO 100 or 101.
Supervised independent study of economic topics determined by student interest. (formerly ECO 4)

## ELECTRONICS

**ETR 1 Introduction to Electronics / 4 cr. hrs. / 6 periods (2 lec., 4 lab)**

☐ Prerequisite: MTH 70 series or concurrent enrollment.
A pre-program course for students who have not had previous training in electronics or for those who require some knowledge of electronic principles to support their major program. Includes DC circuits, use of multimeters, oscilloscopes and basic radio theory. (formerly ETR 51)

**ETR 100 Fundamentals of Electronics / 6 cr. hrs. / 8 periods (4 lec., 4 lab)**

☐ Prerequisite: ETR 1 or equivalent, MTH 130, MTH 115, or concurrent enrollment.
Topics include fundamentals of direct current and alternating current, passive circuit elements and their interaction with active circuit devices such as diodes, transistors and vacuum tubes. (formerly ETR 54)

**ETR 105 Electronics Circuits and Systems I / 6 cr. hrs. 8 periods (4 lec., 4 lab)**

☐ Prerequisite: ETR 100, MTH 150 or MTH 125 or concurrent enrollment.
The fundamentals of circuit analysis; power supplies; regulators; class A, B, AB and C amplifiers; introduction to feedback amplifiers. May be taken concurrently with ETR 110. (formerly ETR 57)

**ETR 110 Digital Electronics / 3 cr. hrs. / 4 periods (2 lec., 2 lab)**

☐ Prerequisite: ETR 100, MTH 150 or MTH 125 or concurrent enrollment.
The fundamentals of digital electronics, binary, octal and hexadecimal arithmetic, digital logic, discrete and integrated circuits; and programming of PDP-8L computer in the BASIC language. May be taken concurrently with ETR 105. (formerly ETR 80)

**ETR 140 Television Repair I (Black and White) / 6 cr. hrs. 8 periods (4 lec., 4 lab)**

☐ Prerequisite: ETR 1 or equivalent.
The fundamentals of television circuits, tubes and transistors; theory, alignment and repair of black and white television receivers. (formerly ETR 72)

**ETR 145 Television Repair (Color) / 6 cr. hrs. / 8 periods (4 lec., 4 lab)**

☐ Prerequisite: ETR 140 or practicing TV technician.
Color television theory, alignment and repair; picture tube convergence, IF amplifiers, tuner alignment, remote control automatic tuning, sync and high-voltage circuits. (formerly ETR 73)

**ETR 150 Home Entertainment Equipment Repair / 6 cr. hrs. 8 periods (4 lec., 4 lab)**

☐ Prerequisite: ETR 140.
The repair of home entertainment equipment other than television receivers. Course includes theory and repair of audio amplifiers, AM-FM-MPX receivers, tape decks, cassette decks, turntables, dolby and other noise reduction devices. (formerly ETR 75)

**ETR 230 Advanced Circuits and Systems / 6 cr. hrs. 8 periods (4 lec., 4 lab)**

☐ Prerequisite: ETR 105 and 110, MTH 155 or 205 or concurrent enrollment.
Advanced circuit analysis, primary signal sources, filters, R.F. amplifiers, AM and FM modulation systems. (formerly ETR 61)

**ETR 235 Communications / 6 cr. hrs. / 8 periods (4 lec., 4 lab)**

☐ Prerequisite: ETR 230.
Communications systems from low through microwave frequencies; FM, AM and PM modulation and multiplexing methods and antenna systems; troubleshooting and system alignment techniques. (formerly ETR 63)

**ETR 250 Digital Devices / 3 cr. hrs. / 4 periods (2 lec., 2 lab)**

☐ Prerequisite: ETR 105, ETR 110 or equivalent experience; MTH 155 or MTH 205 or concurrent enrollment.
Digital integrated circuit applications, construction and maintenance; specific applications of TTL logic family in a multiplexed digital communications system. (formerly ETR 81)

**ETR 255 Digital Systems / 6 cr. hrs. / 8 periods (4 lec., 4 lab)**

☐ Prerequisite: ETR 250.
Minicomputer maintenance, interfaces, assembly and machine languages, MOS logic, operational amplifiers, A/D-D/A converters, pulse modulation, modems, digital transmission lines, unijunction transistors and SCR/TRIAC control of AC circuits. (formerly ETR 82)

**ETR 275 Industrial Electronics and Instrumentation 6 cr. hrs. / 8 periods (4 lec., 4 lab)**

☐ Prerequisite: ETR 230, MTH 115 or 205.
Principles of industrial electronics, pneumatics and hydraulics, transducers, control devices and feedback loops. (formerly ETR 67)

**ETR 290 Second Class F.C.C. License / 3 cr. hrs. / 6 periods**

☐ Prerequisite: ETR 230 or equivalent experience.
Preparation for second class F.C.C. license examination and review of circuit analysis, laws and regulations. (formerly ETR 74)

**ETR 299 Cooperative Electronics Training / 3 cr. hrs. 15 periods (lab)**

A supervised cooperative work program for students in an electronics occupation for a minimum of 15 hours per week. Course may be repeated.

## EMERGENCY MEDICAL TECHNOLOGY

**EMT 51 Emergency Medical Technology / 6 cr. hrs. 6 periods (4 lec., 2 lab)**

A 114-hour course covering all techniques of emergency medical care currently considered as responsibilities of the emergency medical technician. Skills are developed in recognizing symptoms of illness and injuries and proper procedures of emergency care.

## ENGINEERING

**ENG 110 Construction Surveying / 3 cr. hrs. / 6 periods (2 lec., 4 lab)**

☐ Prerequisite: MTH 110 or consent of instructor.
Course covers the use of surveying instruments, measurement of horizontal distances, leveling, angle measurements, traversing, locating details, stadia surveys, topographic mapping and grade staking. (formerly ENG 70)

**ENG 120 Engineering Graphics / 3 cr. hrs. / 7 periods (1 lec., 6 lab)**

☐ Prerequisite: DFT 150 or equivalent.
Freehand technical sketching, instrument working drawings, principles of projection, descriptive geometry, applications to engineering space problems. (formerly ENG 2)

**ENG 130 Elementary Surveying / 3 cr. hrs. / 6 periods (2 lec., 4 lab)**

☐ Prerequisite: MTH 150 and 155, or MTH 160.
Measurement of horizontal distances, use of surveying instruments, angle measurements, traverse surveys and computations, topographics, government land surveys and solar observations. (formerly ENG 21)

**ENG 210 Engineering Mechanics-Statistics / 3 cr. hrs. 3 periods**

☐ Prerequisite: PHY 210, MTH 215 — may be taken concurrently.
Vector algebra, equilibrium, momentum, couples, centroids, trusses, machines, friction and equivalent force systems. (formerly ENG 14)

**ENG 220 Engineering Mechanics-Dynamics / 3 cr. hrs. 3 periods**

☐ Prerequisite: ENG 210.
Rectilinear motion, curvilinear motion, kinetics of particles, translation, moment of inertia and plane motion of rigid bodies.

**ENG 230 Mechanics of Materials / 3 cr. hrs. / 3 periods**

☐ Prerequisite: ENG 210.
Material behavior, external forces on rigid and elastic bodies, stress, strain, load analysis and design factors. (formerly ENG 17)

**ENG 299 Cooperative Engineering Training / 3 cr. hrs. 15 periods (lab)**

A supervised cooperative work program for students in an engineering occupation for a minimum of 15 hours per week. Course may be repeated.

## ENGLISH AS A SECOND LANGUAGE

**ESL 50 Series / 6 cr. hrs. / 7+ periods (6 lec., 1–4 lab)**

Offered for non-native speakers of English and bilingual students. Diagnostic testing and teacher evaluation determine each student's entry level. ESL is an intensive study for acquiring and improving basic skills in listening, speaking, reading and writing the English language in each of three levels: ESL 50 — Basic Skills, ESL 51 — Intermediate Skills, and ESL 53 — Advanced Skills. Classes meet eight hours a week, two hours daily for four days. Special schedules can be arranged for students who have a class conflict.

**ESL 50 Ingles Como Segundo Idioma / 6 cr. hrs. 7+ periods (6 lec., 1–4 lab)**

Es para estudiantes cuyo idioma materno no es el ingles y para estudiantes bilingues. ESL es un estudio intensivo para adquirir y mejorar los conocimientos basicos del ingles. Se trata de mejorar las facultades auditivas, orales, la lectura, y la escritura del idioma. Se dan pruebas para identificar las areas problematicas y tambien se hacen evaluaciones por parte del instructor para asi determinar el nivel in que el estudiante debe principiar sus estudios. Las clases se reunen cuatro dias por semana.

## FINANCE

**FIN 101 Savings and Loan Business Operations / 3 cr. hrs. 3 periods**

A view of the role of savings associations in the country's economy; also, a detailed exposure of the asset-liability structure as well as the needs and uses of accounting and other statistical reports. Course content includes association tax regulations, using reports to analyze savings flows and lending processes, savings associations and the social environment. (formerly BUS 79)

**FIN 102 Principles of Bank Operations / 3 cr. hrs. / 3 periods**

The fundamentals of bank functions are given in a descriptive fashion to help the beginning banker view his profession in a broad perspective. (formerly BUS 69)

**FIN 103 Savings and Time Deposit Banking / 3 cr. hrs. 3 periods**

Reviewed are the economics of the savings process, clarifying differences between savings by individuals or organizations and real savings that appear as capital formation; and the different types of financial savings. (formerly BUS 75)

**FIN 104 Insurance of Savings Accounts / 3 cr. hrs. 3 periods**

☐ Prerequisite: FIN 101.
Course content includes insurance of accounts, proxies, loans secured by savings accounts, decedent accounts, liquidity, terminology, policy regarding legal advice, classification of ownership and basic theory of savings. (formerly BUS 81)

**FIN 105 Fundamentals of Bank Data Processing / 3 cr. hrs. 3 periods**

A broad and non-technical explanation of electronic data processing as applied to banks. (formerly BUS 77)

**FIN 106 Teller Operations — Public Relations / 3 cr. hrs. 3 periods**

Course develops the teller to provide accurate and efficient service and introduces fundamental principles of public relations. Topics include handling of cash and checks, savings accounts, how images are created, public relations practices and reports on attitudes and customer relations. (formerly BUS 83)

**FIN 131 Credit Union Basics / 3 cr. hrs. / 3 periods**

The credit union idea is explained in detail. Course also provides information and training to prepare persons as credit union executives. Students learn details of credit union operations, how to conduct an annual meeting and what preparations are needed, and how to present the credit union idea at a public meeting.

**FIN 132 Credit Union Management / 3 cr. hrs. / 3 periods**

☐ Prerequisite: FIN 131.
Designed for the potential credit union office manager. Topics include policy formulation, personnel practices, growth management, counseling and lending, account servicing, fund management, and the responsibilities of elected and appointed officials.

**FIN 201 Trust Department Organization / 3 cr. hrs. 3 periods**

The course concentrates on the actual operation and administration of the trust institution; how a trust department is organized, how responsibility is shared among divisions, and how department growth may be stimulated. (formerly BUS 70)

**FIN 202 Trust Department Services / 3 cr. hrs. / 3 periods**

Designed for personnel of trust departments in commercial banks and trust companies, the course presents a complete picture of services offered by institutions engaged in the trust business. (formerly BUS 76)

**FIN 203 Bank Management / 3 cr. hrs. / 3 periods**

A working knowledge of bank management is provided along with new trends which have emerged in the philosophy and practice of management. Case study also is introduced. (formerly BUS 62)

**FIN 204 Credit Administration / 3 cr. hrs. / 3 periods**

Aimed at the executive level, this course reviews factors influencing and determining loan policy. Discussed are credit investigation and analysis, credit techniques, specific credit problems, and regular and unusual types of loans. (formerly BUS 68)

**FIN 205 Home Mortgage Lending / 3 cr. hrs. / 3 periods**

The viewpoint of the home mortgage loan officer is taken in this course. The mortgage market picture is presented first, then the acquisition of a mortgage portfolio; also mortgage plans and procedures, mortgage loan processing and servicing, and obligations of the mortgage loan officer. (formerly BUS 74)

**FIN 206 Bank Public Relations and Marketing / 3 cr. hrs. 3 periods**

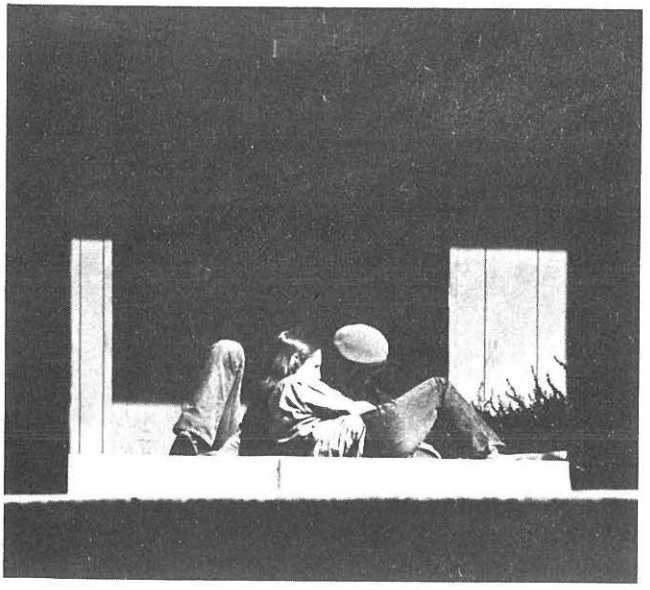
The basis of public relations, both internal and external, is discussed.

**FIN 207 Bank Letters and Reports / 3 cr. hrs. / 3 periods**

For bank officers, supervisors and employees who dictate or review correspondence. Not only mechanical forms of bank letters, but psychological principles that help the writer achieve best results. The course covers letter forms, different kinds of bank letters, and principles underlying modern correspondence. (formerly BUS 71)

**FIN 208 Installment Credit / 3 cr. hrs. / 3 periods**

Presented are techniques of installment lending with emphasis on credit, obtaining and checking information, servicing the loan and collecting amounts due. Other topics covered are inventory financing, special loan programs, business development and advertising, and the public relations aspect of installment lending. (formerly BUS 53)



**FIN 209 Bank Investments / 3 cr. hrs. / 3 periods**

This course describes the nature of primary reserves and loanable funds and how their uses are determined. Also analyzed are primary and secondary reserve needs of commercial banks, reserve sources and their fluctuations. A study of yield changes and their effect on long-term holdings of banks also are covered.

**FIN 210 Money and Banking / 3 cr. hrs. / 3 periods**

Stressed are practical aspects of money and banking, and the basic monetary theory needed by banking students. Emphasis also is on economic stabilization, types of spending, the role of gold, limitations of central bank control, government fiscal policy, balance of payments and foreign exchange. (formerly BUS 72)

**FIN 211 International Banking / 3 cr. hrs. / 3 periods**

The basic framework and fundamentals of international banking are introduced along with how money is transferred from one country to another, how trade is financed, what the international agencies are and how they supplement the work of commercial banks, and how money is changed from one currency to another. (formerly BUS 73)

**FIN 212 Financial Institutions / 3 cr. hrs. / 3 periods**

Content includes the role of finance, money and the money supply, banking, monetary roles of the Federal Reserve and Treasury, financial objects of corporate organization, the financing of business, securities, markets, small business finance, farm credit institutions and capital markets. (formerly BUS 80)

**FIN 213 Business Finance / 3 cr. hrs. / 3 periods**

☐ Prerequisite: ACC 102.
A basic course dealing with the methods of securing and managing fixed and working capital funds of individual business units. Special problems encountered by minority enterprises in obtaining funds are highlighted. (formerly BUS 58)

**FIN 214 Agricultural Finance / 3 cr. hrs. / 3 periods**

Emphasized are general principles associated with the evaluation of management and the use of capital, rather than land and labor resources. It provides the banker with an understanding of agricultural finance to help satisfy credit needs of modern agriculture. (formerly BUS 78)

**FIN 215 Business Administration / 3 cr. hrs. / 3 periods**

Emphasis is on the managerial responsibility of coordinating the many facets of a business enterprise. The background of administration, financial management, production, labor-management relations, and public relations problems also are stressed.

**FIN 216 Insurance / 3 cr. hrs. / 3 periods**

☐ Prerequisite: BUS 110.
This course explores the theory of risk and reviews the insurable risks faced by business and individuals. Content includes risk and insurance, contracts, property and liability insurance, homeowner's program, general liability insurance program, excess and umbrella liability contracts, special multi-peril contracts, planning and buying insurance. (formerly BUS 82)

**FIN 217 Analyzing Financial Statements / 3 cr. hrs. 3 periods**

Characteristics of financial statements and their analysis are covered in the course. There also is a review of basic accounting principles for those who have studied accounting. For those who have not, there is a minimum accounting background provided for financial statement analysis. (formerly BUS 52)

**FIN 218 Formulation of a Commercial Loan Decision**
**3 cr. hrs. / 3 periods**

☐ Prerequisite: Lending officer experience.
This course is for the professional lending officer who wishes to improve his ability to critically analyze a commercial loan application. The development of a formal written recommendation is stressed.

**FIN 233 Intermediate Banking Operations / 3 cr. hrs.**
**3 periods**

☐ Prerequisite: Two years banking experience.
A study of bank operations at a level appropriate for students who possess an overview knowledge. Relationships among departments and their functions are stressed. The creation of credit and the need for external controls are reviewed in depth. (formerly BUS 84)

## FIRE SCIENCE

**FSC 50 Basic Training — Fire Fighter / 3 cr. hrs.**
**10 periods (1 lec., 9 lab)**

☐ Prerequisite: Employment with Tucson Fire Department.
At least 12 weeks of classroom and field practice is spent at the Tucson Fire Department Training Center under the direction of instructors and in close liaison with the college's fire science coordinator.

**FSC 51 Introduction to Fire Science / 3 cr. hrs. / 3 periods**

A historical and scientific background of the fire protection field; its development and future in America; governmental, industrial and private fire protection organizations and agencies; employment and promotional opportunities.

**FSC 52 Fundamentals of Fire Prevention / 3 cr. hrs.**
**3 periods**

Fire prevention surveys; "selling" the service to businessmen; helping the businessman to stay in business; public relations; and the application of fire prevention codes.

**FSC 53 Hazardous Materials I / 3 cr. hrs. / 3 periods**

☐ Prerequisite: FSC 52, MTH 70 or consent of instructor.
A study of basic chemical concepts and their applications to the field of fire science.

**FSC 54 Advanced Fire Prevention / 3 cr. hrs. / 3 periods**

Fire prevention in high risk and industrial occupancies; application of codes in the installation, operation, storage and transportation of dangerous materials; investigation and determination of fire causes; legal aspects of fire prevention and prosecution of violations.

**FSC 61 Hazardous Materials II / 3 cr. hrs. / 3 periods**

☐ Prerequisite: FSC 53 or consent of instructor.
A study of chemical use expansion in the field of fire science; how to identify, classify, research and handle under hazardous and safe conditions most flammable, explosive, reactive and toxic materials; where they are likely to be found, shipped, used, and the special problems they cause.

**FSC 62 Hydraulics and Fire Suppression / 3 cr. hrs.**
**3 periods**

☐ Prerequisite; MTH 70. PHY 101 recommended.
Physical laws affecting the movement of water through pipes, hydrants, pumpers, hoses, etc.; functions and limitations of mechanical equipment to overcome these restrictions; effect of friction loss, head and pressure, water systems; fire flow requirements and organization for fire suppression.

**FSC 63 Fire Apparatus and Equipment / 3 cr. hrs.**
**3 periods**

☐ Prerequisite: PHY 101 recommended.
Automotive apparatus; pumpers, aerial ladders, lift platforms, water towers, hose wagons, transports and utility vehicles; auxiliary heavy mechanical equipment and appliances; generators, compressors, rescue and forcible entry tools and cutting torches.

**FSC 64 Fire Protection Systems / 3 cr. hrs. / 3 periods**

Portable and fixed fire extinguishing equipment, automatic sprinkler and deluge systems; rate of temperature rise and smoke detecting devices and alarm systems.

**FSC 65 Building Construction for Fire Protection / 3 cr. hrs.**
**3 periods**

How building design affects fire travel; relation of fire load to propagation of flame; non-conforming structures; application of building codes.

**FSC 66 Fire Suppression, Strategy and Tactics / 3 cr. hrs.**
**3 periods**

Planning an attack to fit the problem; revising the plan of attack to meet changing situations.

**FSC 67 Rescue Practices and First Aid / 3 cr. hrs.**
**3 periods**

Basic training in handling emergency situations.

**FSC 71 Public Safety Laws / 3 cr. hrs. / 3 periods**

Laws relating to the public safety profession; legal duties and responsibilities of public safety employees.

## FRENCH

**FRE 110–111 Elementary French I, II / 4–4 cr. hrs.**
**5 periods (4 lec., 1 lab)**

An oral approach to French taught primarily through conversation. Reading and writing are introduced only after listening and speaking skills have been acquired. Only French is used. (formerly FRE 1–2)

**FRE 210–211 Intermediate French I, II / 4–4 cr. hrs.**
**4 periods**

☐ Prerequisite: FRE 110–111.
A review of basic French skills supplemented by regular assignments of compositions, in French, and a variety of readings. As in the introductory course, only French is used. (formerly FRE 3–4)

## GENERAL BUSINESS

**GEB 84 Public Relations / 3 cr. hrs. / 3 periods**

All categories of public relations problems and practices are covered: corporate, business, association, government, education and other agencies. Includes good media relations as well as writing news releases, newsletters, speeches, memos and the step-by-step operation of a public relations compaign. Course also provides an understanding of the place of public relations in an efficient organization.

**GEB 86 Tax Problems of the Independent Businessman**
**3 cr. hrs. / 3 periods**

Emphasis is on tax problems common to small businesses and industries: retail, service and manufacturing. Course also surveys accounting systems beneficial to the small businessman.

**GEB 96 Applied Accounting / 3 cr. hrs. / 3 periods**
A basic course with emphasis on establishing and maintaining records of accounts receivable and payable, preparing operating statements, balance sheets and tax forms. Prepares students for entry level jobs requiring some bookkeeping knowledge.

**GEB 97 Television Advertising / 3 cr. hrs. / 3 periods**
An introduction to the principles of television advertising with emphasis on the use of visual and oral techniques in preparing advertisements. Prepares students for entry level jobs in the television advertising field.

**GEB 98 Introduction to Hotel-Motel Management / 2 cr. hrs. 2 periods**
A critical examination of the principles, methods and procedures used in the hotel-motel management field. Introduces students to employee supervision, hotel-motel law legislation, customer relations, financial policies and records.

**GEB 99 The Stock Market / 3 cr. hrs. / 3 periods**
The study of stocks, bonds, speculative investments, mutual funds and commodities.

## GENERAL OFFICE EDUCATION

**GOE 90 Typing Refresher / 3 cr. hrs. / 3 periods (2 lec., 1 lab)**
A review course for students having some typing skills. Emphasis is on the practice of using the keyboard, speed drills, practice letters and manuscripts.

**GOE 91 Shorthand Refresher / 3 cr. hrs. / 3 periods**
A review of the shorthand alphabet, basic theory and brief forms of Gregg shorthand with emphasis on the ability of applying the shorthand theory to new words. Concentration is on taking dictation up to at least 80 words per minute.

## GENERAL TECHNOLOGY

**GTC 51 Carpentry Foundation and Forms / 5 cr. hrs. 6 periods (4 lec., 2 lab)**
The construction and use of foundations, concrete forms and rough framing are discussed.

**GTC 52 Carpentry Blueprint Reading and Cost Estimating 4 cr. hrs. / 6 periods (4 lec., 2 lab)**
☐ Prerequisite: GTC 51.
The fundamentals of construction blueprint reading and the methods of estimating costs of building from blueprints.

**GTC 53 Forms and Heavy Construction / 5 cr. hrs. 6 periods (4 lec., 2 lab)**
☐ Prerequisite: GTC 52.
The use of interior form construction and the methods of heavy construction.

**GTC 54 Carpentry — Roof Framing / 5 cr. hrs. / 6 periods (4 lec., 2 lab)**
☐ Prerequisite: GTC 53.
This course teaches the techniques of framing residential and commercial roofs. Types of roof covering, insulation and finishes are included.

**GTC 55 Carpentry — Interior Finishing / 5 cr. hrs. 6 periods (4 lec., 2 lab)**
☐ Prerequisite: GTC 54.
Interior finishing, stains, lacquers and varnishes are discussed. Topics also include trim and finish cabinet work and the installation of windows, doors and flooring.

**GTC 56 Carpentry — Stair Building and Cost Estimating 5 cr. hrs. / 6 periods (4 lec., 2 lab)**
☐ Prerequisite: GTC 55.
Units cover stair construction and layout.

**GTC 57 Carpentry — Cabinet Making and Mill Work 5 cr. hrs. / 6 periods (4 lec., 2 lab)**
☐ Prerequisite: GTC 56.
Cabinet making including jointing assembly, workmanship, machine tools and safe practices.

**GTC 60 Building Materials / 3 cr. hrs. / 3 periods**
A study of the properties, grading and cost of materials, hardware and supplies commonly used in the construction of commercial and residential structures.

**GTC 62 Occupational Safety and Health Act (OSHA) 3 cr. hrs. / 3 periods**
A practical approach to the requirements of OSHA, its application in the workplace, and its impact upon the employee and employer. Students develop an awareness of safety and health programs essential in the workplace for compliance with the Act.

**GTC 64 Techniques of Rigging for Ironworkers / 3 cr. hrs. 4 periods (3 lec., 1 lab)**
A study of rigging devices, cable and rope splicing, and the safe handling of structural steel used in commercial building.

**GTC 68 General Welding / 2 cr. hrs. / 4 periods (1 lec., 3 lab)**
The techniques and practices of joining metals by electric arc welding as applied to the ironworker trade.

**GTC 71 Beginning Bricklaying / 5 cr. hrs. / 6 periods (4 lec., 2 lab)**
The general principles and procedures of erecting brick and masonry structures.

**GTC 73 Advanced Bricklaying / 5 cr. hrs. / 6 periods (4 lec., 2 lab)**
☐ Prerequisite: GTC 71.
A continuation of GTC 71 including special procedures and practices in constructing brick and masonry structures. Erecting decorative and curved walls also is practiced.

**GTC 80 Building Maintenance / 2 cr. hrs. / 2 periods**
An upgrading course covering the methods and procedures of public and commercial buildings. Includes minor repairs usually performed by custodial and maintenance personnel.

**GTC 86 Aviation Ground School — Commercial / 3 cr. hrs. 3 periods**
This civil aviation ground school course provides the necessary background in theory of flight, weather, navigation and procedures to become a commercial pilot.

**GTC 87 Aviation Ground School — Instruments / 3 cr. hrs. 3 periods**
A lecture course designed to familiarize the student with various aircraft instruments. Emphasis is on instrument flight rules.

**GTC 89 Aviation Ground School — Private / 3 cr. hrs. 3 periods**
An introductory civil aviation ground school course which provides the necessary background in theory of flight, weather, navigation and procedures for the student to become a private pilot.

**GTC 90 Landscape Gardening / 3 cr. hrs. / 3 periods**
Problems in design, elementary principles of botany, environmental considerations and commonly used materials with special emphasis on landscaping in the Southwest.

**GTC 92 Woodshop I / 3 cr. hrs. / 5 periods (2 lec., 3 lab)**
Techniques of wood preparation and finishing with emphasis on functional design, drawing and reading project plans. Course includes safety practices and use of shop equipment. Prepares students for custom woodworking.

**GTC 93 Elementary Television Repair / 3 cr. hrs. / 6 periods (2 lec., 4 lab)**
A basic course in television repair designed to assist students in diagnosing common television receiver difficulties. Instruction includes simple tests to locate common receiver malfunctions, fundamentals of reading electronic circuit blueprints, and safety practices in routine repair. This course can be used for exploring the electronics field. More serious electronics students should select other courses.

**GTC 97 Ornamental Iron Construction, Repair, Installation 3 cr. hrs. / 3 periods**
The techniques of construction, repairing and installation of metal door frames, windows and walls in commercial and residential buildings. This course applies to the ironworker trade.

**GTC 98 Animal Genetics / 3 cr. hrs. / 3 periods**
Primarily for people interested in breeding small animals. Emphasized are the practical applications of genetic principles. This is a general interest course. (formerly GTC 96)

**GTC 99 Blueprint Reading / 3 cr. hrs. / 3 periods**
The study of symbols and language of blueprints to provide students with the ability of interpreting construction and engineering drawings.

## GERMAN

**GER 110–111 Elementary German I, II / 4–4 cr. hrs. 4 periods**
☐ Prerequisite: GER 110 or one year high school German for GER 111.
Simple conversations, reading and writing short compositions introduce the beginner to the German language. Readings and audio-visual materials are selected on the basis of revealing the life and culture of German-speaking countries. Qualified students may register for GER 111. (formerly GER 1–2)

**GER 210–211 Intermediate German I, II / 4–4 Cr. hrs. 4 periods**
☐ Prerequisite: GER 111 or equivalent for GER 210. GER 210 or equivalent for GER 211.
Intensive reading, small group discussions and frequent writing assignments are combined with individualized instruction to develop a deeper understanding of the German language and culture. (formerly GER 3–4)

**GER 240 Independent Study in German / 1 to 4 cr. hrs. 3+ periods (lab)**
Students pursue independent study in literature and grammar under the guidance of a faculty member. (formerly GER 40)

## GRAPHICS

**GRC 70 Offset Printing / 3 cr. hrs. / 5 periods (2 lec., 3 lab)**
Practical experience in offset layout, camera work, stripping, platemaking, press work and bindery work.

**GRC 80 Commercial Photography / 3 cr. hrs. / 5 periods (2 lec., 3 lab)**
Designed for the advanced student, the course includes camera techniques, film characteristics and printing techniques. Students, after completing the basic part, may select an in-depth study of any phase of the photographic process such as flash, filters, composition, advanced printing techniques, toning, hyperfocal distance, supplementary lenses and portraits.

**GRC 85 Silkscreen Printing / 3 cr. hrs. / 5 periods (2 lec., 3 lab)**
Principles of silkscreening for commercial purposes with emphasis on hand-cutting film and photographic film. Students learn to work on various materials including fabric, metal and cardboard. Students successfully completing the course will be qualified for apprenticeship in the silkscreening industry.

## HEALTH EDUCATION

**HED 136 Introduction to Health Science / 3 cr. hrs. 3 periods**
Students may select topics such as traumatic injuries, communicable diseases, nutrition, mental health, environmental health problems, or socio-medical problems such as venereal diseases, drug use and abuse, alcoholism, abortion. The focus is on preventive health measures and public health services. (formerly HED 36)

**HED 137 Preparation for Teaching Personal and Public Health / 3 cr. hrs. / 3 periods**
☐ Prerequisite: HED 136 or consent of instructor.
Course content may be similar to HED 136, but the focus is on learning to use methods and materials in teaching health topics to different age groups. (formerly HED 37)

## HEALTH SCIENCES

**HCA 53 Survey of Health Care / 1 cr. hr. / 1 period**
An exploratory health course and open only to exploratory study students. Students are acquainted with the meaning of health and the concept of comprehensive health care while exploring the roles of health careers.

**HCA 54 Introduction to Health Care / 2 to 3 cr. hrs. 3 periods**
☐ Prerequisite: Consent of instructor.
An introductory health course representing the nucleus of the health sciences programs. It spans the entire pattern of the health care delivery system and how it relates to the patient as a person. Students also learn health science fundamentals. Students who have completed HCA 53 should register for 2 credit hours only.

**HCA 99 Independent Studies in Health Sciences cr. hrs. to be arranged**
☐ Prerequisite: Consent of instructor.
For special health-related projects, permitting students to conduct research and experimental work. Results of projects must be presented in manuscript form.

## HISTORY

**HIS 76 Ghost Towns of the Southwest / 3 cr. hrs. 3 periods**

A survey of the socio-cultural heritage of the Southwest through its past communities — mining, milling, smelting, lumbering, ranching, farming, railroading and military — between the years of 1854 and 1917.

**HIS 101–102 Introduction to Western Civilization I, II 3–3 cr. hrs. / 3 periods**

Surveys the historic development of Western man, going through the prehistoric age, ancient Greece, Rome, early Middle Ages, Renaissance to the Twentieth Century. (formerly HIS 1–2)

**HIS 141–142 History of the United States I, II / 3–3 cr. hrs. 3 periods**

A review of history from Jamestown to the present, including the founding and development of American democracy, minority participation in making of the country, and the role of the United States in world affairs. (formerly HIS 3–4)

**HIS 143–144 American Civilization I, II / 3–3 cr. hrs. 3 periods**

A broad look, through many units, at the American experience with an emphasis on the cultural aspects. (formerly HIS 5–6)

**HIS 145 Papago History and Culture / 3 cr. hrs. / 3 periods**

Where have the Papago people been, who are they, where are they going? In answering these questions, the class examines the history and culture of the Papago. (Same as Anthropology 145.) (formerly HIS 7)

**HIS 147 History of Arizona / 3 cr. hrs. / 3 periods**

This course looks at Arizona history as a part of the Arizona-Sonoran Desert area, moving from the pre-Colombian period through the Spanish conquest, Mexican Republic, U.S. Territory and statehood. (formerly HIS 10)

**HIS 148 History of Indians of North America / 3 cr. hrs. 3 periods**

Origin and distribution of native populations of North America; and the historical development and interrelations of cultures. (Same as Anthropology 148.) (formerly HIS 8)

**HIS 149 History and Culture of the Mexican-American in the Southwest I / 3 cr. hrs. / 3 periods**

Who is the Mexican-American? What is his cultural heritage, and what has happened to it in the United States? (Same as Anthropology 149.) (formerly HIS 9)

**HIS 150 Afro-American History and Peoples / 3 cr. hrs. 3 periods**

What does the Afro-American have to face because he is a Black in American society? His past, present and future are examined. (Same as Anthropology 150.) (formerly HIS 12)

**HIS 160 History and Peoples of Latin America / 3 cr. hrs. 3 periods**

The history of Latin America from the pre-Colombian period to the present with emphasis on the evolution of nationalism through the struggles for economic, cultural, political and social freedoms. (Same as Anthropology 160.) (formerly HIS 14)

**HIS 165–166 History of Mexico I, II / 3–3 cr. hrs. / 3 periods**

The student moves from the pre-Colombian era, through the Spanish conquest, a century of political and social upheaval, to the nation of social and economic stability. (formerly HIS 16–17)

**HIS 165–166 Historia de Mexico I, II / 3–3 cr. hrs. / 3 periods**

Historia de Mexico. Se estudia una panoramica de la epoca precolonial, colonial y contemporanea.

**HIS 170 History and Peoples of Africa / 3 cr. hrs. 3 periods**

A survey of the political and cultural history of Africa, south of the Sahara. (Same as Anthropology 170.) (formerly HIS 13)

**HIS 201 Independent Studies in History / 2 to 4 cr. hrs. 6+ periods (lab)**

☐ Prerequisite: Consent of instructor.
Independent history studies or projects arranged by the instructor. (formerly HIS 8)

**HIS 201 Estudios Independientes en Historia / 3 cr. hrs. 3+ periods (lab)**

☐ Prerequisito: Consentimiento del instructor.
Consiste este curso, en estudios de historia, independientes, o proyectos de acuerdo con el instructor.

**HIS 249 History and Culture of the Mexican-American in the Southwest II / 3 cr. hrs. / 3 periods**

A history of ideas of the Mexican-American from Nahua and Europe to the present. Brings out the evolution of the two into present day concepts such as "Raza de Bronce" and "Aztlan." (formerly HIS 49)

**HIS 249 Pensamiento y Cultura Del Mexico Americano 3 cr. hrs. / 3 periods**

Historia del pensamiento del mexico americano desde su pasado Nahuatl y Europeo hasta el presente. Trae, hasta el presente, la evolucion de ambas culturas hasta los actuales conceptos de "Raza de Bronce" y "Aztlan." (formerly HIS 49)

## HOME ECONOMICS

**HEC 111 Clothing Construction — Beginning I / 3 cr. hrs. 5 periods (3 lec., 2 lab)**

The fundamental principles of clothing construction, selection of fabrics and styles, using commercial patterns. Proficiency test permitted. (formerly HEC 5)

**HEC 111 Costura / 3 cr. hrs. / 5 periods (3 lec., 2 lab)**

Construccion basica de ropa sencilla usando patrones comerciales y las bases fundmentales para construir ropa, estudio de textiles seleccion y cuidado de telas.

**HEC 112 Alteration and Designing / 3 cr. hrs. / 5 periods (3 lec., 2 lab)**

The coordinated method of flat pattern alterations and basic principles of alterations on ready-to-wear.

**HEC 113 Food Study / 3 cr. hrs. / 5 periods (3 lec., 2 lab)**

Composition and structure of foods using scientific principles in handling food, enhancement and/or presentation of quality. (formerly HEC 2)

**HEC 114 Nutrition / 3 cr. hrs. / 3 periods**

The principles of human nutrition and its relationship to diet, health and cultural patterns. (formerly HEC 12)

**HEC 115 Interior Design I / 3 cr. hrs. / 3 periods**

A study of the basic principles of functional interior design and their application. This course caters to the serious interior design student as well as the student who wishes to decorate his or her own surroundings. (formerly HEC 64)

**HEC 117 Home Management / 3 cr. hrs. / 3 periods**
A study of individual and family resources designed for students interested in problems of management and the application to personal and family living. (formerly HEC 6)

**HEC 118 Personal Finances / 3 cr. hrs. / 3 periods**
A study of material which is aimed at helping individuals make wise decisions regarding personal and family affairs. Includes banking, taxes, insurance, home ownership and other concerns of consumer financial education. (formerly HEC 65)

**HEC 121 Applied Dress Design / 3 cr. hrs. / 3 periods**
The flat pattern method of pattern making is taught with emphasis on engineering, not fashion design. (formerly HEC 19)

**HEC 122 History of Fashion / 3 cr. hrs. / 3 periods**
The evaluation of fashion is combined with historical events and trends. (formerly HEC 84)

**HEC 123 Nutrition in Growth and Development / 3 cr. hrs. 3 periods**
The application of basic nutritional principles to meet the physical and emotional needs of children. (formerly HEC 42)

**HEC 124 Foods for Children / 3 cr. hrs. / 5 periods (3 lec., 2 lab)**
The selection, preparation and serving of foods considering the basic nutritional principles and child development theories for parents and day care personnel, using a multicultural child centered approach. (formerly HEC 52)

**HEC 125 Home Furnishings / 3 cr. hrs. / 3 periods**
The study of interior design both as a functional purpose and the social, aesthetic, economic and psychological effects on individuals. (formerly HEC 25)

**HEC 126 Textiles / 3 cr. hrs. / 3 periods**
The technology of textile fibres, yarns, construction and cost, based on social, aesthetic and individual needs.
(formerly HEC 45)

**HEC 127 Marriage and Family Relations / 3 cr. hrs. 3 periods**
A study of the individual, marriage and the family in today's social setting. (formerly HEC 27)

**HEC 128 Home Economics Profession / 3 cr. hrs. / 3 periods**
The history of home economics, its purposes and trends plus an explanation of professional opportunities in the field.
(formerly HEC 9)

**HEC 131 Clothing Selection / 3 cr. hrs. / 3 periods**
A consumer analysis of clothing design, construction and cost, based on social, aesthetic and individual needs. (formerly HEC 35)

**HEC 132 Psychology of Dress / 3 cr. hrs. / 3 periods**
A study of human behavior in relationship to clothing; the formal and informal aspects of dress; purposes and forces of society relative to dress. (formerly HEC 75)

**HEC 137 Today's World / 3 cr. hrs. / 3 periods**
A broad look at current issues on the international, national and local levels and the relationship to the individual and selected career area. (formerly HEC 90)

**HEC 141 Fashion Design I / 3 cr. hrs. / 3 periods**
The theory of fashion design; a profile of the designer at work; the application of fine art principles to garment design; and the study of fabric behavior and support notions. (formerly HEC 85)

**HEC 142 Alteration and Repair / 3 cr. hrs. / 5 periods (3 lec., 2 lab)**
Techniques for lengthening the life and use of garments; methods of changing; minor fitting, repairing, reconditioning and restoring clothes.

**HEC 211 Clothing Construction — Advanced II /3 cr. hrs. 5 periods (3 lec., 2 lab)**
☐ Prerequisite: HEC 111 or consent of instructor or proficiency exam.
Advanced clothing construction techniques, selection of fabrics and patterns. Commercial patterns are used. (formerly HEC 15)

**HEC 212 Clothing Construction — Tailoring III / 3 cr. hrs. 5 periods (3 lec., 2 lab)**
☐ Prerequisite: HEC 211 or consent of instructor or proficiency exam.
Course stresses custom and semi-commercial tailoring techniques with an emphasis on natural fibres. Experiments with recent developments in construction methods are included.
(formerly HEC 54)

**HEC 213 Meal Management / 3 cr. hrs. / 3 periods**
☐ Prerequisite: HEC 113 or consent of instructor.
The planning, preparing and serving of meals with emphasis on cultural patterns and management of resources.
(formerly HEC 22)

**HEC 214 Professional Food Services / 3 cr. hrs. / 3 periods**
☐ Prerequisite: HEC 113 or consent of instructor.
Quantity food service methods and techniques as applied to institutions. Special emphasis is on equipment and management of time. (formerly HEC 32)

**HEC 215 Interior Design II / 3 cr. hrs. / 3 periods**
☐ Prerequisite: HEC 115.
A further study of the principles of functional interior design and the application of these principles. For the serious interior design student. (formerly HEC 74)

**HEC 216 Interior Design III / 3 cr. hrs. / 3 periods**
☐ Prerequisite: HEC 215.
The theory and practice of interior design principles. Course covers aspects of the student seeking career preparation in interior design; customer-client relationships and financial problems. (formerly HEC 94)

**HEC 241 Fashion Design II / 3 cr. hrs. / 3 periods**
☐ Prerequisite: HEC 111, 121, 141.
Students design a pattern, select materials and construct an original garment. (formerly HEC 95)

**HEC 299 Cooperative Home Economics Training / 3 cr. hrs. 15 periods (lab)**
A supervised cooperative work program for students in any home economics occupation for an average of 15 hours per week. Course may be repeated.

## HUMANITIES

**HUM 60 Early Chinese Views of Social Change / 3 cr. hrs. 3 periods**
This course, through a study of I Ching and Taoism, takes an unusual approach to social change.

**HUM 110–111 Humanities I, II / 4–4 cr. hrs. / 4 periods**
An introduction to man's expressions in art, architecture, drama, music, literature, religion and philosophy. The first semester treats man's ideas and art from the rise of civilization through the Renaissance. The second semester continues with the rise of modern science through the present. (formerly HUM 10–11)

**HUM 130 Independent Studies in Humanities / 3 cr. hrs. 3 periods**
Study areas to be arranged with instructor and staff. (formerly HUM 30)

## JOURNALISM

**JRN 57 Journalism Workshop / 3 cr. hrs. / 10 periods (lab)**
A laboratory course in which students gather, write and edit material for the college's weekly student newspaper.

**JRN 101 Basic Reporting / 3 cr. hrs. / 3 periods (2 lec., 1 lab)**
Evaluation of news, news gathering methods, writing leads, organization of stories, and experience in interviewing and writing various types of news stories. (formerly JRN 7)

**JRN 110 Exploring Mass Media / 3 cr. hrs. / 3 periods**
An evaluation of today's mass communications, the nature, function and the impact on society. Study includes a review of important journalists' work and a broad overview of performances by newspapers, radio, television, advertising and magazines. One major writing project is required of each student. (formerly JRN 10)

**JRN 201 Advanced Reporting / 3 cr. hrs. / 3 periods (2 lec., 1 lab)**
☐ Prerequisite: JRN 101.
Weekly writing assignments, investigative reporting, feature and editorial writing, copy-editing and headline writing, make-up and advertising. A required course for journalism majors. (formerly JRN 8)

## LIBRARY TECHNICIAN

**LMT 50 Library Resources / 3 cr. hrs. / 3 periods**
☐ Prerequisite: MET 81.
An introduction to the basic library resources: catalogs, bibliographies, indices and reference materials. Also an introduction to periodicals and microforms.

**LMT 51 Library Technical Services / 4 cr. hrs. / 4 periods**
☐ Prerequisite: LMT 50.
Ordering and processing procedures; cataloging and classification; records maintenance (shelf list, card catalog, order files); simple book repair; bindery records and procedures.

**LMT 52 Library Public Services / 3 cr. hrs. / 3 periods**
☐ Prerequisite: LMT 50.
This course provides an introduction to public services. It includes circulation procedures and problems; charging systems and hardware; physical maintenance of library shelves; information services and reference assistance; public service ethics and relations.

**LMT 299 Cooperative Library Technician Training 6 cr. hrs. / 15 periods (lab)**
A supervised cooperative work program for students in a library technician occupation. Second year level.

## LIFE SCIENCES

**LSC 22 Modern Concepts of Desert Ecology / 1 cr. hr. 1 period**

This course is designed to show the exciting relationships among living things of the Arizona-Sonoran Desert. It also illustrates the need to understand how our desert ecological systems function and the symptoms of our failure to maintain their integrity. (formerly LSC 121 and 122)

**LSC 50 Principles of Human Anatomy and Physiology 4 cr. hrs. / 6 periods (3 lec., 3 lab)**

Designed for non-transfer health occupation programs. A brief survey of the structure and function of the body.

**LSC 58 Human Biology / 3 cr. hrs. / 4 periods (2 lec., 2 lab)**

General principles of anatomy/physiology and man's environmental interactions. Primarily for physical education majors.

**LSC 76 Federal Lands and Management / 1 cr. hr. / 1 period**

☐ Prerequisite: Student must be enrolled in the park/forest service technician program.

Students are acquainted with the historical development of federal resources protection agencies and the implementation of policy.

**LSC 77 Federal Lands and Urbanization / 1 cr. hr. / 1 period**

☐ Prerequisite: Student must be enrolled in the park/forest service technician program.

Students are provided with some insight into potential problems concerning utilization of federal lands near major population centers.

**LSC 78 Federal Lands and Fire Control Policy / 2 cr. hrs. 2 periods**

☐ Prerequisite: Student must be enrolled in the park/forest service technician program.

This course involves the use of tools, safety gear, communications equipment, and techniques in the control of fires on federal lands.

**LSC 79 Federal Lands Facility Planning and Visitor Services 1 cr. hr. / 48 periods (32 lec., 16 lab)**

☐ Prerequisite: Student must be enrolled in the park/forest service technician program.

This course is designed for a sequential four-day session during the Spring recess. The student is introduced to materials in park operations, communications, environmental interpretation, and search and rescue techniques as they apply to federal lands.

**LSC 80 Advanced Federal Lands Facility Planning and Visitor Services / 1 cr. hr. / 48 periods (32 lec., 16 lab)**

☐ Prerequisite: Second-year status in the park/forest service technician program.

This course also is designed for a sequential four-day session during the Spring recess. Students are introduced to the National Park Service basic law enforcement techniques, facility maintenance and planning, and environmental interpretation.

**LSC 99 Anatomy and Physiology Review / 1 to 3 cr. hrs. 1 to 3 periods**

A review of basic anatomy and physiology. This course is primarily for students who have taken a traditional course but may need a review and additional information about anatomy and physiology.

**LSC 101–102 Ecology I, II / 3 or 4 cr. hrs. / 3 or 6 periods (3 lec., 3 to 6 lab)**

☐ Prerequisite: A year of biology or consent of instructor.

Emphasis is on the basic qualitative and quantitative relationships among populations and natural communities of living things, and how these relationships are affected by numbers and kinds of factors present in the physical and biological environment. Stresses the life forms of the Southwest. Laboratory involves field sampling and comparisons. Transferability is based on lab credit. (formerly LSC 1–2)

**LSC 103–104 General Biology I, II / 4–4 cr. hrs. / 6 periods (3 lec., 3 lab)**

An integrated course dealing with both plants and animals. Stressed are important biological principles and problems related to the population ecology of man. Not intended for biology majors, but rather to meet 8 hours of biological science/liberal arts requirements. (formerly LSC 3–4)

**LSC 112 Biology for Education Majors / 3 cr. hrs. 4 periods (2 lec., 2 lab)**

General biological principles are stressed as to their applicability to education majors and general interest students. (formerly LSC 12)

**LSC 115 Human Ecology / 4 cr. hrs. / 5 periods (3 lec., 2 lab)**

Focus is on the question of survival for mankind and other life forms, exploring both present problems and alternatives for the future. Included are lectures, discussions and field trips. (Same as Earth Sciences 115 and Sociology 115.) (formerly LSC 15)

**LSC 117 Introduction to Infectious Diseases / 3 cr. hrs. 3 periods**

A survey course with films and demonstrations covering the cause and control of microbial diseases. (formerly LSC 17)

**LSC 120–121 Human Anatomy and Physiology I, II 4–4 cr. hrs. / 6 periods (3 lec., 3 lab)**

☐ Prerequisite: REA 100 series and CHM 110 or equivalent ability; LSC 120 for LSC 121 or consent of instructor.

Designed for health occupations and anyone interested in the structure and function of the human body. Cellular and biochemical emphasis on all body systems. (formerly LSC 20–21)

**LSC 156 Independent Studies in Life Sciences 1 to 4 cr. hrs. / 1+ periods**

Subject matters and approaches vary with student interests and reasons for enrolling. The range is from exploratory students wanting to gain insights into biology to honors biology majors wishing to do advanced work. (formerly LSC 56)

**LSC 170 Conservation of Natural Resources / 3 cr. hrs. 3 periods**

☐ Prerequisite: Enrollment in natural resources or park/forest service technician programs, or consent of instructor.

The historical basis for current problems in the conservation of natural resources and the application of basic ecological concepts toward the solution of wise utilization and preservation. (Same as Recreation 170.) (formerly LSC 70)

**LSC 171 Survey of Western Flora / 3 cr. hrs. / 3 periods**

A survey of western flora with emphasis on local plants. Plant adaptation, distribution and environmental implications are stressed. (Same as Recreation 171.) (formerly LSC 71)

**LSC 172 Survey of Western Land Vertebrates / 3 cr. hrs. 3 periods**

☐ Prerequisite: Enrollment in natural resources or park/forest service technician programs or consent of instructor.
A survey of western mammals, reptiles and amphibians with emphasis on adaptations, distribution and environmental requirements. Forms arousing public interest are discussed. (Same as Recreation 172.) (formerly LSC 72)

**LSC 173 Introduction to Game Management / 3 cr. hrs. 3 periods**

☐ Prerequisite: Enrollment in natural resources or park/forest service technician programs or consent of instructor.
Basic biological and ecological principles are explored as they relate to compatible methods of managing wildlife populations under range and forest conditions. (Same as Recreation 173.) (formerly LSC 73)

**LSC 174 Introduction to Watershed Problems / 3 cr. hrs. 3 periods**

☐ Prerequisite: Enrollment in natural resources or park/forest service technician programs or consent of instructor.
How biological agents of forest diseases and insects are related to the physical factors of local soil type, topography and geology in describing the efficiency, development and management practices of watershed areas. (formerly LSC 74)

**LSC 205–206 Organismic Biology I, II / 4–4 cr. hrs. 6 periods (3 lec., 3 lab)**

☐ Prerequisite: CHM 120 and concurrent enrollment in CHM 121 or concurrent enrollment in CHM 120 with consent of instructor.
The study of plants and animals primarily at the organ-system of observation. Intended for biology, pre-medical, pre-veterinary and science majors. Also, possibly, pre-pharmacy and pre-dental. (formerly LSC 5–6)

**LSC 207–208 Microbiology I, II / 4–4 cr. hrs. / (I) 7 periods (3 lec., 4 lab); (II) 6 periods (3 lec., 3 lab)**

☐ Prerequisite: LSC 207 for LSC 208.
Emphasis during the first semester is on the characteristics of microbes; the influences both of microbes on man and his environment and of man of the microbial environment. The second semester emphasis is toward a medical orientation dealing with infection and immunity by a variety of microbial agents on a variety of hosts. (formerly LSC 7–8)

**LSC 210 General Genetics / 4 cr. hrs. / 6 periods (3 lec., 3 lab)**

☐ Prerequisite: LSC 205–206, CHM 120–121, CHM 240 and concurrent enrollment in CHM 241.
This course introduces the student planning to major in biology to the basic principles and concepts of genetics. (formerly LSC 10)

**LSC 299 Cooperative Natural Resource Management Technician Training / 3 cr. hrs. / 15 periods (lab)**

A supervised cooperative work program for students in a natural resource management technician occupation for a minimum of 15 hours per week. Course may be repeated.

## LITERATURE

**LIT 80 Papago Literature Workshop / 3 cr. hrs. / 3 periods**

☐ Prerequisite: Some knowledge of Papago or concurrent enrollment in PGO 50.
An exposure to Papago tales and legends in the native language. Tales are studied in both the written and oral form. Those in oral form will be written down and translated into English. Tales from different villages also are compared and contrasted both in content and dialect variation. Can be taken for more than one semester of credit.

**LIT 130 Afro-American Literature / 3 cr. hrs. / 3 periods**

A survey of Afro-American literature, its cultural and historical roots, and its relationship to other ethnic literature in America. (formerly LIT 30)

**LIT 141–142 Introduction to World Literature I, II 3–3 cr. hrs. / 3 periods**

☐ Prerequisite: WRT 101 and 102 for transfer credit.
An introduction to classic European literature with major authors studied in depth. The first semester deals with ancient and medieval works and the second semester with those since the Renaissance. (formerly LIT 41–42)

**LIT 161–162 Introduction to Literature I, II / 3–3 cr. hrs. 3 periods**

☐ Prerequisite: WRT 101 and 102 for transfer credit.
An exploration of fiction, drama and poetry from the classical to the contemporary. (formerly LIT 39–40)

**LIT 165–166 Survey of American Literature I, II / 3–3 cr. hrs. 3 periods**

☐ Prerequisite: WRT 101 and 102 for transfer credit.
A survey of American literature with some major authors studied in depth. The first semester deals with literature from Puritanism through the Civil War and the second semester with literature from the Civil War to the present. (formerly LIT 25–26)

**LIT 170 Survey of English Literature I / 3 cr. hrs. / 3 periods**

☐ Prerequisite: WRT 101 and 102 for transfer credit.
A survey of English literature from the Anglo-Saxon period through the Eighteenth Century. Some major authors are studied in depth. (formerly LIT 20)

**LIT 171 Survey of English Literature II / 3 cr. hrs. / 3 periods**

☐ Prerequisite: WRT 101 and 102 for transfer credit.
A survey of English literature from the Eighteenth Century to the present. Some major authors are studied in depth. (formerly LIT 21)

## MACHINE TOOL TECHNOLOGY

**MAC 110 Machine Shop for Technicians I / 4 cr. hrs. 8 periods (2 lec., 6 lab)**

Covers preliminary machine shop, introduction to machine tools, their range of application and capacity. (formerly MAC 52)

**MAC 120 Machine Shop for Technicians II / 4 cr. hrs. 8 periods (2 lec., 6 lab)**

☐ Prerequisite: MAC 110, concurrent with MTH 120.
General shop practice including a thorough training in machine tool set-up, operation and cutting tool techniques. (formerly MAC 62)

**MAC 130 Basic Metallurgy / 3 cr. hrs. / 3 periods**

The study of steel classifications, heat treatment procedures, properties of ferrous and non-ferrous metals, and non-destructive testing. (formerly MAC 90)

**MAC 135 Physical Metallurgy / 3 cr. hrs. / 4 periods (2 lec., 2 lab)**

☐ Prerequisite: MAC 130.
The behavior of metals in their service to industry during heating, cooling, shaping, forming and stress. Mechanical properties and tests to determine values; heat treatment of steel; pure metals and manner of crystallization; theory of alloys; and non-ferrous metals. (formerly MAC 91)

**MAC 210 Jig and Fixture Designing I / 4 cr. hrs. / 6 periods (3 lec., 3 lab)**

☐ Prerequisite: MAC 120.
The design and application of tools, jigs and fixtures for basic metalworking machine tools. (formerly MAC 73)

**MAC 220 Jig and Fixture Designing II / 4 cr. hrs. / 6 periods (3 lec., 3 lab)**

☐ Prerequisite: MAC 210.
Course enables the technician to lay out design of machine parts, working with government standards and the preparation of drawings for numerically controlled machines. (formerly MAC 83)

**MAC 230 Quality Control / 3 cr. hrs. / 3 periods**

☐ Prerequisite: MTH 120, MAC 120.
Students get a practical working knowledge of quality control methods and equipment. Theories of statistical quality control and true position dimensioning also are covered. (formerly MAC 74)

**MAC 240 Manufacturing Processes I / 3 cr. hrs. / 3 periods**

☐ Prerequisite: MAC 120.
Provides a background knowledge about various manufacturing materials and fundamental types of manufacturing methods. Automation is introduced to acquaint the student with modern practice of numerical control. (formerly MAC 72)

**MAC 245 Manufacturing Processes II / 3 cr. hrs. / 3 periods**

☐ Prerequisite: MAC 240.
A background in casting and foundry practices. The student becomes familiar with the production of simple molds, core and casting and in basic heat treatment inspection and testing, using both destructive and non-destructive methods. (formerly MAC 82)

**MAC 250 Introduction to Numerical Control / 2 cr. hrs. 2 periods**

☐ Prerequisite: MTH 120, MAC 120, or approval of instructor.
The student is introduced to numerical control and its application to machines, processes and manufacturing processes. The basics of manual programming for point-to-point and absolute position machines are covered. Occupational opportunities also are reviewed. (Same as Computer Science 250.) (formerly MAC 51)

**MAC 255 Numerical Controlled Machines / 3 cr. hrs. 4 periods (2 lec., 2 lab)**

☐ Prerequisite: MAC 120, 250.
This course starts continuous path programming and computer aided programming. Calculations are made manually and by computer for two and three axis numerical control machines. Numerical control languages are taught. (Same as Computer Science 255.) (formerly MAC 77)

## MANAGEMENT

**MAN 52 Small Business Management / 3 cr. hrs. / 3 periods**

☐ Prerequisite: ACC 101 or consent of instructor.
A study of the different types of business organizations and the competitive positions of each; business operations including record keeping, employe and community relations.

**MAN 54 Supervision / 3 cr. hrs. / 3 periods**

A study of the origin of personnel supervision; an analysis of the components of recruitment, training and evaluation of employes; elements of decision making; and the role of labor unions.

**MAN 55 Business Organization and Management / 3 cr. hrs. 3 periods**

☐ Prerequisite: ACC 101, ECO 100.
A study of the role of management in business and other human endeavor; management as a total system of functions utilizing resources within constraints imposed by society, the body politic, technology and ideology; management as a situational integration of diverse philosophies.

**MAN 58 Human Relations in Business and Industry 3 cr. hrs. / 3 periods**

Human factors in the field of business, getting along with colleagues and customers. Emphasis is on improving behavioral patterns. (Same as Sociology 58.)

**MAN 299 Cooperative Management Training / 3 cr. hrs. 15 periods (lab)**

A supervised cooperative work program for students in a management occupation for a minimum of 15 hours per week. Course may be repeated.

## MARKETING

**MKT 50 Salesmanship / 3 cr. hrs. / 3 periods**

A study of the basic principles and techniques of selling and their practical application; types of customers, products, information and its presentation, determination of customer's wants and needs, meeting customer objections, and opportunities in selling. (formerly MAN 50)

**MKT 51 Retailing / 3 cr. hrs. / 3 periods**

The organization and operation of a retail store; trends in the field; problems involved in the retailing of goods and services. (formerly MAN 51)

**MKT 53 Advertising / 3 cr. hrs. / 3 periods**

A basic understanding of the various aspects of advertising, including its planning and creation. (formerly MAN 53)

**MKT 56 Advertising Layout and Design / 3 cr. hrs. / 3 periods**

☐ Prerequisite: MKT 53.
A workshop in present day creative advertising with practice in all current media. Actual practice, criticism and field trips included. (formerly MAN 56)

**MKT 59 Marketing / 3 cr. hrs. / 3 periods**

The basic principles involved in the movement of goods and services from producer to consumer. The functions of marketing and institutions of manufacturing, wholesaling and retailing. (formerly MAN 59)

**MKT 62 Consumer Behavior / 3 cr. hrs. / 3 periods**

A discussion and explanation of individuals deciding whether, what, when, where, how and from whom to purchase goods and services. (formerly MAN 62)

## MATHEMATICS

(A satisfactory placement test score may be requested in lieu of, or in addition to the listed prerequisites for any course. Students who have credit in any college mathematics course equivalent to or above MTH 60 will not receive credit for MTH 60 or any of its components — MTH 61, 62, 63 — without permission of the mathematics area.)

**MTH 60 Introductory Mathematics / 3 cr. hrs. / 3 periods**
Mathematics 61 through 63 collectively comprise MTH 60.

**MTH 61 Introductory Mathematics — Whole Numbers (Module I) / 1 cr. hr. / 1 period**
This is a five-week course and the schedule of classes should be checked for entry times. Topics include operations with whole numbers, placed value and order of operations.

**MTH 62 Introductory Mathematics — Fractions and Decimals (Module II) / 1 cr. hr. / 1 period**
☐ Prerequisite: MTH 61 or equivalent.
Course covers operations with common and decimal fractions, powers of ten and scientific notation.

**MTH 63 Introductory Mathematics — Percent, Ratio and Measurement (Module III) / 1 cr. hr. / 1 period**
☐ Prerequisite: MTH 62 or equivalent.
This also is a five-week course and the schedule of classes should be checked for entry times. Topics include percent, ratio and proportion, measures, metric system and applications.

**MTH 65 Health Careers Mathematics / 3 cr. hrs. / 3 periods**
This course provides the necessary mathematical skills for nursing and chemistry. It covers fractions, decimals, equations, scientiflc notation, apothecary and metric measures, dosages, concentrations and logarithms.

**MTH 70 Algebra I / 3 cr. hrs. / 3 periods**
☐ Prerequisite: MTH 60 or equivalent.
Mathematics 71 through 73 collectively comprise MTH 70.

**MTH 71 Algebra I — Linear Equations and Graphs (Module I) / 1 cr. hr. / 3 periods per week for five weeks**
☐ Prerequisite: MTH 60 or equivalent.
A five-week course — the schedule of classes should be checked for entry times. Topics include signed numbers, order of operation, inverse operation, linear equations and straight line graphs.

**MTH 72 Algebra I — Binomials and Quadratics (Module II) 1 cr. hr. / 3 periods per week for five weeks**
☐ Prerequisite: MTH 71.
A five-week course — the schedule of classes should be checked for entry times. Included are operations with first and second degree polynomials, factoring, quadratic equations and their graphs.

**MTH 73 Algebra I — Algebraic Expressions and Fractions (Module III) / 1 cr. hr. / 3 periods per week for five weeks**
☐ Prerequisite: MTH 72.
A five-week course — the schedule of classes should be checked for entry times. Included are algebraic fractions, fractional equations and integral exponents.

**MTH 90 Elementary Geometry / 3 cr. hrs. / 3 periods**
☐ Prerequisite: MTH 70 or equivalent.
A study of angles, parallel and perpendicular lines, triangles, quadrilaterals and circles, congruence, similar figures, geometric constructions and deductive proofs. Primarily for students who lack credit in high school geometry. (formerly MTH 71)

**MTH 101 Slide Rule / 1 cr. hr. / 1 period**
A programmed learning class — students may enter at any time. Students work at their own pace on scientific notation, estimation, multiplication, division, powers, roots and trig scales. (formerly MTH 51)

**MTH 102 Calculators / 1 cr. hr. / 1 period**
Topics include H.P.-35, H.P.-45, Texas instrument calculator and option. This is a programmed learning class and students may enter at any time. Students work at their own pace. (formerly MTH 52)

**MTH 103 Computer Terminal / 1 cr. hr. / 1 period**
Numerical calculation and program writing. This is a programmed learning class. Students may enter at any time and work at their own pace. (formerly MTH 53)

**MTH 110 Technical Mathematics I / 3 cr. hrs. / 3 periods**
☐ Prerequisite: MTH 60 or equivalent.
Includes basic algebra for solving equations and using formulas; basic geometry for layout of mechanical structures and computing areas and volumes. (formerly MTH 80)

**MTH 115 Electronics Mathematics I / 3 cr. hrs. / 3 periods**
Basic algebra, electronic calculator, slide rule, simultaneous equations, Kirchoff's law, trigonometry and AC circuit analysis. (formerly MTH 82)

**MTH 120 Technical Mathematics II / 3 cr. hrs. / 3 periods**
☐ Prerequisite: MTH 110.
Basic trigonometry, exponents, radicals, scientific notation, logarithms, slide rule and practical problem solving. (formerly MTH 81)

**MTH 125 Electronics Mathematics II / 3 cr. hrs. / 3 periods**
☐ Prerequisite: MTH 115.
Computer number systems, Boolean algebra, advanced AC circuit analysis, logarithms and decibels. (formerly MTH 83)

**MTH 130 Algebra II / 3 cr. hrs. / 3 periods**
☐ Prerequisite: MTH 70 or equivalent.
Polynomials, linear and quadratic equations, systems of equations, exponents, radicals, complex numbers, functions, graphing and logarithms. (formerly MTH 11)

**MTH 140 Math for Elementary Education Majors I 3 cr. hrs. / 3 periods**
☐ Prerequisite: MTH 70 or equivalent.
Topics include sets, arithmetic operations and their properties, measurement, metric system, percent, decimals and fractions. (formerly MTH 12)

**MTH 145 Math for Elementary Education Majors II 3 cr. hrs. / 3 periods**
☐ Prerequisite: MTH 140.
Includes properties of the sets of integers, rational numbers and real numbers, algebra and geometry for elementary school students. Required for students majoring in elementary education. (formerly MTH 13)

**MTH 150 College Algebra / 3 cr. hrs. / 3 periods**
☐ Prerequisite: MTH 130.
Quadratic and higher degree equations, polynomial, exponential and logarithmic functions, determinants, matrices, systems of equations, sequences and the binomial theorem. (formerly MTH 20)

**MTH 155 Trigonometry / 3 cr. hrs. / 3 periods**
☐ Prerequisite: MTH 150 or concurrent enrollment.
Angular measure, trigonometric functions, graphs, identities, equations, inverse trigonometric functions, and solutions of right and oblique triangles. (formerly MTH 24)

**MTH 160 College Algebra and Trigonometry / 5 cr. hrs. 5 periods**

☐ Prerequisite: MTH 130.
Includes all topics in MTH 150 and 155. Recommended for students planning to take analytic geometry and calculus. (formerly MTH 29)

**MTH 170 Finite Mathematics / 3 cr. hrs. / 3 periods**

☐ Prerequisite: MTH 150.
Includes set theory, logic, partitions, permutations, combinations, probability, Bernoulli trials and Markov chains. For students majoring in business. (formerly MTH 25)

**MTH 175 Topics in Calculus / 3 cr. hrs. / 3 periods**

☐ Prerequisite: MTH 150.
Includes limits, continuity, differentiation and integration of algebraic functions, application to business and separable differential equations. For students majoring in business. (formerly MTH 26)

**MTH 180 Analytic Geometry and Calculus I / 3 cr. hrs. 3 periods**

☐ Prerequisite: MTH 150 and MTH 155 or MTH 160.
Straight lines, conic sections, limits, continuity, differentiation and integration of algebraic functions, applications of derivatives, areas and volumes. (formerly MTH 32)

**MTH 185 Analytic Geometry and Calculus II / 3 cr. hrs. 3 periods**

☐ Prerequisite: MTH 180.
A continuation of MTH 180. Includes differentiation and integration of trigonometric, logarithmic and exponential functions, conic sections, translation and rotation of axes, and methods of integration. (formerly MTH 33)

**MTH 205 Electronics Mathematics III / 3 cr. hrs. / 3 periods**

☐ Prerequisite: MTH 125.
Introduction to digital computer systems: introduction to Fortran; and trigonometric identities and their applications in electronics. (formerly MTH 86)

**MTH 210 Introductory Statistics / 3 cr. hrs. / 3 periods**

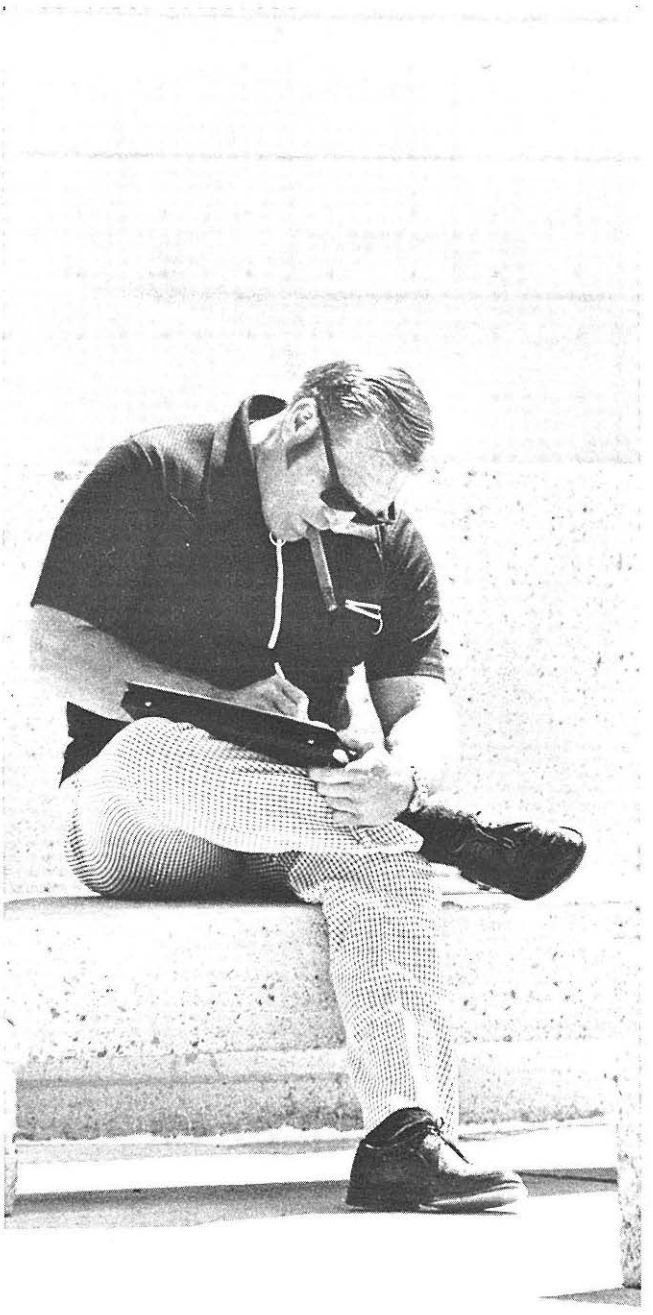
☐ Prerequisite: MTH 130.
Averages, standard deviation, frequency distributions, central limit theorem, confidence intervals, correlations, probability, normal curve and tests of hypothesis. (formerly MTH 35)

**MTH 215 Analytic Geometry and Calculus III / 4 cr. hrs. 4 periods**

☐ Prerequisite: MTH 185.
A continuation of MTH 185. Includes polar coordinates, solid geometry, two and three dimensional vectors, infinite series, moments, partial derivatives and multiple integration. (formerly MTH 34)

**MTH 220 Linear Algebra and Differential Equations 4 cr. hrs. / 4 periods**

☐ Prerequisite: MTH 215.
Vectors, bases, linear independence, matrices, linear transformations; differential equations of order one and degree one, linear equations, non-homogeneous equations, and series solutions. (formerly MTH 36)



## MEDIA TECHNICIAN

**MET 50 Communigraphics I / 3 cr. hrs. / 3 periods**

Course covers the fundamentals of basic design in relationship to space, line and layout of elements for application to various types of media. Studied are commercial design, industrial design, typography, animation, design for television, design for printed media and special photography methods.

**MET 53 Cinematography I / 3 cr. hrs. / 3 periods**

Covered are the techniques of basic 8mm motion picture production; camera operation; techniques of animation application; film editing; and motion picture lab processes. The entire class is involved in the production and concept of one major film.

**MET 70 Equipment Repair and Maintenance / 3 cr. hrs. 3 periods**

Electrical and mechanical repair and also maintenance of instructional media technology equipment including tape recorders, projectors, and mechanical graphic arts devices.

**MET 81 Instructional Media Technology I / 3 cr. hrs. 3 periods**

Areas covered are still projection, motion picture projection, graphic arts, record players, tape recorders, broadcast sound systems, educational TV, programmed instruction, supporting equipment for instructional media, non-projected instructional media materials.

**MET 82 Instructional Media Technology II / 3 cr. hrs. 3 periods**

The functions and responsibilities of the media specialist in an industrial or educational audio-visual department; various procedures in ordering, inventory, maintenance and budgeting for media operation; the responsibilities and opportunities for media specialists. Media facilities are designed, and equipment evaluated. Discussed are legal aspects of media production involving copyright.

**MET 84 Implications of Media Technology / 3 cr. hrs. 3 periods**

The effects of media technology on the individual and his society, covering multi-media, computer-managed instruction, computer-assisted instruction, audio-tutorial systems, television, radio, film, programmed instruction, dial-access systems, man-machine relationships in systems approaches to solving teaching-learning problems.

**MET 90 Telecommunications — Television Production 3 cr. hrs. / 3 periods**

Students learn to function as part of television production crews. They learn to operate and work with all the basic tools, equipment and techniques used in television production.

**MET 91 Telecommunications — Television Workshop 4 cr. hrs. / 6 periods (2 lec., 4 lab)**

☐ Prerequisite: MET 90.
Experience in the production of various types of television programs. Emphasis is on the production of special programs for educational, community and industrial use; and the utilization of television equipment in remote and on-location sites as well as in studio operation.

**MET 299 Cooperative Media Technician Training / 6 cr. hrs. 15 periods (lab)**

☐ Prerequisite: 14 hours in program or equivalent in general and technology courses, or consent of instructor.
A supervised cooperative work program for students in an instructional media technology occupation.

## MILITARY SCIENCE

**MSC 101 Introduction to ROTC / 2 cr. hrs. / 4 periods (1 lec., 3 lab)**

Reviews the history, organization and mission of ROTC, the military and civilian obligation of the citizen. There also is an introduction to weapons and the leadership laboratory. (formerly MSC 1)

**MSC 102 Defense Establishment in National Security 2 cr. hrs. / 4 periods (1 lec., 3 lab)**

The history, mission and organization of the defense establishment; the role of the military in cold, limited and general warfare. Leadership laboratory included. (formerly MSC 2)

**MSC 203 American Military History / 2 cr. hrs. / 2 periods**

Principles of war and a survey of American military history are studied from Colonial times to 1966. Leadership laboratory included. (formerly MSC 3)

**MSC 204 Military Map Reading and Tactics / 2 cr. hrs. 2 periods**

An introduction to maps, map reading and the Lensatic compass. Also an introduction to small unit tactics. Leadership laboratory included. (formerly MSC 4)

## MUSIC

**MUS 45 Applied Music — Private Instruction / 1 cr. hr. ½ period**

Same as MUS 145, but without requirement for jury exam during each semester. Non-transferable. (formerly MUS 82)
Section 1 — Woodwinds
Section 2 — Brass
Section 3 — Percussion
Section 4 — Voice
Section 5 — Piano
Section 6 — Strings
Section 7 — Guitar

**MUS 52 Introduction to Music Theory / 2 cr. hrs. / 3 periods (2 lec., 1 lab)**

An introductory course in fundamental music theory. Designed to develop basic literacy in music. The course consists of the study of notation, melody, harmony, rhythm and musical terminology in a format for those who have little or no background in music theory.

**MUS 54 Jazz Improvisation / 1 cr. hr. / 2 periods (1 lec., 1 lab)**

☐ Prerequisite: MUS 103.
The study of jazz improvisation on various instruments. Emphasis is on the rhythmic, melodic and harmonic aspects of jazz styles. Membership is determined by audition with instructor.

**MUS 91 Guitar Class I / 1 cr. hr. / 2 periods (1 lec., 1 lab)**

Beginning instruction and development of basic skills for both hands. Emphasis is on fingering and picking styles, chords and melodic reading in first position.

**MUS 92 Guitar Class II / 1 cr. hr. / 2 periods (1 lec., 1 lab)**

Continuation of MUS 91 with more detailed study of chord structures, scales and melodic reading through the fourth position.

**MUS 103 Music Theory I / 4 cr. hrs. / 5 periods (4 lec., 1 lab)**
An integrated study of elementary standard structure of traditional music, the ordinary treatment and notation. Includes principles of harmony, melody and rhythm, developing the ability to notate what is heard and vice versa, and applying these principles on the piano in creative harmonization. Course consists of three parts: (a) theoretical concepts; (b) ear training; (c) keyboard harmony. These segments may be studied separately as non-transferable courses. (formerly MUS 3)

**MUS 120 Band / 1 cr. hr. / 5 periods (1 lec., 4 lab)**
Participation in regular band rehearsals and performances with membership determined by auditions with the director. Continued development of musical band technical skills through interpretation is stressed for both credit and non-credit band members. (formerly MUS 20)

**MUS 121 Jazz Band / 1 cr. hr. / 3 periods (1 lec., 2 lab)**
Rehearsal and performances of many styles of music in the jazz idiom. Open to all students and offered both semesters. Membership is determined by audition with the director. (formerly MUS 21)

**MUS 123 Instrumental Ensemble / 1 cr. hr. / 2 periods (1 lec., 1 lab)**
Course offers an opportunity for supervised rehearsal and performance of literature for various instrumental combinations. It is open to all students through a conference and audition with the instructor. (formerly MUS 23)

**MUS 130 Chorale (SATB) / 1 cr. hr. / 5 periods (1 lec., 4 lab)**
A selected group of mixed voices, chosen by audition, for interpretation of a wide variety of styles of music in concerts throughout the academic year. May be taken for credit or as a non-credit elective. (formerly MUS 30)

**MUS 131 College Singers (SATB) / 1 cr. hr. / 5 periods (1 lec., 4 lab)**
A small choral ensemble chosen by audition. Repertory and performance includes best literature from all styles and periods. There are various performances throughout the academic year. Open to all qualified students in the college. (formerly MUS 31)

**MUS 132 Women's Chorus / 1 cr. hr. / 5 periods (1 lec., 4 lab)**
Rehearsal and performances of choral literature written for women's voices. A short audition is necessary for voice placement. Minimum of one performance per semester. Open to all qualified students in the college. (formerly MUS 32)

**MUS 133 Concert Choir (SATB) / 1 cr. hr. / 3 periods (1 lec., 2 lab)**
The concert choir is chosen from those who wish to participate in choral music but for various reasons are not in Chorale. A short audition is necessary for voice placement. Minimum of one performance per semester. Open to all qualified students. (formerly MUS 33)

**MUS 134 Vocal Ensemble / 1 cr. hr. / 2 periods (1 lec., 1 lab)**
Course offers an opportunity for supervised rehearsal and performance of literature for various combinations. It is open to all students through a conference and audition by the instructor. (formerly MUS 34)

**MUS 136 Voice Class I / 1 cr. hr. / 2 periods (1 lec., 1 lab)**
Beginning instruction, introduction and development of basic skills, breathing, diction, tone, rhythm and sight-singing. Practical training in singing without specialization. Open to all students. (formerly MUS 38)

**MUS 137 Voice Class II / 1 cr. hr. / 2 periods (1 lec., 1 lab)**
☐ Prerequisite: MUS 136.
A continuation of MUS 136. (formerly MUS 39)

**MUS 141 Piano Class I / 1 cr. hr. / 2 periods (1 lec., 1 lab)**
Beginning instruction employing group and individual techniques in an electronic lab situation; introduction and development of elements of basic musicianship and keyboard skills. Open to all students. (formerly MUS 40)

**MUS 142 Piano Class II / 1 cr. hr. / 2 periods (1 lec., 1 lab)**
A continuation of MUS 141. Previous piano experience required. (formerly MUS 41)

**MUS 145 Applied Music — Private Instruction / 1 cr. hr. ½ period**
Course offers a private weekly lesson with an instructor and participation in student recitals and jury exams. Maximum of one credit each semester. (formerly MUS 42)
Section 1 — Woodwinds
Section 2 — Brass
Section 3 — Percussion
Section 4 — Voice
Section 5 — Piano
Section 6 — Strings

**MUS 151 Exploring Music / 3 cr. hrs. / 3 periods**
An introductory course in the study of various musical styles with an emphasis on listening and application of the basic elements of music (melody, rhythm, harmony, form, timbre) to each style. Open to all students. (formerly MUS 50)

**MUS 201 History and Literature of Music I / 3 cr. hrs. 3 periods**
☐ Prerequisite: MUS 103.
A study of music literature with emphasis on structure, period and style. This course is required of all music majors. (formerly MUS 1)

**MUS 202 History and Literature of Music II / 3 cr. hrs. 3 periods**
A continuation of MUS 201. (formerly MUS 2)

**MUS 204 Music Theory II / 4 cr. hrs. / 5 periods (4 lec., 1 lab)**
☐ Prerequisite: MUS 103.
The theory of music in the pre-tonal styles with emphasis on medieval and Renaissance works. Course consists of three parts: (a) theoretical concepts; (b) ear training; (c) keyboard harmony. These segments may be studied separately as non-transferable courses. (formerly MUS 4)

**MUS 205 Music Theory III / 4 cr. hrs. / 5 periods (4 lec., 1 lab)**
☐ Prerequisite: MUS 103.
The theory of music in tonal styles. Emphasis is on Baroque, Classical and Romantic period works, and on the development of hearing, singing and keyboard skills. Study concentrates on tertiary harmonic construction from seventh chord through borrowed, altered and eleventh/thirteenth chords, as well as melodic, rhythmic and formal aspects of styles involved. Course consists of three parts: (a) theoretical concepts; (b) ear training; (c) keyboard harmony. These segments may be studied separately as non-transferable courses. (formerly MUS 5)

**MUS 206 Music Theory IV / 4 cr. hrs. / 5 periods (4 lec., 1 lab)**

☐ Prerequisite: MUS 103.
The theory of music in post-tonal styles with emphasis on Twentieth Century composition and on the development of hearing, singing and keyboard skills. Course consists of three parts: (a) theoretical concepts; (b) ear training; (c) keyboard harmony. These segments may be studied separately as non-transferable courses. (formerly MUS 6)

**MUS 211 Basic Conducting Techniques I / 3 cr. hrs. 3 periods**

☐ Prerequisite: One semester MUS 103; one semester MUS 204, MUS 205 or MUS 206.
Choral conducting techniques and literature. Development of fundamental conducting skills with emphasis on choral techniques, organizational problems, materials and interpretation of instrumental literature. (formerly MUS 7)

## NURSING

**NRS 50 Nursing Assistant / 5 cr. hrs. / 11 periods (2 lec., 9 lab)**

☐ Prerequisite: Concurrent enrollment in LSC 50, HCA 54 and consent of instructor.
Students learn basic nursing skills enabling them to function as nursing assistants in a hospital.

**NRS 55 Nursing Seminar / 2 cr. hrs. / 2 periods**

☐ Prerequisite: NRS 50 and consent of instructor.
A continuation of NRS 50, developing additional knowledge and skills needed to function as part of the nursing team to a higher level than nursing assistant. The student, upon completion, will be eligible for NRS 72.

**NRS 70 Nursing I / 6 cr. hrs. / 12 periods (3 lec., 9 lab)**

☐ Prerequisite: Consent of instructor.
This course presents the roles and responsibilities of nurses: develops the basic knowledge and skills needed to give nursing care; and builds an understanding of health and man's total needs. A beginning course for the practical and degree nurse programs.

**NRS 72 Nursing II / 7 cr. hrs. / 13 periods (4 lec., 9 lab)**

☐ Prerequisite: NRS 70 or 55.
Highlighted are health needs and problems that occur frequently in pregnancy, infancy, childhood, adolescence and during older age. The role of the nurse includes giving physical and emotional care, teaching patients, and helping families identify and use their own and community resources.

**NRS 75 Practical Nursing III / 10 cr. hrs. / 36 periods (12 lec., 24 lab)**

☐ Prerequisite: NRS 72.
Alterations in psycho-social and physical functioning, connected with health problems, and the role of the practical nurse are discussed. This course completes the practical nursing program.

**NRS 80 A.D. Nursing III / 10 cr. hrs. / 21 periods (5 lec., 16 lab)**

☐ Prerequisite: NRS 72.
Changes in overall functions which cause specific health problems are the basis of class discussions and clinical assignments. Emphasis is on increasingly complex care.

**NRS 82 A.D. Nursing IV / 10 cr. hrs. / 21 periods (5 lec., 16 lab)**

☐ Prerequisite: NRS 80.
A continued emphasis on complex patient care and the individual's reaction to illness, covering all age groups. Seminars on the current trends in nursing, and the legal and ethical responsibilities of the nurse prepare the student for her role after graduation.

## OFFICE EDUCATION

**SPA 30 Commercial Spanish / 2 cr. hrs. / 2 periods**

☐ Prerequisite: Spanish proficiency in speaking and writing.
The Spanish language as a business skill. The course is specially planned for the bilingual secretary or office employe. Emphasis is on business terms and the Spanish language as used in the southwestern United States and in Mexico. Includes practice in taking dictation and transcribing in both languages.

**SPA 30 Espanol Comercial / 2 cr. hrs. / 2 periods**

Se ensena el espanol especializado del negocio para obtener aptitudes necesarias de secretarias bilingues o trabajadoras (trabajadores) de oficina. El enfasis es sobre terminos de negocio y el idioma espanol como se emplea en el sudoeste de los Estados Unidos y Mexico. Se practicara el dictado y la transcripcion en ambos idiomas.

**OED 60 Notehand / 2 cr. hrs. / 2 periods**

An intensive course in a shorthand system to be used for personal notetaking. Practice in taking useful, well-organized lecture and conference notes is stressed.

**OED 70 Upgrading Office Skills / 1 to 5 cr hrs. / 3+ periods**

The course includes assessment and evaluation, review, improvement and new techniques in office skills and human relations. Designed for persons with previous office training who wish to re-enter the secretarial field or upgrade their present position.

**OED 101 Shorthand I / 3 cr. hrs. / 3 periods**

☐ Prerequisite: OED 111 or concurrent enrollment or one year of typing; OED 154 recommended.
A first-semester course in shorthand, using the Gregg method. Designed to develop skills in taking simple dictation and transcribing at the typewriter. Emphasis is on the mechanics of written English. (formerly OED 1)

**OED 102 Shorthand II / 3 cr. hrs. / 3 periods**

☐ Prerequisite: One year high school shorthand or dictation speed of 50 wpm with typewriter transcription at minimum of 95 percent accuracy; OED 154 or concurrent enrollment.
A review of Gregg shorthand through dictation practice and emphasis on shorthand speed development and accuracy in typed transcription. (formerly OED 2)

**OED 103 Records Management / 3 cr. hrs. / 3 periods**

The principles and procedures of filing and actual practice in the basic filing systems. Course also deals with methods of storing and retrieving information and plans for retention, transfer and disposal of records. (formerly OED 3)

**OED 111 Typing I / 1 to 3 cr. hrs. / 5 periods (3 lec., 2 lab)**

A beginning course in the theory and practice of touch typing. Emphasis is on the mastery of the keyboard, speed drills and practice. Letters, manuscripts and tabulations are included. (formerly OED 11)

**OED 112 Typing II / 1 to 3 cr. hrs. / 5 periods (3 lec., 2 lab)**

☐ Prerequisite: One year of typing or a typing speed of 30 wpm.
A further development of typing techniques, skills and knowledge. Accurate proofreading and a concept of mailability are stressed. Letters, manuscripts, tabulations, business reports, business forms and some legal documents are included. (formerly OED 12)

**OED 121 Calculating Machines / 2 cr. hrs. / 3 periods**

☐ Prerequisite: BUS 51 or equivalent.
Instruction covers the operation of adding/listing machines, printing calculators and electronic calculators used for mathematical computation in the modern business world. Also a study of basic arithmetical processes and business application problems such as interest, percentage, commission, single and chain discounts, amount and percent of change, mark-up and prorating. (formerly OED 21)

**OED 122 Word Processing / 1 to 4 cr. hrs. / 4 periods**

☐ Prerequisite: OED 112 or typing speed of 40 wpm and ability to type letters, manuscripts and tables; OED 154 recommended.
Specific procedures, methods and equipment used for transcription of written, verbal or recorded ideas into typewritten or printed form. Includes work on transcription equipment, proportional-spacing typewriters, composing machines and magnetic tape typewriters. Instruction in duplicating equipment includes photocopiers, the spirit and stencil duplicators and offset press. (formerly OED 22)

**OED 154 Business English / 3 cr. hrs. / 3 periods**

An in-depth study of English fundamentals essential for modern business communication, including grammar, punctuation, spelling and word usage. Not a writing course. It deals with the parts of speech and application of rules concerning items such as capitalization, verb tenses, sentence structure, plurals, possessives, etc. (formerly OED 54)

**OED 158 Machine Shorthand / 3 cr. hrs. / 3 periods**

☐ Prerequisite: OED 111 or concurrent enrollment or one year typing.
Basic touch shorthand theory with speed developed to 80 words per minute. Emphasis is on reading skills. (formerly OED 58)

**OED 166 Medical Office Procedures / 3 cr. hrs. / 3 periods**

☐ Prerequisite: One year of typing or equivalent.
Designed for students planning to work in a physician's office, clinic or hospital. Includes instruction in keeping patient records, preparation and handling of insurance forms and medical reports, handling patients and other duties typical of an assistant in a medical office. (formerly OED 66)

**OED 250 Legal Secretarial Procedures I / 3 cr. hrs. 3 periods**

☐ Prerequisite: OED 252 or equivalent.
Provides a knowledge and understanding of terminology and procedures of a law office, involving wills, domestic relations cases and foreclosures. Human relations and the code of ethics for legal secretaries are included. Typing proficiency is stressed. (formerly OED 50)

**OED 251 Legal Secretarial Procedures II / 3 cr. hrs. 3 periods**

☐ Prerequisite: OED 250 or law office experience and typing.
Provides a knowledge and understanding of terminology and procedures for a law office, including personal injury, probate, corporate and criminal law. Human relations and the code of ethics for legal secretaries are included. Typing proficiency is stressed. (formerly OED 51)

**OED 252 Typing III / 3 cr. hrs. / 3 periods**

☐ Prerequisite: Two years of typing or 40 wpm; OED 154 recommended.
High level skills in techniques of touch typing are developed with a standard of mailability for all production work stressed. Office typing problems include manuscripts, correspondence, tables, business forms, executive and legal work. Independent performance is encouraged. (formerly OED 52)

**OED 253 Shorthand III / 3 cr. hrs. / 3 periods**

☐ Prerequisite: Two years of shorthand or 70 wpm; OED 154 or concurrent enrollment.
A further development of shorthand skills and transcription techniques. Emphasis is on mailable letters, English, spelling and punctuation. (formerly OED 53)

**OED 255 Medical Terms / 3 cr. hrs. / 3 periods**

Course provides an understanding of terminology essential to the medical business office. Emphasis is on understanding and ease in using medical terms. (formerly OED 55)

**OED 256 Medical Transcription / 3 cr. hrs. / 3 periods**

☐ Prerequisite: OED 255 or knowledge of medical terminology and typing speed of 40 wpm.
Course develops speed and accuracy in typing, skill in using transcribing equipment and expansion of medical terminology. Practice in transcribing medical reports and correspondence is emphasized. (formerly OED 56)

**OED 257 Office Procedures / 3 cr. hrs. / 3 periods**

☐ Prerequisite: Two years of typing or concurrent enrollment in OED 112.
A study of functions and procedures used in a wide range of office activities. Includes analysis of the secretarial profession, techniques to improve office efficiency and development of a secretarial personality. (formerly OED 57)

**OED 264 Transcription / 3 cr. hrs. / 3 periods**

☐ Prerequisite: OED 253 or equivalent or concurrent enrollment in OED 154.
A production course which offers an opportunity to develop techniques and skills of high quality. Course content includes shorthand, typewriting, spelling, punctuation, word usage, proofreading, editing and other related topics. A standard of mailability is stressed.(formerly OED 64)

**OED 299 Cooperative Office Education Training / 3 cr. hrs. 15 periods (lab)**

A supervised cooperative work program for students in an office education occupation for a minimum of 15 hours per week. Course may be repeated.

## OPERATING ROOM TECHNOLOGY

**ORT 52 Basic Surgical Technology / 5 cr. hrs. / 12 periods (2 lec., 10 lab)**

☐ Prerequisite: Satisfactory completion of core curriculum and consent of coordinator.
Explores basic concepts of patient care in surgery and the principles of asepsis and operating room techniques. On-campus laboratory practice is provided in the preparation and care of surgical supplies and equipment, patient positioning and draping, gowning and gloving, instrumentation and sutures.

**ORT 53 Surgical Biology / 3 cr. hrs. / 3 periods**

☐ Prerequisite: Satisfactory completion of core curriculum and consent of coordinator.

Bacteriology, wound healing, hematology, fluid and electrolyte balance, anesthesiology, pharmacology, pathology, diagnostic procedures and lab tests as related to a surgical patient. Laboratory tours of various hospital departments are included.

**ORT 54 Surgical Procedures / 3 cr. hrs. / 3 periods**

☐ Prerequisite: Satisfactory completion of core curriculum and consent of coordinator.

Series of guest lectures by Tucson surgeons regarding specific surgical procedures, designed to help students better understand various operations. Subject material is correlated with studies in anatomy and operating room technical skills.

**ORT 55 Surgical Anatomy / 4 cr. hrs. / 6 periods (3 lec., 3 lab)**

☐ Prerequisite: Satisfactory completion of core curriculum and consent of coordinator.

A detailed regional review of human anatomy as encountered during surgery. Includes laboratory study.

**ORT 91 Hospital Externship Practicum / 12 cr. hrs. 36 periods (4 lec., 32 lab)**

☐ Prerequisite: ORT 52, 53, 54, 55 and consent of instructor.

A minimum of 500 hours of supervised clinical experience is spent in operating rooms of local affiliated hospitals utilizing acquired skills in actual surgical situations.

## OPHTHALMIC DISPENSING

**ODT 51 Optical Orientation I / 6 cr. hrs. / 8 periods (5 lec., 3 lab)**

☐ Prerequisite: Consent of program coordinator.

This course covers the role of the ophthalmic laboratory, laboratory technician, dispensing optician, optometrist, ophthalmologist, etc.; and basic information on lenses, refractive errors, frame construction, repair and laboratory organization.

**ODT 52 Optical Orientation II / 3 cr. hrs. / 3 periods**

☐ Prerequisite: ODT 51.

Introduction to frame measurements, reading prescriptions and frame adjusting, types of single vision and multi-focal lenses, frames and manufacturers.

**ODT 53 Optical Laboratory I / 3 cr. hrs. / 5 periods (lab)**

☐ Prerequisite: ODT 51.

Lens surfacing, layouts, base curves, thickness, lens blanks, hardening, lens edging and insertion.

**ODT 54 Optical Dispensing I / 6 cr. hrs. / 10 periods (4 lec., 6 lab)**

☐ Prerequisite: ODT 51, 52, 53.

Facial measurements, adjusting, frame selection, vocational glasses, lens and frame design.

**ODT 55 Contact Lens Anatomy and Physiology / 4 cr. hrs. 4 periods**

☐ Prerequisite: ODT 51, 52, 53.

Basic information on the anatomy and physiology of the eye for contact lens fitting. Introduction to fitting procedures.

**ODT 56 Ophthalmic Assistant / 3 cr. hrs. / 5 periods (2 lec., 3 lab)**

☐ Prerequisite: ODT 51, 52, 53.

Optical instrumentation, field charting, visual skills, tangent screen, taking case histories, office procedures, etc.

**ODT 57 Contact Lenses / 5 cr. hrs. / 7 periods (4 lec., 3 lab)**

☐ Prerequisite: ODT 55.

The theory and practice of contact lens fitting optics, corneal measurements, lens check-outs, adjusting, bifocal and toric contact lenses and patient control.

**ODT 58 Optical Dispensing II / 4 cr. hrs. / 10 periods (4 lec., 6 lab)**

☐ Prerequisite: ODT 51, 52, 53, 54.

Cataract lenses, adjusting, styles, record keeping, problem prescriptions and optical dispensary organization.

**ODT 59 Senior Seminar / 2 cr. hrs. / 2 periods**

☐ Prerequisite: ODT 51 through ODT 56.

Ethics of the profession, complete review of all material for state board examination, state laws and program evaluation.

**ODT 299 Cooperative Ophthalmic Dispensing Training 3 cr. hrs. / 15 periods (lab)**

☐ Prerequisite: ODT 51 through ODT 56.

Realistic patient contact with students working in various professional offices and optical dispensaries. Second year level.

## PAPAGO

**PGO 50 Elementary Papago / 4 cr. hrs. / 4 periods**

This is a conversation course with emphasis on listening and repetition. Designed for the non-Papago speaking students.

**PGO 51 Papago for Native Speakers / 4 cr. hrs. / 4 periods**

☐ Prerequisite: Knowledge of Papago.

Class needs will be determined, due to different speaking dialects.

## PHILOSOPHY

**PHI 101–102 Introduction to Philosophy I, II / 3–3 cr. hrs. 3 periods**

Course seeks to provide the student with a sound grasp of the principles of abstract reasoning, and instances of their application to life. For the prospective philosophy major, it offers a thorough foundation through some of the main themes and figures in the history of Western philosophy. (formerly PHI 1-2)

**PHI 120 An Introduction to Logic / 3 cr. hrs. / 3 periods**

The objective of this course is to increase the student's awareness of the requirements and processes of valid thinking, decision-making and communication. (formerly PHI 20)

**PHI 130 Introductory Studies in Ethics and Social Philosophy / 3 cr. hrs. / 3 periods**

An introduction to the study of such matters as judgments of approval and disapproval, the rightness and wrongness of our acts, and the desirability or wisdom of our actions. Students study classical and contemporary meanings of ethical statements, their truth and falsity, their objectivity and subjectivity. (formerly PHI 30)

**PHI 140 Philosophy of Religion / 3 cr. hrs. / 3 periods**

An introduction to the philosophical study of religion. (Same as Religion 140.)

## PHYSICAL EDUCATION

**PED 1–4 Practicum I–IV / 1 cr. hr. / 1 period**

The student experiences on-the-job supervised training as an aide. Assignments are in the service activity program, intramural program, or other related professional posts.

**PED 5 Field Work I / 1 cr. hr. / 1 period**
Provides a cooperative educational experience involving the students in working with federal, state, county, municipal and private agencies under supervision.

**PED 120 Facilities for Physical Education and Recreation 2 cr. hrs. / 2 periods**
A survey of available facilities in Pima County. Students learn about size, space, site planning, design, construction materials and techniques, costs, competitive bids and other facility problems. Field trips are a large part of this course. (Same as Recreation 120.) (formerly PED 20)

**PED 125 Foundations of Athletic Training / 2 cr. hrs. 2 periods**
This course consists of practical work in the training room as well as instruction in the techniques of athletic training. Students experience hydrothermy, electrothermy, taping, and various preventive and corrective methods used in sports medicine. (formerly PED 25)

**PED 130 Elementary School Physical Education / 3 cr. hrs. 3 periods**
This is a skills/methods course designed to provide the teacher with the basic skills and knowledge of materials and methods of teaching games, relays and modified activities in team and individual sports. Students also are introduced to the theoretical basis of using the movement education approach in teaching physical education in the elementary school. (formerly PED 30)

**PED 140–143 Professional Activities / 1 to 3 cr. hrs. 1+ periods**
A two-year required professional preparation course for majors and minors: PED 140 — swimming, soccer/speedball, flag football (M), handball/self-defense (W); PED 141 — tennis, track and field, basketball; PED 142 — golf, volleyball, wrestling (M), archery (W); PED 143 — badminton, gymnastics and tumbling; softball (W) and handball (M). (formerly PED 40–43)

**PED 144 Dance / 2 cr. hrs. / 2 periods**
Introduction to folk, square, modern and social dances for majors and minors. (Same as Recreation 144.) (formerly PED 44)

**PED 145 Sports Officiating / 2 cr. hrs. / 2 periods**
Students are acquainted with the rules of various sports from the standpoint of an official. Current methods and materials are included to develop competency in executing official rules. Actual experience is required, by service, in the intramural program and other agencies. (Same as Recreation 145.) (formerly PED 45)

**PED 147 Intramural Sports and Equipment / 2 cr. hrs. 2 periods**
A study of intramural organization and administration with practical experience in the Pima Community College intramural program. Students also are exposed to equipment purchasing procedures, inventory procedures, maintenance procedures and repair techniques. (formerly PED 47)

**PED 149 History of Physical Education / 2 cr. hrs. 2 periods**
A historical look at the social, political, religious and cultural influences as they shaped the physical activities of man from prehistoric times to the present. Emphasis also is on the leaders of physical education in each major period of time. (formerly PED 49)

**PED 150 Beginning Archery / 1 cr. hr. / 1 period**

**PED 152 Badminton / 1 cr. hr. / 1 period**

**PED 158 Folklore Dances / 1 cr. hr. / 1 period**

**PED 158 Bailes Folkloricos / 1 cr. hr. / 1 period**
Se ensenaran los mas celebrados bailes tradicionales de diversas regiones de Mexico. El desarrollo de las clases sera desde ejercicios de calentamiento hasta la tecnica del zapateado, progresivamente, segun las aptitudes de los elementos; y como complemento del folklore, tendran clases de tecnica de danza moderna cuando sea necesario para que los elementos tengan major proyeccion hacia el publico.

**PED 159 Beginning Dance / 1 cr. hr. / 1 period**

**PED 160 Baseball / 1 cr. hr. / 1 period**

**PED 162 Bowling / 1 cr. hr. / 1 period**

**PED 164 Defensive Tactics / 1 cr. hr. / 1 period**

**PED 165 Desportes Bilingual / 1 cr. hr. / 1 period**

**PED 166 Beginning Fencing / 1 cr. hr. / 1 period**

**PED 168 Field Hockey / 1 cr. hr. / 1 period**

**PED 169 Flag Football / 1 cr. hr. / 1 period**

**PED 170 Beginning Golf / 1 cr. hr. / 1 period**

**PED 171 Gymnastics / 1 cr. hr. / 1 period**

**PED 172 Handball / 1 cr. hr. / 1 period**

**PED 174 Ice Hockey / 1 cr. hr. / 1 period**

**PED 175 Ice Skating / 1 cr. hr. / 1 period**

**PED 176 Beginning Judo / 1 cr. hr. / 1 period**

**PED 177 Physical Fitness / 1 cr. hr. / 1 period**

**PED 178 Scuba / 1 cr. hr. / 1 period**

**PED 179 Self-Defense for Women / 1 cr. hr. / 1 period**

**PED 180 Soccer / 1 cr. hr. / 1 period**

**PED 181 Softball / 1 cr. hr. / 1 period**

**PED 182 Square Dancing / 1 cr. hr. / 1 period**

**PED 183 Swimming / 1 cr. hr. / 1 period**

**PED 184 Life Saving / 1 cr. hr. / 1 period**

**PED 185 Water Safety Instructor / 1 cr. hr. / 1 period**

**PED 186 Beginning Tennis / 1 cr. hr. / 1 period**

**PED 187 Volleyball / 1 cr. hr. / 1 period**

**PED 188 Weight Training / 1 cr. hr. / 1 period**

**PED 189 Wrestling / 1 cr. hr. / 1 period**

**PED 200 Independent Activity / 1 cr. hr. / 1 period**
Independent activity in physical education under supervision of an instructor.

**PED 250 Advanced Archery / 1 cr. hr. / 1 period**

**PED 256 Dance, Arabic / 1 cr. hr. / 1 period**

**PED 259 Advanced Dancing / 1 cr. hr. / 1 period**

**PED 266 Advanced Fencing / 1 cr. hr. / 1 period**

**PED 270 Advanced Golf / 1 cr. hr. / 1 period**

**PED 271 Advanced Gymnastics / 1 cr. hr. / 1 period**

**PED 276 Advanced Judo / 1 cr. hr. / 1 period**

**PED 286 Advanced Tennis / 1 cr. hr. / 1 period**

**PED 299 Cooperative Physical Education Training / 3 cr. hrs. 15 periods (lab)**

A supervised cooperative work program for students in a physical education occupation for a minimum of 15 hours per week. Course may be repeated.

## PHYSICS

**PHY 101 Technical Physics I / 3 cr. hrs. / 4 periods (2 lec., 2 lab)**

Designed for the technologist. The course is based on the specific applications of physics to the automotive, air conditioning and other technical fields. All math needed is developed concurrently. (formerly PHY 50)

**PHY 102 Technical Physics II / 3 cr. hrs. / 4 periods (2 lec., 2 lab)**

☐ Prerequisite: PHY 101, MTH 70.
A continuation of PHY 101. The course deals mostly with the application of the electro-magnetic theory to the technologies. (formerly PHY 52)

**PHY 105 Fundamental Physics / 4 cr. hrs. / 6 periods (3 lec., 3 lab)**

☐ Prerequisite: High school algebra.
Intended for health careers. This course offers a brief introduction to the phenomena occurring in the physical world. Units or topics are chosen according to special interests of students. (formerly PHY 55)

**PHY 112 General Physics for Education Majors / 3 cr. hrs. 5 periods (2 lec., 3 lab)**

☐ Prerequisite: High school algebra.
For education majors. A one-semester course offering an introduction to the subject matter of general physics, mechanics, heat, light, sound, electricity, magnetism and modern physics. (formerly PHY 12)

**PHY 121 Introductory Physics I / 4 cr. hrs. / 7 periods (4 lec., 3 lab)**

☐ Prerequisite: High school algebra.
Topics include mechanics, heat, waves and sound. A non-calculus, liberal arts course. (formerly PHY 2)

**PHY 122 Introductory Physics II / 4 cr. hrs. / 7 periods (4 lec., 3 lab)**

☐ Prerequisite. PHY 121.
Light, electricity and magnetism, atomic and nuclear physics. (formerly PHY 3)

**PHY 131 Introductory Physics with Calculus I / 4 cr. hrs. 7 periods (4 lec., 3 lab)**

☐ Prerequisite: Calculus or concurrent.
For mathematics and science majors. Topics include mechanics, heat, waves and sound. (formerly PHY 4)

**PHY 132 Introductory Physics with Calculus II / 4 cr. hrs. 7 periods (4 lec., 3 lab)**

☐ Prerequisite: PHY 131.
Light, electricity and magnetism, atomic and nuclear physics. (formerly PHY 5)

**PHY 170 Topics in Physical Science / 1 to 3 cr. hrs. 1+ periods**

☐ Prerequisite: Certain topics may have a prerequisite.
Topics available include how things work, physics of musical instruments, science and society, holography, energy and independent study. (formerly PHY 70)

**PHY 210 Introductory Mechanics / 4 cr. hrs. / 7 periods (4 lec., 3 lab)**

☐ Prerequisite: Calculus and Analytic Geometry.
An introduction to mechanics. Recommended for physics and engineering majors. Kinematics, dynamics, energy, momentum, and harmonic motion. (formerly PHY 10)

**PHY 216 Introductory Electricity and Magnetism / 4 cr. hrs. 7 periods (4 lec., 3 lab)**

☐ Prerequisite: PHY 210.
Electricity and magnetism through Maxwell's equations. For physics and engineering majors. (formerly PHY 16)

**PHY 221 Introduction to Waves and Heat / 3 cr. hrs. 6 periods (3 lec., 3 lab)**

☐ Prerequisite: PHY 210.
Heat, fluids, sound and light, including optics and optical instruments. (formerly PHY 21)

**PHY 230 Introduction to Modern Physics / 3 cr. hrs. 6 periods (3 lec., 3 lab)**

☐ Prerequisite: PHY 210 and PHY 216 or PHY 131 and PHY 132, MTH 180, MTH 185.
Atomic and nuclear physics, relativity and radioactivity, quantum physics. (formerly PHY 30)

## POLITICAL SCIENCE

**POL 50 Immigration Law and Practices / 3 cr. hrs. 3 periods**

The legal and political status of immigrants from Mexico, the process of immigration and counseling for the immigrant.

**POL 50 Derecho, Conceptos y Procesos de Imigracion 3 cr. hrs. / 3 periods**

Se estudiara el derecho de imigracion a los Estados Unidos, sus procesos y ramificaciones legales.

**POL 100 Introduction to Political Science / 3 cr. hrs. 3 periods**

Politics. What is it? What is its significance in daily life? How do political systems change? (formerly POL 1)

**POL 110 American National Government and Politics 3 cr. hrs. / 3 periods**

A survey of the institutions of American government and the evolution of our political system. Included are studies of the Constitution, roles of political parties, interest groups, public opinion and voting behavior. Special attention is given to positions of economic, ethnic and religious minorities in American society. (formerly POL 10)

**POL 111 American State and Local Governments and Politics / 3 cr. hrs. / 3 periods**

Survey of state and local governments and politics with particular emphasis on the political culture of Arizona, the state's politically relevant economic and ethnic groups, and its current political trends. (formerly POL 11)

**POL 120 Introduction to Comparative Politics / 3 cr. hrs. 3 periods**

An examination of the basic concepts and methods of comparative political analysis and their application to the political systems of Western Europe, the Soviet Union, Eastern Europe, and the developing areas. (formerly POL 20)

**POL 130 Introduction to International Relations / 3 cr. hrs. 3 periods**

A general examination of international relations including the elements of national power; the economic, social and psychological determinants of international political behavior; formation of foreign policy; international law; and international and regional organizations. (formerly POL 30)

**POL 140 Minority Groups and the Political Process 3 cr. hrs. / 3 periods**

An investigation of the position of various minority groups in the American political system, including their general political attitudes and voting behavior, patterns of political organization, party activity, and their role in the formation of public policy. (formerly POL 40)

**POL 149 Independent Study in Political Science 2 to 4 cr. hrs. / 2+ periods**

Independent readings or special projects to be arranged with the instructor. (formerly POL 49)

**POL 190 Political Revolution and Violence / 3 cr. hrs. 3 periods**

An examination of the causes of political revolution and violence, using historical, psychological and sociological data to explain how violent changes in political power come about. (formerly POL 100)

## PSYCHOLOGY

**PSY 100–101 Introduction to Psychology I, II / 3–3 cr. hrs. 3 periods**

First semester includes basic principles of learning; physical and physiological factors as related to individual growth. Second semester presents an introduction to personality, organization and perception. (formerly PSY 20–21)

**PSY 102 Introduction to Social Psychology / 3 cr. hrs. 3 periods**

The basic theories and concepts of social psychology and the individual's experience in group situations. (formerly PSY 22)

**PSY 103 Normal Personality / 3 cr. hrs. / 3 periods**

Psychological functioning and coping behaviors for normal personality development. Early adulthood is stressed. (formerly PSY 23)

**PSY 296 Individual Studies in Psychology / 3 to 6 cr. hrs. 3+ periods**

☐ Prerequisite: Consent of instructor.
An exploration of special interest areas. Content to be determined by student and facilitator/instructor. (formerly PSY 49)

**PSY 298 Social Psychology Practicum / 3 to 5 cr. hrs. 9 to 15 periods (lab)**

☐ Prerequisite: Consent of instructor.
Students become familiar with some specific area of social psychology through a review of pertinent research, directed observation, and personal participation in relevant experimental or natural settings. (formerly PSY 25)

## PUBLIC ADMINISTRATION

**PAD 105 Introduction to Public Administration 3 cr. hrs. / 3 periods**

Public and private approaches to leading social issues, and the role of the public administrator in their resolution.

## RADIOLOGIC (X-RAY) TECHNOLOGY

**RAD 55 Skull Refresher / 2 cr. hrs. / 2 periods**

☐ Prerequisite: Registration with the American Registry of Radiologic Technologists.
This course is for the registered radiologic technologist to review and practice radiographic-positioning for visualization of the bones of the skull, sinuses and mastoids. Radiographic phantoms are used to demonstrate the principles of exposure. Group process is used to demonstrate positioning and to critique films.

**RAD 71 Radiographic Fundamentals / 4 cr. hrs. / 5 periods (2 lec., 3 lab)**

☐ Prerequisite: Consent of program coordinator.
An introduction to X-ray technology and its application in allied health professions. Included are definitions of professional and legal responsibilities in the field, a history of the technique and its terminology, and demonstration and use of X-ray and film processing equipment.

**RAD 72 Radiographic Processing and Technique / 4 cr. hrs. 6 periods (3 lec., 3 lab)**

☐ Prerequisite: RAD 71 and consent of program coordinator.
Designed to help students understand the causes of X-ray image formation. An in-depth study and application of radiographic techniques, film characteristics and processing, processing chemicals, cine film and radiation chemistry.

**RAD 73 Radiographic Positioning I / 4 cr. hrs. / 6 periods (3 lec., 3 lab)**

☐ Prerequisite: RAD 71 and consent of program coordinator.
Demonstration and practice of routine and special radiographic positioning for visualization of the bones of the skeleton, exclusive of those of the skull. Radiographic phantoms are used to relate only the principles of exposures. Group process is used to evaluate all films.

**RAD 81 Radiographic Positioning II / 5 cr. hrs. / 6 periods (3 lec., 3 lab)**

☐ Prerequisite: Satisfactory completion of required first-year courses.
Demonstration and practice of routine and special radiographic positioning for visualization of the bones of the skull and routine visceral studies. Radiographic phantoms are used to relate only principles of exposure. Group process is used to evaluate all films.

**RAD 82 Radiologic Physics I / 5 cr. hrs. / 6 periods (3 lec., 3 lab)**

☐ Prerequisite: Satisfactory completion of required first-year courses.
Designed to help students understand the function of all x-ray machine components and special accessory units. Demonstration and application of x-ray equipment. Emphasis is on radiographic principles and on methods of protection against ionizing radiations.

**RAD 83 Clinical Procedures I / 2 cr. hrs. / 7 periods (1 lec., 6 lab)**

☐ Prerequisite: Satisfactory completion of required first-year courses.
Students apply their acquired skills of routine and emergency positioning in clinical situations under the direct supervision of staff radiologists and/or registered radiologic technologists of affiliated hospitals.

**RAD 84 Radiation Therapy, Biology and Nuclear Medicine 3 cr. hrs. / 3 periods**

☐ Prerequisite: Satisfactory completion of required first-year courses.

Use of radiation in treatment. The theory of radioactivity, nuclear isotope production and their medical applications are introduced. Use of measuring and monitoring instruments is demonstrated and practiced under the supervision of a radiologist or registered radiation therapist in an affiliated radiotherapy clinic. This course includes an examination of the effects of radiation upon living tissue.

**RAD 85 Radiologic Positioning III / 5 cr. hrs. / 6 periods (3 lec., 3 lab)**

☐ Prerequisite: Satisfactory completion of required third-semester courses.

Demonstration and practice of special radiographic procedures and such specialties as contrast media studies, pediatrics, nursing and surgical procedures.

**RAD 86 Clinical Procedures II / 2 cr. hrs. / 7 periods (1 lec., 6 lab)**

☐ Prerequisite: Satisfactory completion of required third-semester courses.

A continuation of RAD 83. Students apply advanced skills in emergency and specialized radiology procedures in clinical situations under direct supervision of staff radiologists and/or registered radiologic technologists of affiliated hospitals.

**RAD 88 Radiologic Physics II / 4 cr. hrs. / 4 periods**

☐ Prerequisite: Satisfactory completion of required third-semester courses.

A continuation of RAD 82 with special emphasis placed on the equipment used in special procedures, ultra-sound, xeroradiography, thermography and image intensification.

**RAD 91 Hospital Externship Practicum I / 12 cr. hrs. 40 periods (lab)**

☐ Prerequisite: Satisfactory completion of the first four semesters of program and consent of coordinator.

All students must spend an appropriate time as an extern in an affiliated approved hospital radiology department to obtain additional practical training. Such approved radiology departments must be under the direct supervision of a radiologic technologist registered by the American Registry of Radiologic Technologists.

**RAD 92 Hospital Externship Practicum II / 12 cr. hrs. 40 periods (lab)**

☐ Prerequisite: RAD 91.

A continuation of RAD 91.

**RAD 93 Hospital Externship Practicum III / 12 cr. hrs. 40 periods (lab)**

☐ Prerequisite: RAD 92.

A continuation of RAD 92.

## READING

**REA 52 Bilingual Reading / 3 cr. hrs. / 3 periods**

☐ Prerequisite: Some reading ability in English and Spanish.

Laboratory methods and techniques are used to improve reading in English and Spanish. There are side-by-side readings in English and Spanish, independent readings and vocabulary development in both.

**REA 52 Lecturas Ingles-Espanol**

Para estudiantes que desean mejorar su habilidad en el use del espanol, o los dos idiomas. Escritos originales en espanol coincidiran con su traduccion en ingles; escritos en ingles, coincidiran con su traduccion en espanol. Finalmente, escritos en ingles, todavia no traducidos, seran comparados con escritos en espanol del mismo tema. El laboratorio permitira trabajos individuales ademas de en grupo.

**REA 100 Reading Improvement / 4 cr. hrs. / 4 periods**

All students should register for REA 100 series which is composed of three levels. Level placement for each student is determined by diagnostic testing and teacher evaluation after enrollment. Classes meet four hours a week but special schedules can be arranged for students who would otherwise have a class conflict. Non-native speakers of English should see English as a Second Language. Group and individual instruction emphasizes vocabulary, comprehension, study skills and reading speed in each of the three levels which are: REA 100 — Reading Improvement; REA 101 — Developmental Reading; REA 102 — Critical Reading. (formerly REA 60 series)

## REAL ESTATE

**RLS 65 Real Estate Principles / 4 cr. hrs. / 4 periods**

This course prepares the student for the state salesman's licensure qualifying examination. In addition, it provides familiarity with real estate and associated rules and regulations. (formerly MAN 65)

**RLS 66 Real Estate Practices / 4 cr. hrs. / 4 periods**

☐ Prerequisite: RLS 65 or Arizona Real Estate Salesman's License.

Real estate as it affects individuals and business firms; and the involvement of government in urban redevelopment and urban planning. Topics include property rights, ownership, financing, brokerage and evaluation. (formerly MAN 66)

**RLS 67 Real Estate Law / 3 cr. hrs. / 3 periods**

☐ Prerequisite: RLS 66 or consent of instructor.

This course provides real estate students with the basic concepts and application of the general principles of real estate law. Legal topics include freehold estates, landlord and tenant, concurrent ownership, easements, profits, licenses, deeds and conveyances, and recording. (formerly MAN 67)

**RLS 68 Real Estate Appraisals / 3 cr. hrs. / 3 periods**

☐ Prerequisite: RLS 65 or consent of instructor.

Real estate students are acquainted with the basic principles and practical application of real estate appraisals. Topics include valuation terms, market, analysis and classification of data, income and cost factors. (formerly MAN 68)

**RLS 69 Real Estate Practicum / 3 cr. hrs. / 9 periods (lab)**

☐ Prerequisite: RLS 68 or consent of instructor.

The major emphasis is on the practical application of real estate principles and practices through observation, field trips, off-campus research, term papers and seminars. Practical observation is on real estate, title insurance, escrow, appraisal and research, and mortgage firms. (formerly MAN 69)

## RECREATION

**REC 51 Arts and Crafts / 3 cr. hrs. / 3 periods**

Focuses on the practical experience in creative craft projects. Included are ceramics, metal, weaving, woodworking and junk art.

**REC 52 Recreation Systems and Management / 3 cr. hrs. 3 periods**

An introduction to national, state, county, city and private parks and the recreational systems offered in each.

**REC 59 Park Administration / 3 cr. hrs. / 3 periods**

The administrative procedures and techniques of various park systems.

**REC 74 Public Relations and Communigraphics / 3 cr. hrs. 3 periods**

Course covers the development of flyers, brochures and pamphlets; problems of dealing with the public; and providing information on the agency's functions and activities.

**REC 75 Water Recreation and Resources / 3 cr. hrs. 3 periods**

Practices in managing outdoor water-oriented recreation on private and public lands.

**REC 101 Introduction to Parks and Recreation / 3 cr. hrs. 3 periods**

General surveys of the development and role of parks; their current roles and functions in modern society; a survey of recreation, including theories of leisure, changing recreation use and activities due to changes in time, income and mobility factors; and models of general recreation experiences. (formerly REC 1)

**REC 102 Group Leadership / 2 cr. hrs. / 2 periods**

Course provides a knowledge of human dynamics, leadership ability and principles of effective leadership. Students experience these characteristics by observation, demonstration, participation and field trips. (formerly REC 2)

**REC 103 Recreation Administration and Finance / 3 cr. hrs. 3 periods**

Covered are administration, financing and responsibility for parks and recreational areas, personnel selection, public relations, use of community resources and legal aspects of recreation administration. (formerly REC 3)

**REC 114 Program Planning and Organization / 3 cr. hrs. 3 periods**

The essential elements and basic principles of organization, supervision, promotion and evaluation of various types of recreation programs and services. (formerly REC 14)

**REC 115 Outdoor Recreation-Education / 3 cr. hrs. 3 periods**

An overview of the scope and magnitude of outdoor recreation, including history and development, conservation and organized camping. Camp craft skills are taught during field trips. (formerly REC 15)

**REC 116 Recreation for Special Groups / 3 cr. hrs. 3 periods**

Students are introduced to various recreation programs for special groups. Special consideration is given to organizing and planning recreational activities for the handicapped, aged and corrective programs. (formerly REC 16)

**REC 117 Child Development / 3 cr. hrs. / 3 periods**

(Same as Early Childhood Education 117.) (formerly REC 17)

**REC 118 Survival / 2 cr. hrs. / 2 periods**

The principles and techniques of survival. Students have an opportunity to enhance their ability to survive with the environment. (formerly REC 18)

**REC 119 Recreational Games / 2 cr. hrs. / 2 periods**
Students gain an understanding of teaching children's games, both team and individual, in a recreational setting. This course is primarily for the recreation leader. (formerly REC 19)

**REC 120 Facilities for Physical Education and Recreation 2 cr. hrs. / 2 periods**
(Same as Physical Education 120.) (formerly REC 20)

**REC 121 Drug Education and First Aid / 2 cr. hrs. / 2 periods**
This course provides the recreation leader with the knowledge of drug abuse and first aid techniques leading to the standard Red Cross certificate. (formerly REC 21)

**REC 144 Dance / 2 cr. hrs. / 2 periods**
(Same as Physical Education 144.) (formerly REC 44)

**REC 145 Sports Officiating / 2 cr. hrs. / 2 periods**
(Same as Physical Education 145.) (formerly REC 45)

**REC 150 Camping and Hiking / 1 cr. hr. / 1 period**
A recreational activity offering students a lecture/lab experience in camping and hiking. Several field trips give students an exposure to camp cooking, camp selection and backpacking.

**REC 152 Beginning Marksmanship / 1 cr. hr. / 1 period**
A lecture/lab course introducing students to firearms. Moral and legal aspects of firearms are emphasized along with firearms safety. Course includes range practice. (Same as Administration of Justice 152.)

**REC 154 Mountaineering / 1 cr. hr. / 1 period**
Technical and free-climbing techniques are explained. Students learn techniques on campus and then are taken on several field trips to practice the techniques.

**REC 156 Beginning Trapshooting / 1 cr. hr. / 1 period**
Course covers the history of shotguns, principles and techniques of instinct shooting, and the rules of trap and skeet shooting. Course is conducted on the range and includes extensive practice.

**REC 170 Conservation of National Resources / 3 cr. hrs. 3 periods**
(Same as Life Sciences 170.) (formerly REC 70)

**REC 171 Survey of Western Flora / 3 cr. hrs. / 3 periods**
(Same as Life Sciences 171.) (formerly REC 71)

**REC 172 Survey of Western Land Vertebrates / 3 cr. hrs. 3 periods**
(Same as Life Sciences 172.) (formerly REC 72)

**REC 173 Introduction to Game Management / 3 cr. hrs. 3 periods**
(Same as Life Sciences 173.) (formerly REC 73)

**REC 252 Advanced Marksmanship / 1 cr. hr. / 1 period**
Course covers advanced techniques of competitive marksmanship and includes extensive range practice while emphasizing range safety.

**REC 256 Advanced Trapshooting / 1 cr. hr. / 1 period**
Similar to REC 252.

**REC 299 Cooperative Recreation Training / 3 cr. hrs. 15 periods (lab)**
A supervised cooperative work program for students in a recreation occupation for a minimum of 15 hours per week. Course may be repeated.

## RELIGION, COMPARATIVE

**REL 120 Old Testament / 3 cr. hrs. / 3 periods**
The major works of the Old Testament are studied with emphasis given to their religious, moral, historical and literary significance. (formerly REL 20)

**REL 121 New Testament / 3 cr. hrs. / 3 periods**
The major works of the New Testament are studied with emphasis given to their religious, moral, historical and literary significance. (formerly REL 21)

**REL 125 Islam / 3 cr. hrs. / 3 periods**
The history and literature of Islam are explored from the Prophet Mohammed to the present. Special emphasis is on the poetry and practices of the Sufis. (formerly REL 25)

**REL 130 Comparative Religions: Oriental / 3 cr. hrs. 3 periods**
Hinduism, Buddhism, Zoroastrianism, Confucianism, Taoism, Shintoism and Zen Buddhism are explored through readings, discussions and movies. Christianity is compared through student knowledge and opinion in discussions. (formerly REL 30)

**REL 140 Philosophy of Religion / 3 cr. hrs. / 3 periods**
An introduction to the philosophical study of religion. (Same as Philosophy 140.) (formerly REL 40)

## RESPIRATORY THERAPY

**RTH 71 Introduction to Respiratory Therapy / 5 cr. hrs. 9 periods (3 lec., 6 lab)**
☐ Prerequisite: Admission to the RTH core curriculum, concurrent enrollment in RTH 82.
A brief history of respiratory therapy, handling of medical gases, safety practices, basic nursing arts for the therapist, and general equipment used in the administration of medical gases are covered in this introductory course.

**RTH 73 Clinical Medicine / 3 cr. hrs. / 3 periods**
☐ Prerequisite: RTH 71, concurrent enrollment in RTH 86, 83 and 91.
Course emphasizes the study of microorganisms and control of pathogens related to cardiopulmonary disorders, and the basics of pharmacology and medications used in respiratory therapy.

**RTH 82 Respiratory Physiology / 5 cr. hrs. / 5 periods (lab)**
☐ Prerequisite: Concurrent enrollment in RTH 71.
An in-depth study of the cardiopulmonary system, associated structures and the principles involved in ventilation and gas transport.

**RTH 83 Respiratory Care I / 5 cr. hrs. / 7 periods (4 lec., 3 lab)**
☐ Prerequisite: RTH 71, concurrent enrollment in RTH 86, 73 and 91.
Students are introduced to the study of humidity/aerosol therapy and all of the clinical indications for such therapy. Also covered are methods and principles of cardiopulmonary resuscitation and monitoring of the critically ill patient.

**RTH 84 Respiratory Care II / 5 cr. hrs. / 7 periods (4 lec., 3 lab)**

☐ Prerequisite: RTH 83, concurrent enrollment in RTH 89 and 92.
Course covers the principles of all positive pressure breathing devices and clinical applications. Also studied are chest physiotherapy and rehabilitative respiratory therapy. Volume ventilators are explored with emphasis on proper selection of a ventilator and the assessment of a patient in need of assisted or controlled ventilation.

**RTH 86 Diseases I / 4 cr. hrs. / 4 periods**

☐ Prerequisite: RTH 82, concurrent enrollment in RTH 73, 83 and 91.
Course covers cardiopulmonary diagnostic procedures and studies, and begins the study of common pulmonary disorders.

**RTH 89 Diseases II / 4 cr. hrs. / 4 periods**

☐ Prerequisite: RTH 86, concurrent enrollment in RTH 84 and 92.
A continuation of the study of pathophysiology of cardiopulmonary disorders and treatment.

**RTH 91 Clinical Procedures I / 5 cr. hrs. / 15 periods (lab)**

☐ Prerequisite: Concurrent enrollment in RTH 83.
This course is the laboratory portion and clinical practicum of the program. Students begin application of clinical principles in a hospital setting after suitable laboratory experience.

**RTH 92 Clinical Procedures II / 5 cr. hrs. / 15 periods (lab)**

☐ Prerequisite: Concurrent enrollment in RTH 84.
An extension of RTH 91 with more in-depth clinical work and responsibility.

## SHEET METAL

**SML 110 Sheet Metal I / 4 cr. hrs. / 6 periods (3 lec., 3 lab)**

Students learn to lay out and fabricate metal items for air conditioning fittings under proper instruction given on the use of hand and machine tools. (formerly SML 70)

**SML 120 Sheet Metal II / 4 cr. hrs. / 6 periods (3 lec., 3 lab)**

☐ Prerequisite: SML 110.
A continuation of layout and fabrication of fittings for air conditioning. Students learn to build and create these objects. (formerly SML 71)

**SML 130 Sheet Metal Pattern Layout I / 3 cr. hrs. / 3 periods**

☐ Prerequisite: Consent of instructor.
Students learn all phases of laying out sheet metal work including pattern making, cutting, shop methods and procedures of development. This course is designed for all metal trades and follows a sequence of parallel lines, radial lines and triangulation. (formerly SML 80)

**SML 135 Sheet Metal Pattern Layout II / 3 cr. hrs. / 3 periods**

☐ Prerequisite: SML 130.
A continuation of SML 130. (formerly SML 81)

**SML 210 Sheet Metal Pattern Layout III / 3 cr hrs. 3 periods**

☐ Prerequisite: SML 135.
A continuation of SML 135. (formerly SML 82)

**SML 220 Architectural Sheet Metal / 3 cr. hrs. / 4 periods (2 lec., 2 lab)**

☐ Prerequisite: SML 120, 210.
Students are supervised in fabricating gutterwork, valleys, range hoods, flashing and ornamental work. They also are exposed to different designing problems in sheet metal. (formerly SML 72)

**SML 299 Cooperative Sheet Metal Training / 3 cr. hrs. 15 periods (lab)**

A supervised cooperative work program for students in a sheet metal occupation for a minimum of 15 hours per week. Course may be repeated.

## SOCIAL SERVICES

**SSE 115 Drugs in American Society / 3 cr. hrs. / 3 periods**

A general introduction to the current drug situation in the United States. Content includes philosophical exploration of the drug situation, interpretation within the social context, the physical and psychological effects of drugs, and a review of current drug programs and research. Emphasis is on dealing with stereotypes so that students can profit from additional information on the drug situation.

**SSE 127 Political and Legal Aspects of Drug Use / 3 cr. hrs. 3 periods**

An overview of the political and legal aspects of drug use and abuse including historical perspectives on the drug situation, the influence of political pressures on the interpretation of the problem, the economics of drug abuse, civil liberties, court decisions and current thinking in the field.

**SSE 133 Introduction to Social Welfare / 3 cr. hrs. 3 periods**

An introduction to our social welfare system; what it is, has been, and what it may become nationally and in the local community. Also included is an in-depth review of community agencies and resources. (formerly SSE 33)

**SSE 134 Casework Methods / 3 cr. hrs. / 3 periods**

☐ Prerequisite: SSE 133.
The theory and practice of casework within the context of the Southwest. Also included are interviewing, case history and review, and how to develop a helping relationship. Case examples from various social service settings are examined. (formerly SSE 34)

**SSE 216 Community Organization and Development 3 cr. hrs. / 3 periods**

Course reviews the theory of organizing groups to effect change, and the role of the professional organizer; provides an examination of institutions showing why they change or fail to change; and provides different strategies for effecting change. Students become involved, under guidance, in formal and informal groups within the Tucson community for observation purposes. (formerly SSE 16)

**SSE 217 Evaluation and Support of the Drug User 3 cr. hrs. / 3 periods**

Course provides students with information and skills necessary to thoroughly and accurately evaluate an individual client, including understanding the specific drug-related behaviors as well as other aspects of the social milieu surrounding the addict, such as family, legal and social situation. When combined with SSE 218, students will be able to make an accurate matching of treatment modality to the needs of the client.

**SSE 218 Treatment of the Drug Abuser / 3 cr. hrs. 3 periods**

A comprehensive course leading to student skills in the treatment of the drug abuser. Content includes the various treatment modalities in use, including therapeutic communities, day-care programs, methodone maintenance and detoxification and psychotherapy models.

**SSE 235 Group Work / 3 cr. hrs. / 3 periods**

An understanding of group dynamics including personal growth, leadership and organization development in different economic and cultural settings; the role of the leader in groups and techniques of working with groups. Case examples are examined and observed. (formerly SSE 35)

**SSE 299 Cooperative Social Services Training / 3 cr. hrs. 15 periods (lab)**

A supervised cooperative work program for students in a social service occupation for a minimum of 15 hours per week. Course may be repeated.

## SOCIOLOGY

**SOC 58 Human Relations in Business and Industry 3 cr. hrs. / 3 periods**

Human factors in the field of business, getting along with colleagues and customers. Emphasis is on improving behavioral patterns. (Same as Management 58.)

**SOC 99 Introduction to Cities and Community Planning 3 cr. hrs. / 3 periods**

An introductory course designed to help students understand the urban environment and how it functions, and the role that community planning can and should play in adding to the quality of urban living. (formerly SOC 59)

**SOC 100 Introduction to Sociology / 3 cr. hrs. / 3 periods**

What this society is, how we live in it and what we can do with it. (formerly SOC 30)

**SOC 101 Current United States Social Problems / 3 cr. hrs. 3 periods**

☐ Prerequisite: SOC 100 for University of Arizona transfer.
How individuals get constructively involved. (formerly SOC 31)

**SOC 103 Explorations in Prejudice / 3 cr. hrs. / 3 periods**

☐ Prerequisite: SOC 100 for University of Arizona transfer.
Why we hate each other. What we, as participants in this course, do about our own prejudice and prejudice in the community. (formerly SOC 26)

**SOC 115 Human Ecology / 4 cr. hrs. / 5 periods (3 lec., 2 lab)**

Focus is on the question of survival for mankind and other life forms, exploring both present problems and alternatives for the future. Included are lectures, discussions and field trips. (Same as Earth Sciences 115 and Life Sciences 115, but may not be accepted for transfer under Sociology.)

**SOC 201 Ghetto Society / 3 cr. hrs. / 3 periods**

☐ Prerequisite: SOC 100 for University of Arizona transfer.
A study of minority socialization and the life of urban disadvantaged groups. (formerly SOC 24)

**SOC 202 Introduction to Civil Rights Practices / 3 cr. hrs. 3 periods**

An explanation of legal practices and regulations with emphasis on individual rights and problems, the welfare system, financial contracting, health and building codes, and administrative processes in the schools. Applied field work included. (Included in Political Science 149.) (formerly SOC 32)

**SOC 203 Sociology of Utopia / 3 cr. hrs. / 3 periods**

Course includes the study of "Alternative Life Styles" and the history of the communal movement in America with special emphasis on the literature of Utopia and modern communal experimentation. (formerly SOC 48)

**SOC 289 Individual Studies in Sociology / 3 to 6 cr. hrs. 3+ periods**

☐ Prerequisite: Consent of instructor.
An exploration of special interest areas. Content to be determined by student and facilitator-instructor. (formerly SOC 49)

**SOC 289 Estudios Independientes en Sociologia**

Se exploran areas que tengan interes particular para el estudiante. El mismo determina el contenido del estudio mientras que el instructor funciona como facilitador y guia.

**SOC 298 Topics in Community Involvement / 1 to 3 cr. hrs. 1+ periods**

☐ Prerequisite: Consent of instructor.
Direct, constructive student involvement in community problems. Students work individually or in small teams through guidance and periodic consultations with faculty advisors. Special activities also will be determined by the advisors. Students employed or working as volunteers with agencies or groups may get credit for those activities under this course. (formerly SOC 55)

## SPANISH

**SPA 30 Commercial and Technical Spanish 2 cr. hrs. / 2 periods**

☐ Prerequisite: Spanish proficiency in speaking and writing.
The Spanish language as a business skill. The course is specially planned for the bilingual secretary or office employe. Emphasis is on business terms and the Spanish language as used in the southwestern United States and in Mexico. Includes practice in taking dictation and transcribing in both languages.

**SPA 30 Español Comercial / 2 cr. hrs. / 2 periods**

Se enseña el español especializado del negocio para obtener aptitudes necesarias de secretarias bilingües o trabajadoras (trabajadores) de oficina. El énfasis es sobre términos de negocio y el idioma español como se emplea en el sudoeste de los Estados Unidos y México. Se practicará el dictado y la transcripción en ambos idiomas.

**SPA 50 Conversational Spanish I / 4 cr. hrs. / 4 periods**

Practice in speaking Spanish, emphasizing current usage and ease in expressing ideas.

**SPA 55 Conversational Spanish II / 4 cr. hrs. / 4 periods**

☐ Prerequisite: SPA 110 or 50 or knowledge of Spanish.
A continuation of SPA 50 with study on a more advanced level.

**SPA 101 Intensive Spanish for Native Speakers I 4 cr. hrs. / 4 periods**

Grammar instruction is designed to meet the particular needs of native speakers of Spanish; reading and writing in increasing difficulty to prepare for advanced composition and introductory courses in Spanish literature.

**SPA 101 Español Intensivo Para Estudiantes de Habla Hispana I / 4 cr. hrs. / 4 periods**

Es un curso planeado especialmente para responder a las necesidades del estudiante de habla hispana. Se empieza con el sistema básico, enseñar a leer y a escribir. Por efecto de conocimientos ya adquiridos previamente los estudiantes asimilan las enseñanzas con extraordinaria rapidez. Para leer se usan particularmente lecturas con fondo cultural mexicano.

**SPA 102 Intensive Spanish for Native Speakers II**
**4 cr. hrs. / 4 periods**
This is a continuation of Intensive Spanish for Native Speakers I.

**SPA 102 Español Intensivo Para Estudiantes de Habla Hispana II / 4 cr. hrs. / 4 periods**
En Español 102 se continúa el curso 101 del primer semestre con mayor participación en la literatura y en la gramática.

**SPA 110 Elementary Spanish I / 4 cr. hrs.**
**5 periods (4 lec., 1 lab)**
Basic communication skills are taught, with emphasis on oral communication and elementary grammar. Students also are exposed to the culture and traditions of the Spanish-speaking countries. (formerly SPA 1)

**SPA 111 Elementary Spanish II / 4 cr. hrs.**
**5 periods (4 lec., 1 lab)**
☐ Prerequisite: SPA 101 or equivalent.
A continuation of Spanish I. (formerly SPA 2)

**SPA 205-206 Imaginative Writing / 3-3 cr. hrs. / 3 periods**
The course is designed to develop creative writing abilities. (formerly SPA 5-6)

**SPA 205-206 Literatura Creativa / 3-3 cr. hrs. / 3 periods**
Literatura creativa es un curso que ayudará técnicamente a los estudiantes que tengan vocación de escritores, propiciando el desarrollo de sus facultades creativas. Se tratará de publicar los trabajos más sobresalientes.

**SPA 210 Intermediate Spanish I / 4 cr. hrs.**
**5 periods (4 lec., 1 lab)**
☐ Prerequisite: SPA 111 or equivalent.
An intensive review of grammar fundamentals and a continued practice in speaking. Students also read selected authors and write short compositions. (formerly SPA 3)

**SPA 211 Intermediate Spanish II / 4 cr. hrs.**
**5 periods (4 lec., 1 lab)**
☐ Prerequisite: SPA 210 or equivalent.
This is a continuation of Intermediate Spanish I. (formerly SPA 4)

**SPA 220 Novel of the Mexican Revolution / 3 cr. hrs. / 3 periods**
☐ Prerequisite: A firm reading knowledge in Spanish.
Students analyze, from a literary perspective, representative novels of the Mexican Revolution. They also gain insights into contemporary Mexican and Mexican-American life as influenced by the Mexican Revolution of 1910. (formerly SPA 120)

**SPA 220 Novela de la Revolución Mexicana**
**3 cr. hrs. / 3 periods**
En la Novela de la Revolución Mexicana se lee a los autores más importantes de la Revolución. Paralelamente se muestra el panorama histórico de la Revolución. Se estudiarán los motivos y hechos más sobresalientes de la época revolucionaria.

**SPA 225 Intermediate Spanish Composition and Conversation I / 3 cr. hrs. / 3 periods**
☐ Prerequisite: SPA 211 or equivalent.
This course gives students a firmer command of spoken and written Spanish. Includes preparation of themes and conversations from suggested topics and discussions of current issues and events. (formerly SPA 25)

**SPA 225 Composición y Conversación en Español**
**3 cr. hrs. / 3 periods**
El curso está diseñado para lograr mayor facilidad en el español hablado y escrito. Se prepararán discusiones sobre tópicos actuales de toda naturaleza para practicar el hablar y para ensanchar el vocabulario. Para la parte escrita se estudiarán trozos de cuento, para análisis de estilo y después para hacer imitaciones en ensayos.

**SPA 226 Intermediate Spanish Composition and Conversation II / 3 cr. hrs. / 3 periods**
A continuation of Intermediate Spanish Composition and Conversation I. (formerly SPA 26)

**SPA 240 Independent Study in Spanish Language**
**1 to 4 cr. hrs. / 1+ periods**
☐ Prerequisite: Consent of instructor.
Students pursue an independent course of study under the supervision of an instructor. (formerly SPA 40)

**SPA 249 Cultura Chicana / 3 cr. hrs. / 3 periods**
Este curso incluye los siguientes temas Chicanos: proceso histórico; el fenómeno social, creación literaria.

## SPEECH

**SPE 102 Introduction to Oral Communication / 3 cr. hrs.**
**3 periods**
An introduction to the basic concepts and skills of oral communication in interpersonal and public address situations; and a study of communication barriers, research techniques, and norms of speech delivery. (formerly SPE 2)

**SPE 102 Comunicacion Para Hispano Parlantes**
**3 cr. hrs. / 3 periods**
Una introduccion a la comunicacion oral, el discurso, dando enfasis al desarrollo de la confianza en si mismo y de la eficacia en el empleo de varios modos de comunicacion, tales como la entrevista, el hablar por telefono, introducciones, interesen a los alumnos para que aprendan a expresarse con eficacia en las situaciones mas practicas de la vida diaria.

**SPE 105 Voice and Diction / 2 cr. hrs. / 2 periods**
Study and training in the aspects of basic voice production including speech and personality, the physiological system, and general speech standards. (formerly SPE 5)

**SPE 110 Public Speaking / 3 cr. hrs. / 3 periods**
Study and training in public speaking with emphasis on audience adaptation. Reading and speech assignments focus on research, organization and logic, analysis and delivery as techniques of audience adaptation. (formerly SPE 10)

**SPE 115 Voice and Articulation for the Stage / 2 cr. hrs.**
**2 periods**
Study and training in the aspects of basic voice production as required by the stage; norms and techniques of stage diction, characterizations, dialects and sight-reading. (formerly SPE 15)

**SPE 120 Business and Professional Communication**
**3 cr. hrs. / 3 periods**
Study and training in communication situations and problems within the organizational complex. Basic assignments include oral reports, interviewing, problem-solving and conference groups, listening and persuasion. (formerly SPE 20)

**SPE 125 Forensics / 1 cr. hr. / 1 period**
Individualized instruction and practice in speech competition skills including debate, oral interpretation, and persuasive, extemporaneous and impromptu speaking. Each student must participate in at least one intercollegiate speech tournament. May be repeated. (formerly SPE 25)

**SPE 130 Small Group Discussion / 3 cr. hrs. / 3 periods**
Study and training in group participation and leadership, the nature, use and function of group discussion, problem-solving groups, norms of group interaction and group relations. (formerly SPE 30)

**SPE 136 Oral Interpretation of Literature / 3 cr. hrs. 3 periods**
Study and training in the techniques of analysis and presentation of the oral dimensions of literature; use of voice and body in the presentation of literature, the role of interpreter, characterization, literary conventions and oral interpretation modes. (formerly SPE 36)

**SPE 149 Independent Study in Speech / 1 to 4 cr. hrs. 1+ periods**
Students may research some aspect of communication not available through regular course offerings, such as argumentation, non-verbal communication, communication theory, mass media, rhetorical criticism, etc. (formerly SPE 49)

## SWAHILI

**SWA 50–51 Elementary Swahili I, II / 4–4 cr. hrs. / 4 periods**
Basic patterns and structures of Swahili and sufficient vocabulary to communicate are taught through conversation, reading and writing. An advanced course in Swahili will be offered if enrollment is sufficient.

## WELDING

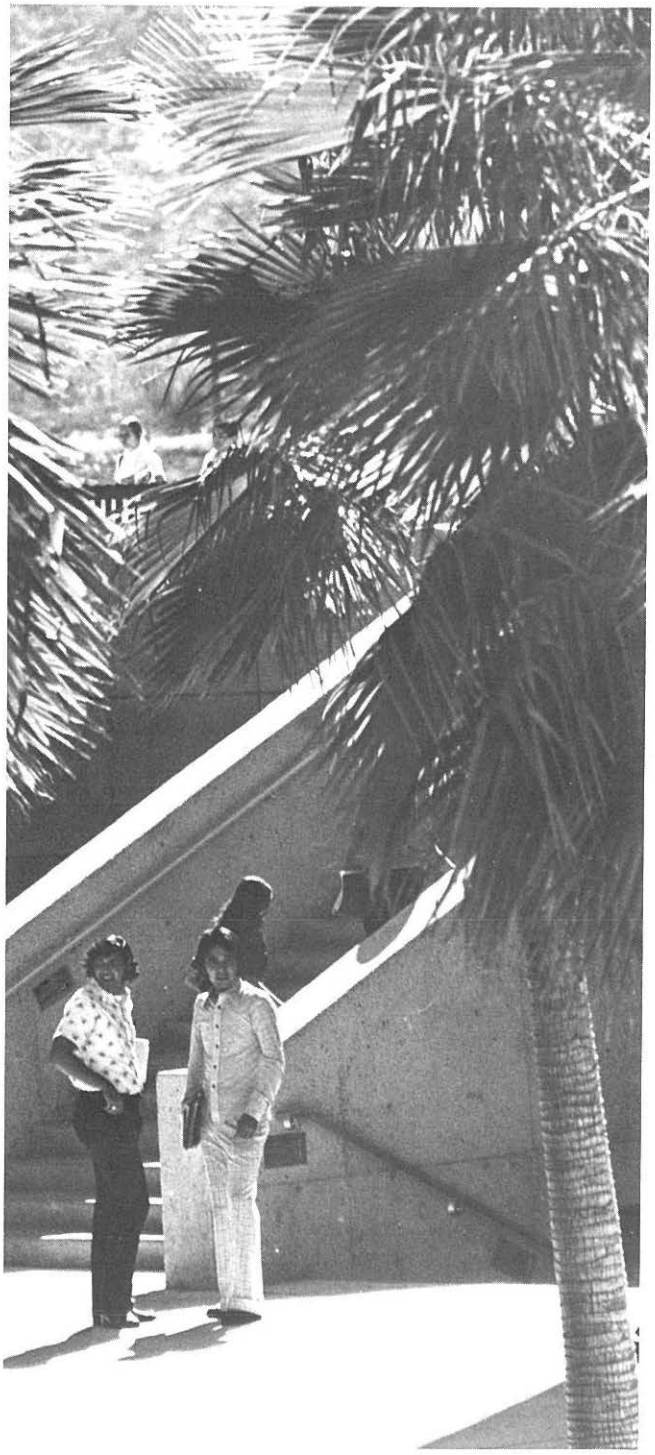
**WLD 110 Combination Welding / 3 cr. hrs. / 6 periods (2 lec., 4 lab)**
Basic techniques in arc welding, oxy-acetylene welding and bronze brazing, theory and practice in soft and silver brazing. (formerly WLD 55)

**WLD 110 Soldadura / 3 cr. hrs. / 6 periods (2 lec., 4 lab)**
Tecnica basica de soldadura electrica y octogena e incluyendo soldadura de bronce.

**WLD 115 Blueprint Reading / 3 cr. hrs. / 3 periods**
The student, after successfully completing the course, can interpret blueprints as applied to the welding trade and should be familiar with welding symbols and their significance. (formerly WLD 81)

**WLD 150 Oxy-Acetylene Welding / 4 cr. hrs. / 6 periods (2 lec., 4 lab)**
Students learn set-up and operation of oxy-acetylene welding equipment, how to weld flat, horizontal, vertical and overhead on standard alloys of steel; to braze and solder non-ferrous and ferrous metals and their alloys. (formerly WLD 56)

**WLD 160 Arc Welding / 4 cr. hrs. / 6 periods (2 lec., 4 lab)**
A study of joining metals by electric arc with the use of the electrode; techniques of basic steps essential to all position welding with all types of electrodes; equipment, current electrodes and all specified joint preparations used. (formerly WLD 51)



**WLD 250 Pipe Welding / 4 cr. hrs. / 6 periods (2 lec., 4 lab)**

☐ Prerequisite: WLD 150 and 160, SML 130.
Stresses the contraction and expansion of pipe, cutting, beveling, tacking, and welding miter joints, saddle joints, Y-joints, bull plugs, flanges, and cast iron fittings; methods of welding gas lines under pressure; danger and safety of welding in gas areas; welding alloys and non-ferrous tubing.

**WLD 260 Inert Gas Welding / 4 cr. hrs. / 6 periods (2 lec., 4 lab)**

☐ Prerequisite: WLD 250.
Students learn techniques and procedures of Tungsten Inert Gas welding (Heli-Arc). Techniques involve proper control settings, proper manipulation of TIG torch, and welding in all positions on non-ferrous and ferrous metals. Also a study and practice of Metal Inert Gas welding (MIG welding).

**WLD 299 Cooperative Welding Training / 3 cr. hrs. 15 periods (lab)**

A supervised cooperative work program for students in a welding occupation for a minimum of 15 hours per week. Course may be repeated.

## WRITING

**WRT 5 Poetry Writing / 3 cr. hrs. / 3 periods**

Offered concurrently with WRT 205 but not designed for transfer credit. (formerly COM 55)

**WRT 6 Short Story Writing / 3 cr. hrs. / 3 periods**

Offered concurrently with WRT 206 but not designed for transfer credit. (formerly COM 66)

**WRT 62 Literary Magazine Workshop / 3 cr. hrs. / 3 periods**

A laboratory course in which students edit, design, layout and produce at least one literary publication of student work in each semester. (formerly COM 62)

**WRT 70 Development Writing / 3 cr. hrs. / 3 periods**

Offered concurrently with WRT 101M, this course consists of modules in fundamental skills including grammar and usage, organization and development as well as a variety of other modules to meet the personal or occupational needs of students. (formerly COM 70)

**WRT 101 Writing I / 3 cr. hrs. / 3 periods**

An introduction to the excitement of good writing with emphasis on the technique and practice of description, explanation and argument. Designed for transfer credit. (formerly COM 1)

**WRT 102 Writing II / 3 cr. hrs. / 3 periods**

☐ Prerequisite: WRT 101.
This course continues practice in writing with emphasis on longer and more analytical compositions, including a research paper or annotated papers. Readings may include fiction, poetry, drama or non-fiction. Designed for transfer credit. (formerly COM 2)

**WRT 101M–102M Writing IM, IIM / 3–3 cr. hrs. / 3 periods**

These courses permit students to complete the two-semester freshman writing requirement by taking six one-hour modules. The introduction module must be taken at the start of WRT 101M. The following modules must be included for transfer: essay; writing about literature; and research. Students may select two additional modules from the following list to complete the requirement. The essay module must be taken before writing about literature or research. Other modules may be taken in any sequence. Any three modules may be taken in a semester for WRT 70 credit. The modules are: (1) introduction; (2) sentences; (3) paragraphs; (4) essay; (5) writing about literature; (6) research; (7) reading literature; (8) dream journal; (9) individual studies; (10) journal; (11) dialects; (12) creative writing. (formerly COM 1M-2M)

**WRT 150 Practical Communications / 3 cr. hrs. / 3 periods**

Practice in effective everyday communication skills. Emphasis is on writing and other communication skills necessary in specific career fields. May transfer as an elective. (formerly COM 50)

**WRT 154 Technical Communications / 3 cr. hrs. / 3 periods**

☐ Prerequisite: WRT 101 or 150 plus one year's experience or training in major vocational area.
Students develop writing skills used in formal and informal reports, form completion, letters, abstracts, reviews and other communication skills as prescribed by vocational areas. (formerly COM 54)

**WRT 205 Poetry Writing / 3 cr. hrs. / 3 periods**

☐ Prerequisite: WRT 101 and 102.
An introduction to the techniques used in contemporary poetry; a study of selected poems as examples; practice in applying techniques by writing and discussing original poetry. For transfer, students must have completed WRT 102. This course may be taken as WRT 5 for non-transfer credit. (formerly COM 5)

**WRT 206 Short Story Writing / 3 cr. hrs. / 3 periods**

☐ Prerequisite: WRT 101 and 102.
Introduction to the techniques used in contemporary short fiction, and study of selected short fiction with practice in separate elements of technique through short exercises and writing of original manuscripts. For transfer, students must have completed WRT 102. This course may be taken as WRT 6 for non-transfer credit. (formerly COM 6)

**WRT 220 Advanced Writing / 3 cr. hrs. / 3 periods**

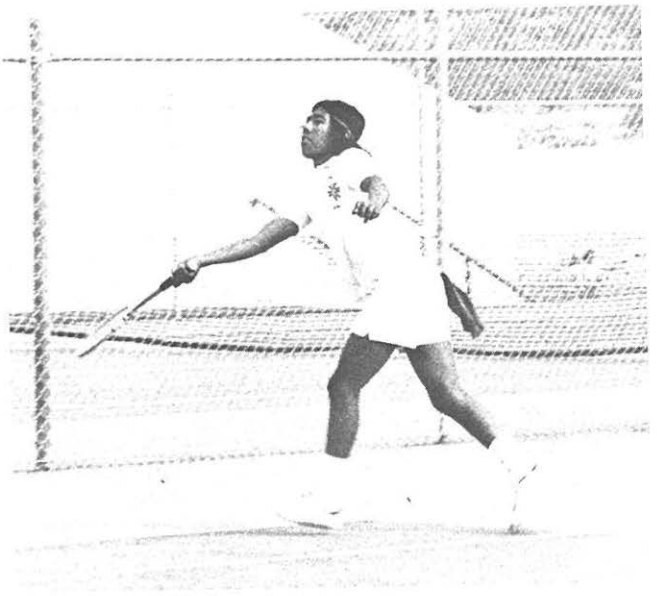
☐ Prerequisite: WRT 101 and 102.
A second-year college level course offering extensive practice in writing various forms such as essays, reports, journals and interviews. (formerly COM 20)

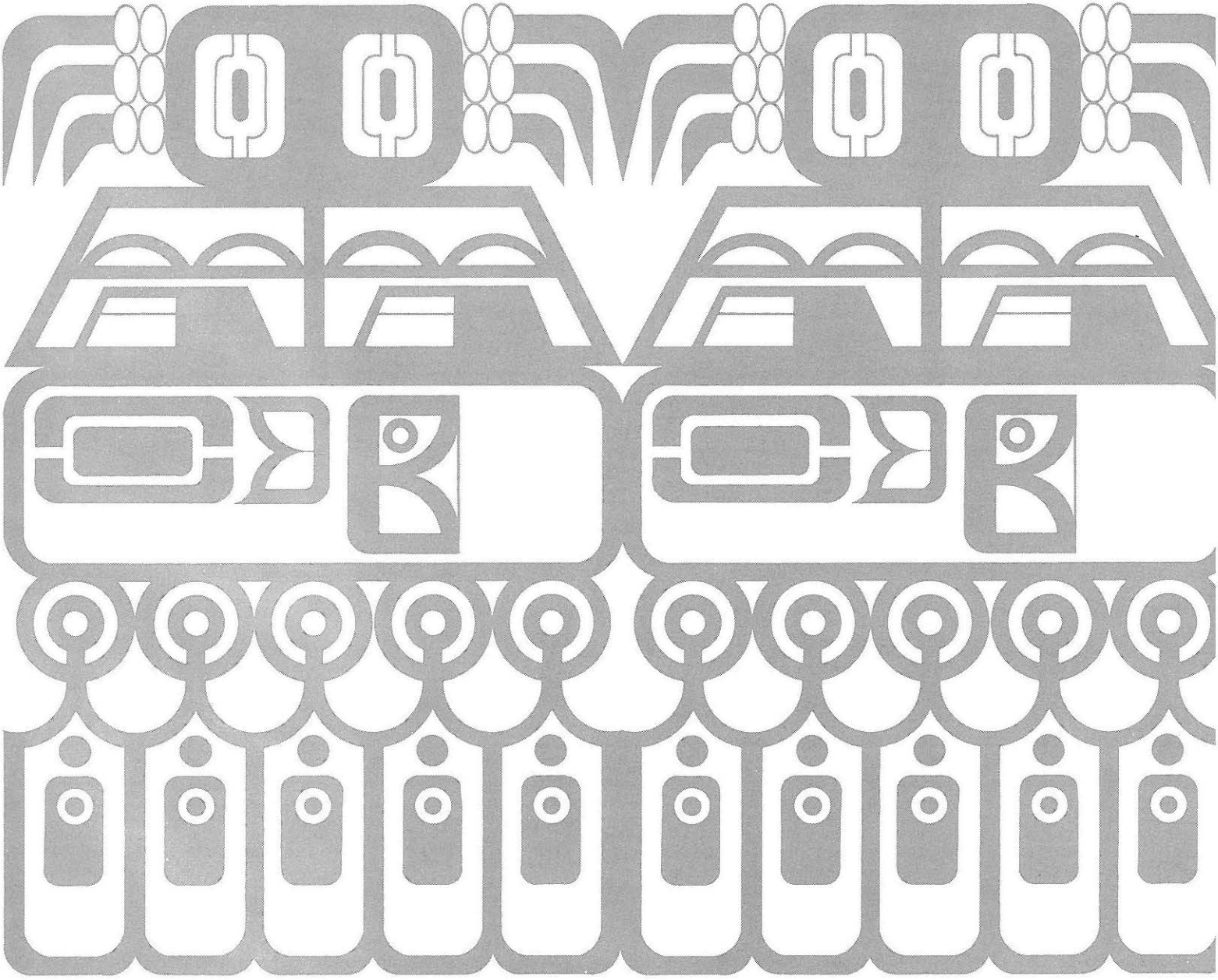
**WRT 254 Technical Communications / 3 cr. hrs. / 3 periods**

☐ Prerequisite: WRT 101, 102 and approval of major advisor and instructor.
Basic techniques of writing long and short reports, abstracts, memos and other forms required in scientific and technical occupations. The course is structured to allow students to work on writings required in courses and in future occupations. (formerly COM 4)

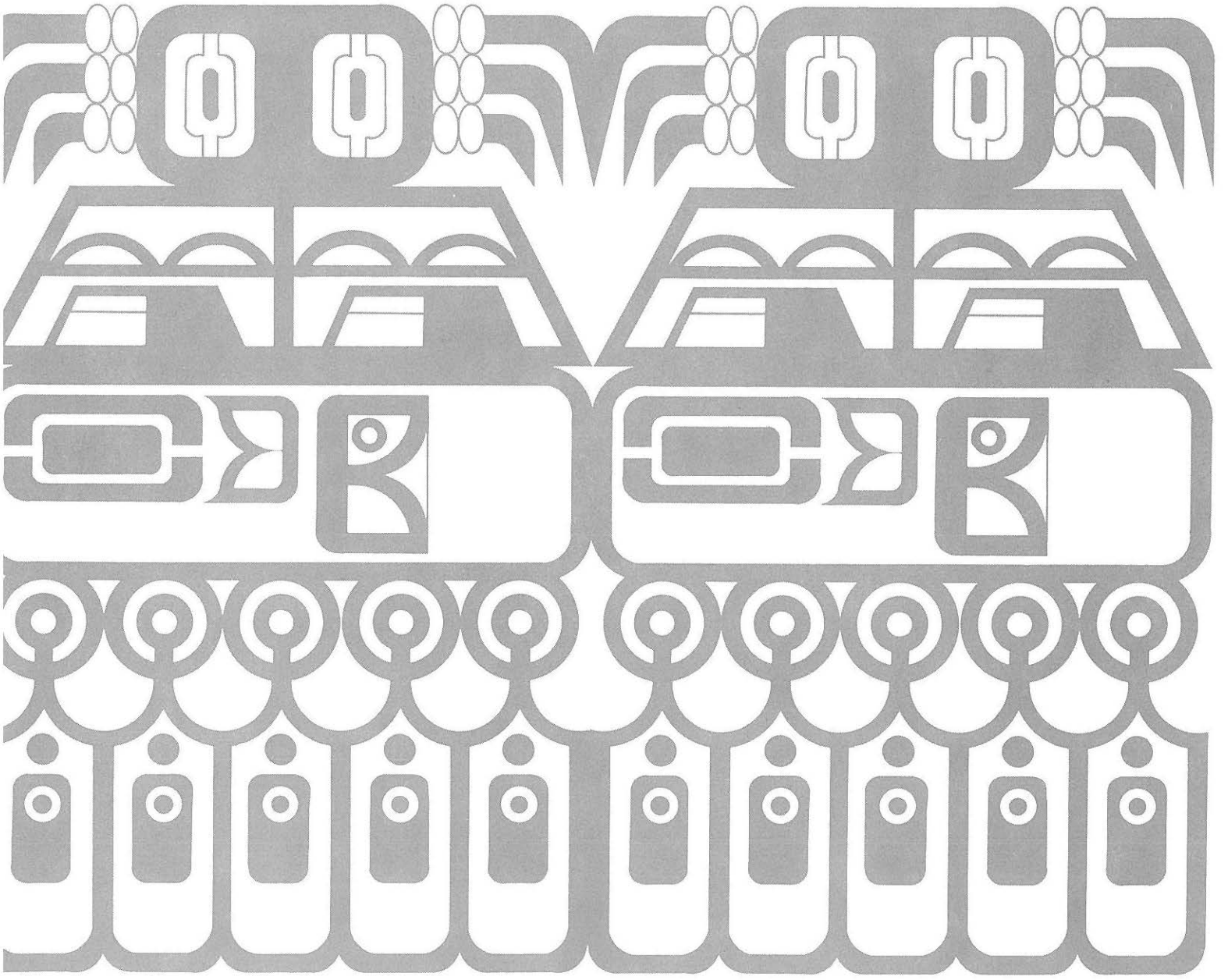
**WRT 299 Cooperative Writing Training / 3 cr. hrs. 15 periods (lab)**

A supervised cooperative work program for students in a writing occupation for a minimum of 15 hours per week. Course may be repeated.





# governing board and faculty



## GOVERNING BOARD

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Elgie M. Batteau

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Dr. W. P. Shofstall, ex-officio
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## ADMINISTRATIVE FACULTY

Irwin L. Spector, President
B.S. — St. Peter's College
M.A. — Columbia University
Ed.D. — Arizona State University

Franklin M. Conary, Dean of Evaluation Planning
B.S. — Alabama Polytechnic Institute
M.Ed. — Auburn University
Ed.D. — Auburn University

James E. Gibson, Dean of Continuing Education
B.S. — Southwest Missouri State College
M.A. — Northern Colorado University
Ed.D. — University of Arizona

Donald F. Klaasen, Dean of Business Services
B.B.A. — University of Michigan
M.B.A. — University of Michigan

Diego A. Navarrette, Dean of Student Services
B.A. — University of Arizona
M.Ed. — University of Arizona

L. Elmer Nix, Dean of Administrative Services
B.S. — Southeastern State College
M.S. — Oklahoma State University
Ph.D. — Arizona State University

Wesley E. Soderquist, Dean of Instructional Services
B.S. — Illinois Institute of Technology
M.B.A. — University of Chicago
Ed.D. — Loyola University

Robert F. Agrella, Assoc. Dean of Instructional Services (Downtown Campus)
B.S. — Purdue University
M.A.T. — Purdue University

Allan P. Crawfurd, Assoc. Dean of Instructional Services/ Evening and Extended Programs
B.S. — Regis College
M.A. — University of Denver
Ed.D. — University of Denver

Robert A. Harrell, Assoc. Dean of Instructional Services/ Resource Management
B.A. — Memphis State University
M.Ed. — University of Florida
Ph.D. — Arizona State University

Richard B. Lodewick, Assoc. Dean of Instructional Services/Curriculum/Personnel
B.S. — University of Wyoming
M.S. — University of New Mexico
Ph.D. — University of Arizona

David F. Shuford, Assoc. Dean of Student Services
B.S. — Western Carolina University
M.A. — Western Carolina University
Ed.D. — University of Tennessee

Joseph W. Cosentino, Registrar/Director of Admissions
B.A. — Mt. Union College
M.Ed. — Kent State University

## PROFESSIONAL STAFF

Maurey L. Ashmann, Assistant to President,
Affirmative Action Officer
B.S. — Riverside University

Stewart V. Lancaster, Director of Community Relations
B.S. — University of Virginia

## SUPPORT STAFF

Russell C. Collmer, Director of Institutional Research
B.S. — University of New Mexico
M.S. — University of Iowa

Layton J. Cutforth, Director of Computer Center
B.S. — University of Arizona

## INSTRUCTIONAL FACULTY

### Division Directors

Don Q Paris, Health Sciences
B.S. — Colorado State University

Lucille Parks, Math, Science, Technology
B.S. — University of Alberta
M.A. — University of Kansas

James J. Pate, Human Resources
B.A. — Butler University
M.A. — University of Arizona
M.Ed. — University of Arizona

Gerald J. Peterka, Business and Management
B.S.C. — Loyola University
M.Ed. — DePaul University

Fern Ramirez, General Studies
B.S. — University of Arizona
M.S. — University of Arizona
Ph.D. — University of Arizona

Paul D. Walker, Fine and Applied Arts
B.S. — Westchester State College
M.Mu. — Arizona State University

## Faculty

Arthur Alberding, Mathematics
B.S. — Nebraska State Teachers College
M.A. — University of South Dakota

Richard P. Alday, Physical Education
B.S. — Kansas State Teachers College
M.A. — Kansas State Teachers College

David L. Allen, Reading
B.A. — University of Arizona
M.Ed. — University of Arizona

Mary H. Allison, Nursing
B.S.N. — University of Arizona

Grace H. Altamirano, Office Education
B.S. — University of Arizona

Barbara M. Anderson, Office Education
A.A. — Cochise College
B.S. — University of Arizona
M.Ed. — University of Arizona

Armando Angel, Chemistry
B.A. — San Jose State College
M.S. — University of Arizona
Ph.D. — University of Arizona

Naomi Antelman, Respiratory Therapy
A.R.I.T. — Edgewater General Hospital

Roland D. August, Engineering & Mathematics
B.S. — Oregon State University
M.S. — George Washington University

Barbara A. Avery, Nursing
B.S. — University of Maryland
M.S. — University of Arizona

Frances F. Bahrs, Reading
B.A. — Sacramento State Teachers College
M.A. — Sacramento State Teachers College

G. Elisabet Bailey, Speech
B.A. — University of Arizona
M.A. — University of Arizona

John P. Barnes, Literature, Humanities & Philosophy
B.A. — University of Nebraska
M.A. — University of Iowa

William K. Barnette Jr., Electronics
B.S. — Northern Arizona University

Gordon L. Becker, Mathematics
M.S. — Northern Arizona University

Louis C. Bernal, Art
B.A. — Arizona State University
M.F.A. — Arizona State University

Valerie M. Bockman, Business
B.B.A. — University of Wisconsin
M.S. — University of Arizona

Lynn G. Bonner, Speech
B.A. — Western Michigan University
M.A. — Western Michigan University

Lucy A. Brajevich, Dental Assisting
A.A. — Los Angeles City College

Aristeo Brito Jr., Spanish
B.A. — Sul Ross State College
M.A. — University of Arizona

Louise F. Bronson, Psychology & Sociology
B.A. — University of Rochester
M.A. — University of Florida
Ph.D. — University of Arizona

Otis F. Bronson, Communications, Humanities, Art
B.S. — University of Florida
M.A. — University of Florida

William H. Brooks, Life Sciences
B.S. — Pennsylvania State University
M.S. — North Dakota State University

James R. Brown, Psychology
A.A. — Merritt Junior College
B.A. — California State University
M.S. — California State University

James M. Brumfield, Electronics

Benjamin Burbank, Medical Director Respiratory Therapy
M.D. — Long Island College of Medicine

Nicholas C. Busch, Life Sciences
B.A. — Sonoma State College

Fred M. Bustamante, Humanities
B.A. — University of Arizona
M.A. — University of Arizona

Charles R. Camp, Electronics
B.A. — Colorado College
M.A. — Colorado College

Colin E. Campbell, Life Sciences
B.S. — University of Arizona
M.S. — University of Arizona

Teresa C. Campbell, Communications
B.A. — New York University
M.A. — Columbia University
J.D. — Fordham University

Guadalupe Castillo, History & Anthropology
B.A. — University of Arizona
M.A. — University of Arizona

Margaret W. Catlin, Nursing
B.S.N. — University of Arizona

Shirley J. Chann, Computer Science
B.A. — Wellesley College

Rafael Chavez, Journalism
B.A. — Texas Western College
M.A. — University of Texas

David C. Coleman II, Mathematics
B.S. — Bluefield State College
M.S. — Western Reserve University
Ed.D. — University of Arizona

Ronald D. Crabtree, Humanities
B.A. — Washington University
M.A. — Washington University

Michael B. Curry, Mathematics
B.S. — Wheeling College
M.S. — Utah State University

Daniel Davidson, Physics
B.S. — University of Rochester
Ph.D. — University of Arizona

Donald Diggs, Sociology & Political Science
B.S. — Kansas State College
M.S. — Kansas State College

Michael Enis, Welding

Emilio Escarcega, Spanish
B.A. — University of Arizona

Maria L. Figueroa, Spanish
B.A. — University of Arizona
M.A. — Southern Illinois University

Georgeanne R. Fimbres, Home Economics
B.S. — University of Arizona

Norman P. Finch, Drafting
B.S. — California State College
M.A. — Arizona State University

Susan Finch, Computer Science
B.S. — University of California
M.B.A. — University of Arizona

Charles L. Fletcher, Machine Shop

D. Joan Forbes, Radiologic Technology
B.S. — Creighton University

Millan Freeman, Humanities
B.A. — Eastern Nazarene College
M.Ed. — University of Arizona

Sotero V. Fuentevilla, Business
B.A. — University of Havana
M.S. — University of Havana

David W. Gallagher, Psychology
B.A. — University of Arizona
M.Ed. — University of Arizona

Ignacio A. Garcia, Business & Political Science
A.A. — College of the Sequoias
B.A. — California State University
J.D. — Loyola University

Rosemary Garcia, Sociology & Anthropology
B.A. — University of California
J.D. — Loyola University

Daniel P. Giaquinto, Radiologic Technology
R.T. (A.R.R.T.) — Rochester General Hospital

George H. Giley, Drafting
B.S. — University of Arizona

James R. Goff, Physics & Astronomy
B.A. — Nebraska Wesleyan University
M.S. — Case-Western Reserve University

C. Barclay Goldsmith, Drama & Communications
B.A. — Stanford University
M.F.A. — Carnegie-Mellon University

Raquel Goldsmith, History & Sociology
B.A. — National University of Mexico
Licenciado en Law & Social Science — Nat. U. of Mexico

Robert Gordon, Mathematics
B.S. — University of New Mexico
M.A. — University of Arizona

Max J. Gottschalk, Art, Home Economics
B.A. — Washington University

Christopher K. Graeff, Art
B.Arch. — Syracuse University
M.Arch. — Syracuse University

Donald A. Graham, Communications, Religion
B.A. — Yale University
M.A. — University of California

Thomas C. Grissom, Business
B.S. — University of Arizona
B.A. — University of Arizona
M.Ed. — University of Arizona

Marie C. Gross, Nursing
B.S. — University of Nebraska
M.S. — Indiana University

Anthony S. Guglielmino, Airframe

Ysidro L. Gutierrez, Drafting

Clare T. Hamlet, Computer Science
B.A. — University of Arizona

Laurene G. Harding, Nursing
B.S. — University of Arizona
M.A. — University of Arizona

Lydia G. Harris, Early Childhood Education
B.S. — University of Arizona
M.Ed. — University of Arizona

Mary J. Hattstaedt, Nursing
B.S. — Incarnate Word College
M.A. — New York University

Louise Haugh, Reading
B.A. — University of Kentucky
M.Ed. — University of Arizona

Lester G. Hays, Computer Science
B.S. — Washington University
M.Ed. — University of Arizona

Angel Hernandez, Dance, Art
Certificado — University of Guadalajara

Constance Howard, Home Economics
B.A. — Mt. St. Mary's College

Patricia Hruby, Physics, Astronomy
B.S. — College of Mt. St. Vincent
M.S.T. — Cornell University

Jose G. Iglesias, Health Education & Social Services
B.A. — University of Michigan
M.S.W. — University of Michigan
M.P.H. — University of Michigan

Roger Irwin, Psychology, Sociology, Religion
B.A. — Wichita State University
M.S. — Kansas State College

Margaret M. Isaac, Nursing
B.S.N. — Georgetown University
M.A. — Columbia University

Margaret Kenski, Political Science
B.S. — Georgetown University
M.A. — Georgetown University

Verneda King, Office Education
A.B. — Fairmont State College
M.Ed. — University of Arizona

Robert A. Kish, Communications
B.S. — Indiana State University
M.A. — Arizona State University

Betty U. Koff, Nursing
B.S. — New York University
M.S. — University of Arizona

Sara E. Kolb, Nursing
B.S. — University of Arizona
M.S. — Boston University

Victor H. Krebs, German
B.A. — University of Arizona
M.A. — University of Arizona

Alan K. Krieg, Automotive
B.S. — University of Arizona

Wendy L. LaFage, Nursing
B.S. — University of Connecticut
M.S.N. — University of Arizona

Jess R. Lara, Music
B.A. — University of Wyoming
M.A. — Eastern New Mexico University

Angela Lask, Anthropology & Sociology
B.A. — University of Illinois
M.A. — California State College

Moses A. Leon, Law Enforcement
A.A. — San Jose City College
B.A. — San Jose State College

Michie I. Lewis, Clothing & Fashion Design
B.A. — Ikeno-Bo College of Art

William Lewis III, Literature & Drama
B.A. — Fisk University
B.D. — Chicago Theological Seminary

Charles S. Lochner Jr., Chemistry
B.S. — New Jersey State College
M.S.T. — University of Arizona
M.S. — Colorado State University

Robert A. Longoni, Communications
B.A. — St. Edwards University
M.A. — Notre Dame University

James A. Lowell, Life Sciences
B.S. — University of Arizona
M.S. — University of Arizona
Ph.D. — University of Arizona

Daniel J. Martin Jr., Earth Sciences
B.S. — Colorado State University
M.Ed. — University of Florida
M.A. — University of California

Darla J. Masterson, Art
B.F.A. — University of Arizona
M.A. — University of Arizona
M.F.A. — Indiana University

David May, Mathematics
B.S. — University of Arizona
M.A. — University of Arizona

Kenneth E. McCollester, Chemistry
B.S. — Rollings College
M.S. — Florida Institute of Technology

Herbert C. McCommons, Radiologic Technology
R.T. (A.R.R.T.) — University of Pennsylvania Hospital

Larry W. McHolland, Humanities & Philosophy
B.A. — University of Arizona
M.A. — University of Arizona

Patricia D. Medine, Communications
B.A. — University of Texas
M.A. — University of Wisconsin
Ph.D. — University of Wisconsin

James V. Meisel, Air Conditioning & Sheet Metal

Miguel M. Mendez, Spanish

Ysidro D. Montano, Welding

Bessie W. Morris, Nursing
B.S.N. — University of Arizona

Cody A. Mothershed, Chemistry
B.S. — Arizona State University
M.Ed. — University of Arizona

Mary E. Mullin, Office Education
B.Ed. — Plymouth State College
M.Ed. — Boston University

Maureen A. Murphy, Physical Education
B.S. — University of Wisconsin
M.A. — University of Arizona

Matts A. Myhrman, Earth Sciences, Art and Design
B.A. — Dartmouth College
M.S. — University of Arizona

William B. Nelson, Business
B.S. — University of Arizona
M.S. — University of Arizona

Eli Noble Jr., Recreation
B.A. — St. Augustine's College
M.Ed. — University of Arizona

Barbara Oakman, Reading
A.B. — San Francisco State College
M.A. — San Francisco State College

Miguel A. Palacios, Spanish
B.A. — University of Arizona
M.A. — University of Arizona

Betty J. Pate, Nursing
B.S. — University of Illinois
M.S. — Boston University

Norman J. Patton, Physical Education
A.A. — Eastern Arizona College
B.S. — New Mexico State University
M.Ed. — University of Arizona

Mauro G. Peralta, Electronics

Norbert Pittner, Math, German & Computer Science
B.A. — University of California
M.A. — San Francisco State College

Phillip Postel, Electronics

Emily H. Preskar, Computer Science

Donald E. Proulx, Health Core and Related Studies
B.A. — University of Arizona
B.S. — University of Arizona
M.Ed. — University of Arizona

Margrethe Pyeatte, Operating Room Technology
B.S. — University of Michigan

Barbara Quaid, Office Education
B.S. — University of Arizona
M.Ed. — University of Arizona

Steven Rankin, Communications & Literature
B.A. — Washington University
M.A. — University of Arizona
M.A.T. — Washington University

David Retherford, Electronics
A.B.S. — New York Technology Institute
B.S. — Northern Arizona University

Carol Rhodes, Music
B.Mu. — University of Michigan
M.Mu. — University of Michigan

Margaret A. Rooker, Communications
B.A. — University of California
M.Ed. — University of Arizona
M.A. — University of Arizona

Edna H. Ross, Nursing
B.S. — University of Arizona
M.S.N. — University of Colorado

Ernest P. Rubi, Reading
B.S. — Arizona State University

Francis J. Scheuring, Business
B.S. — Colorado University
M.B.A. — Denver University

Steven Schneider, Psychology
B.A. — University of Arizona
M.Ed. — University of Arizona

Patricia Scully, Nursing
B.S. — Adelphi University
M.S.N. — University of Arizona

Leland K. Sebring, Emergency Medical Technology
E.M.S. — State Department of Public Safety

Hazel Y. Shee, Office Education
B.S. — University of Arizona
M.Ed. — University of Arizona

James E. Sherman, Engineering
B.S. — Wisconsin Institute of Technology
M.S. — University of Arizona

Julian Sidlowski, Life Sciences
B.S. — Eastern Illinois University
M.S. — University of Arizona

Michael T. Sita, Literature & Communications
B.S. — California Poly. State College
M.A. — Loyola University
Ph.D. — Arizona State University

Donald E. Smith, Drafting
B.Arch. — University of Arizona

Richard H. Snider, Drama, Humanities
B.A. — Ohio Wesleyan University
M.A. — University of Arizona
Ph.D. — University of Arizona

Larry J. Solomon, Music
B.A. — Allegheny College
M.M. — University of Illinois
Ph.D. — West Virginia University

Donald K. Spaulding, Art
B.A. — University of Nevada
M.A. — University of New Mexico

Oma J. Spillman, Automotive

John A. Staggs, Automotive

Arlene D. Stevenson, Reading
A.A. — Queensborough Community College
B.A. — Hunter College
M.A. — University of Arizona

Joseph L. Swaffar, Economics
B.A. — University of Missouri
M.A. — University of California

Nard N. Taiz, Communications
B.A. — University of Arizona
M.A. — University of Arizona

Stella Tetar, Recreation
A.A. — Kendall College
B.S. — Northwestern University
M.Ed. — University of Arizona

Mary A. Tindall, Nursing
B.S. — University of Arizona

Larry R. Toledo, Athletics Director
B.A. — California Western University
M.Ed. — University of Arizona

Herman J. Torrano, Air Conditioning & Sheet Metal
B.Ed. — Colorado State University

Gary R. Trimble, Emergency Medical Technology
E.M.T. — State Department of Public Safety

Patricia J. Tuntland, Psychology
B.A. — Concordia College
M.A. — University of Arizona

Virginia R. Turner, Reading, Foods/Nutrition
B.S. — Bennett College
M.Ed. — Wayne State University

Robert C. Van de Steeg, Ophthalmic Dispensing
O.D. — Illinois College of Optometry

Yone B. Van Olphen, Reading
B.A. — San Jose State College
M.A. — Arizona State University

John C. Varga, Electronics
B.S. — University of Arizona

Manuel Velez, Communications
B.A. — University of Arizona
M.A. — University of Arizona

Nadia E. Villalobos, Office Education
A.A. — Cochise College
B.A. — University of Arizona
M.Ed. — University of Arizona

Carl C. Wachsman, Music
B.S. — Dickinson State College
M.A. — Arizona State University

James E. Waid, Art
B.F.A. — University of New Mexico
M.F.A. — University of Arizona

Nancy B. Wall, Communications
B.A. — Colorado State University
M.A. — University of Arizona

Louise M. Waller, Communications & Literature
B.S. — St. Louis University
M.A. — University of Minnesota

James C. Wallis, Drafting, Machine Tool Technology
B.S. — Ball State University

Evelyn B. Wallraff, Life Sciences
B.S. — Rosary College
M.S. — University of Chicago
Ph.D. — University of Arizona

Arleigh B. Watkins, Early Learning Center
P.S.C. — Toronto Teacher's College

William B. Watkins, Physical Education
B.A.Ed. — Arizona State University
M.S. — Arizona State University

Glynn D. Webb, Life Sciences
B.M. — Louisiana State University
M.S. — University of Arizona

George R. Welch, Art
B.S. — Central State University
M.S. — Bank Street College of Education

Sharon L. Welch, Office Education
B.S. — University of Arizona
M.Ed. — University of Arizona

Herbert D. Welsh, Medical Director Radiologic Technology
M.D. — University of Michigan

James P. Wesselmann, Mathematics
B.S. — University of Arizona
M.A. — University of Arizona

Tamas D. Zsitvay, Political Science
B.A. — Arizona State University
M.A. — Arizona State University

**Associate Faculty**

There are continuing education and special assignment faculty which are not listed under full-time Faculty.

## SERVICE SUPPORT FACULTY

Delfina Alvarez, Admissions, High School and Outreach Counselor
B.A. — University of Arizona
M.Ed. — University of Arizona

Richard C. Berry, Cooperative Education Program Director
B.S. — Drake University

Anthony M. Chana, Indian Student Counselor
A.A. — Phoenix College
B.A. — Arizona State University

Edward M. Duperret, Math/Science/Technology Counselor, Communications
B.A. — Seton Hall University
B.Ed. — Sacramento State University
M.A. — New York University

Marshall I. Franks, Veterans Educational Program Counselor
B.A. — Houston Tillotson College
M.Ed. — University of Arizona

Elizabeth Gonzalez, Counselor
B.A. — University of Arizona
M.Ed. — University of Arizona

Allan S. Goodman, Counselor
B.S. — Polytechnic Institute of Brooklyn
M.Ed. — University of Arizona
M.S. — University of Arizona
Ph.D. — University of Arizona

W. James Hill Jr., Learning Resource Center Coordinator
B.S. — Eastern Illinois University
M.S. — University of Illinois

Phillip E. Johnson, Counselor
B.S. — University of Maine
M.S. — Penn State University
M.Ed. — University of Maine

Becky J. Moore, Assistant Catalog Librarian
B.A. — University of Arizona
M.Ed. — University of Arizona

George C. Nicholls, Director of Nogales Extension Program
B.S. — University of Colorado
M.S. — University of Colorado
M.Ed. — University of Nevada

Ernest A. Oppenheimer, Personal Counselor, Psychology
B.A. — Amherst College
M.B.A. — New York University
Ph.D. — Columbia University

Arthur E. Sachs, General Studies Counselor
B.S. — University of Pennsylvania

David T. Sanchez, General Studies Counselor, Psychology
B.S. — Northern Arizona University
M.A. — Northern Arizona University

Christine F. Scharf, Student Health Services Nurse
B.S. — University of Arizona
M.A. — University of Arizona

Leland Scott, High School Relations, Humanities
A.B. — University of Southern California
B.D. — Garrett Theological Seminary
Ph.D. — Yale Graduate School

John A. Tirrell, Director, Learning and Faculty Resources
B.A. — King's College

Flame J. Vallentine, Fine and Applied Arts Counselor
B.S. — University of Arizona
M.A. — Northern Arizona University

Herman K. Warrior, Student Development Director
B.A. — University of Arizona
M.Ed. — University of Arizona

Shirley P. Wicklund, Technical Services Coordinator
B.A. — Moorhead State College
M.S. — Florida State College

## COORDINATING OFFICES

Jerry L. Boy, Financial Aid Director
B.Ed. — University of Toledo
M.Ed. — University of Toledo

Allison H. Dawson, Coordinator of Grants

Gilbert Gonzales, Veterans Project Counselor/Coordinator
B.A. — University of Arizona

Patrick Herrera, Headstart State Training Officer
B.A. — Adams State College

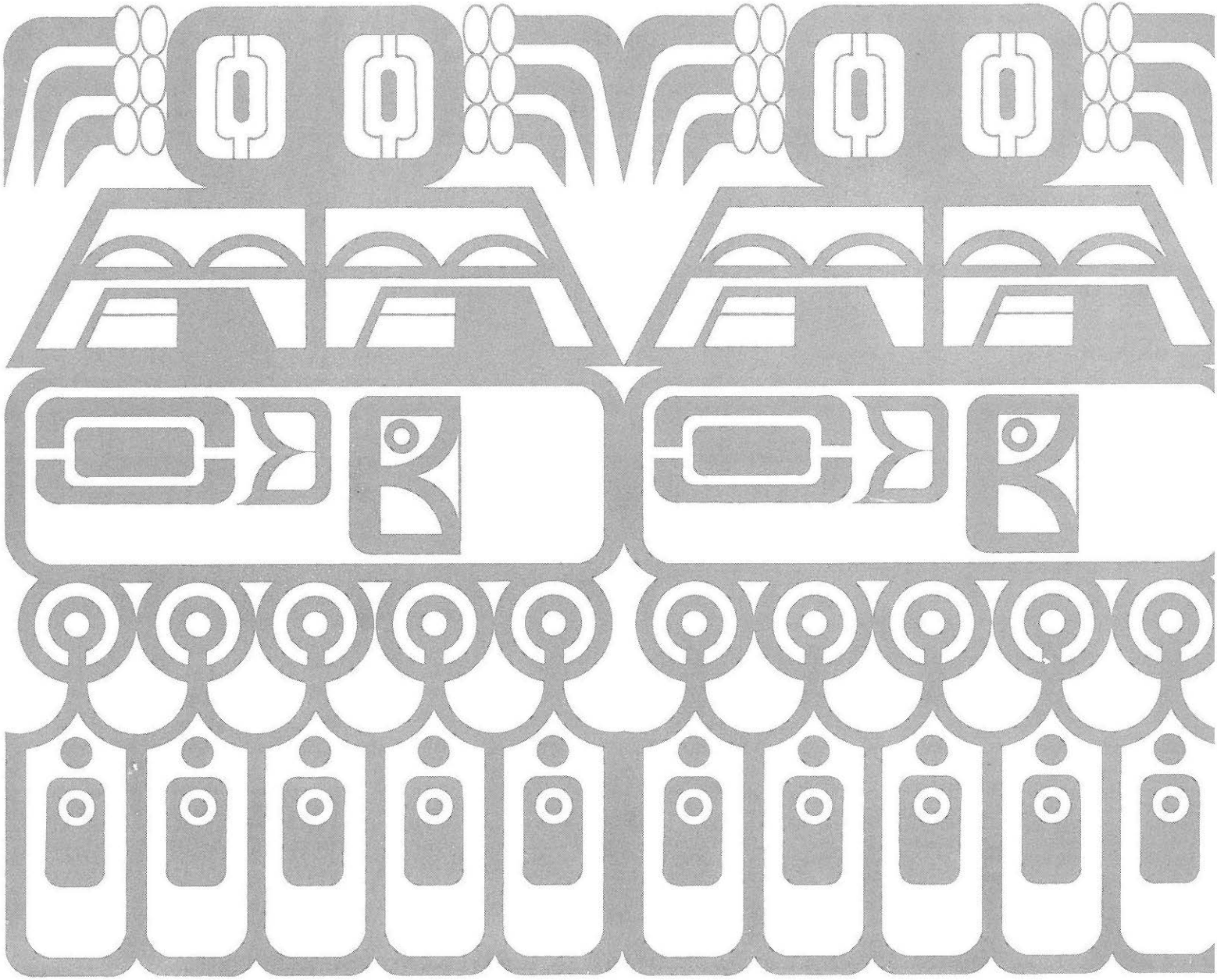
Santiago J. Lebron, Associate Director of Special Services
B.A. — University of Arizona
M.S. — University of Arizona

Anthony L. Lovato, PREP Program Director
B.A. — University of Arizona
M.Ed. — University of Arizona

Henry Oyama, Bilingual Program Director
B.A. — University of Arizona
M.Ed. — University of Arizona

Fern Ramirez, General Studies, Director Special Services, Director Alternative Learning Center
B.S. — University of Arizona
M.S. — University of Arizona
Ph.D. — University of Arizona

Flavia R. Walton, Model Cities Educational Encouragement Program Director
B.A. — Mills College
M.S. — University of Arizona



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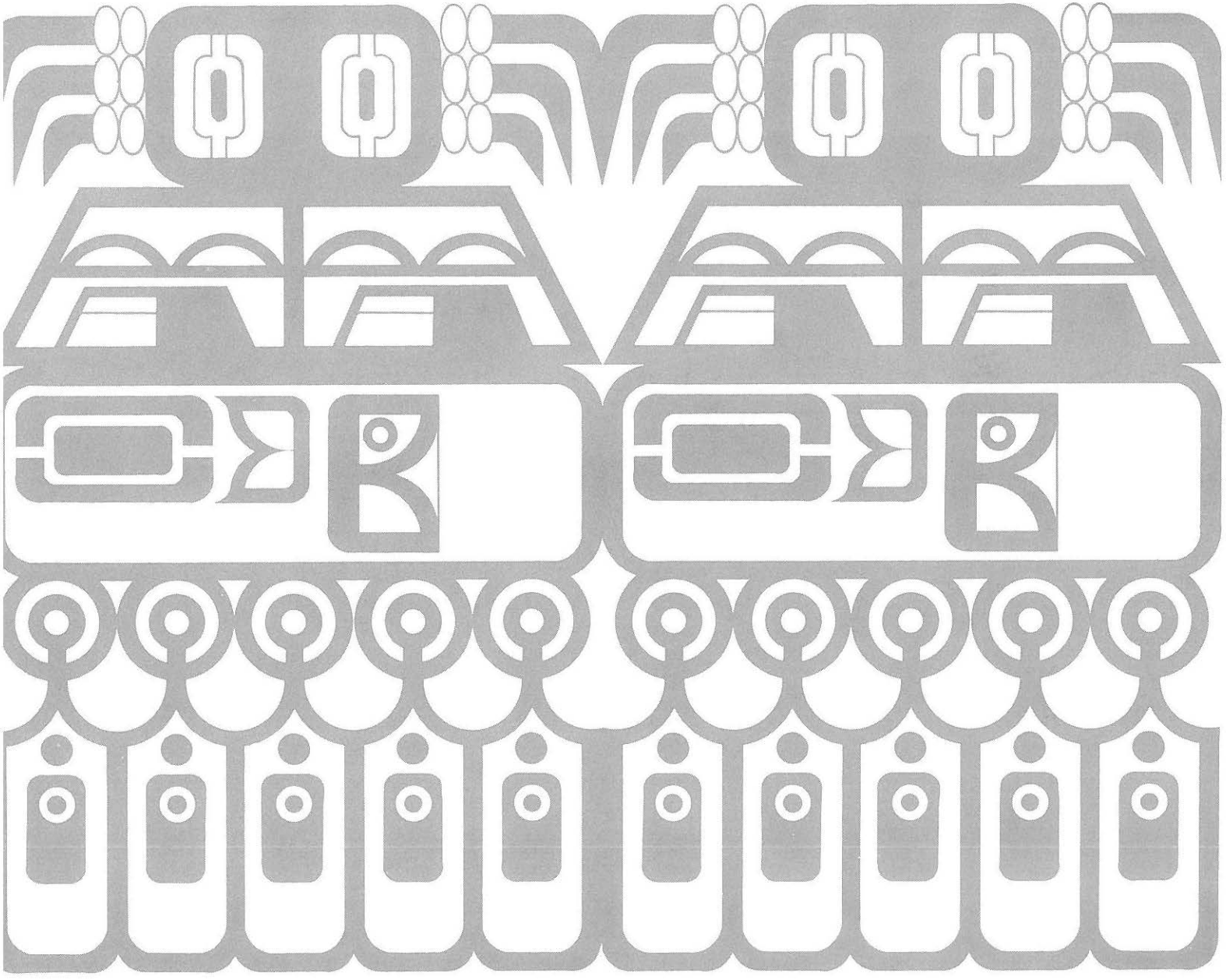

Gill Kenny / Art Direction & Photography
Leith Howard / Art Direction & Design
David Tang / Photography
Allyn Haber Stedman / Photography
Helen Allen / Copywriter