



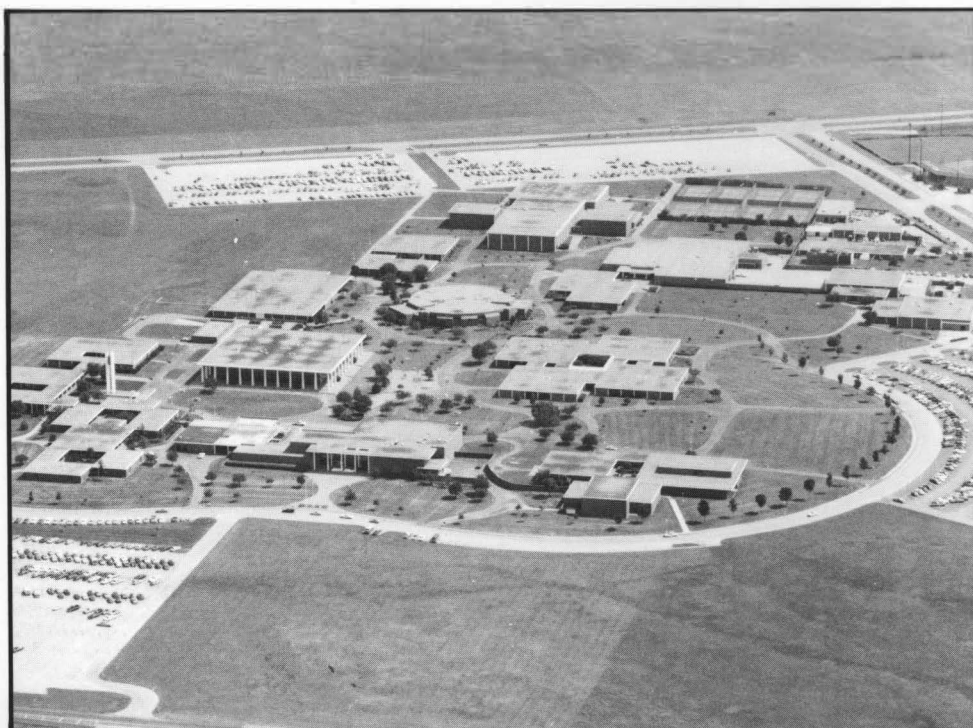
TARRANT
COUNTY
JUNIOR 1983 - 84 CATALOG
COLLEGE

About the Cover . . .

The newest facility of Tarrant County Junior College is the May Owen District Center in downtown Fort Worth, a two-story complex housing the District and Community Campus offices and 10 classrooms.

The building, bounded by Houston, Throckmorton and Fourteenth streets and Lancaster Avenue, was dedicated in April. It is named in honor of Dr. May Owen, a founding member of the TCJC District Board of Trustees and the Board's secretary. A Fort Worth pathologist for 60 years, Dr. Owen has long been active in and supportive of the medical and educational professions.

The classrooms will initially be used only for non-credit courses, but credit courses, especially those meeting the educational needs of people in the central business district, may be offered in the future. Two of the classrooms are specially designed, one for computer training and the other for office occupations. Cover design is by Carolyn Thompson, graphic artist at Northwest Campus.



SOUTH CAMPUS

TARRANT COUNTY JUNIOR COLLEGE

Vol. XVI, No. 5

May 1983

1983-1984 CATALOG

TCJC is an equal opportunity institution which provides educational and employment opportunities on the basis of merit and without discrimination because of race, color, religion, sex, age, national origin or handicap.

District Offices
1500 Houston Street
Fort Worth, Texas 76102-6599
Telephone: 336-7851

NORTHEAST CAMPUS
828 Harwood Road
Hurst, Texas 76053-3299
Telephone: 281-7860

NORTHWEST CAMPUS
4801 Marine Creek Parkway
Fort Worth, Texas 76179-3399
Telephone: 232-2900

SOUTH CAMPUS
5301 Campus Drive
Fort Worth, Texas 76119-5998
Telephone: 534-4861

COMMUNITY CAMPUS
1500 Houston Street
Fort Worth, Texas 76102-6599
Telephone: 336-7851

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COLLEGE CALENDAR

1983-1984

Fall Semester 1983

August 23-24-25
 August 29
 August 29-30-31,
 September 1
 August 30-31,
 September 1
 September 1
 September 5
 September 14
 October 21
 November 23
 November 24-25

 November 28
 December 2
 December 12-15
 December 15
 December 16
 December 23
 through
 January 2

Registration for fall semester
 Classes begin

 Late registration

 Change of schedule
 Audit registration, including senior citizen audit
 Labor Day holiday - students, faculty, and staff
 12th class day - Official date of record
 Mid-Semester
 Deadline to initiate petition for degree or certificate for fall 1983 graduation
 Thanksgiving holidays for students, faculty, and staff (All evening classes will be held as scheduled on November 23)
 Classes resume
 Last day to drop a class
 Final examinations
 Last day of classes and final examinations
 End of fall semester and last faculty workday
 Christmas holidays for all staff

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4'1

Spring Semester, 1984

January 10-11-12
 January 16
 January 16-17-
 18-19
 January 17-18-19
 January 19
 January 31
 February 17

 February 17
 March 9
 March 9

 March 19-23
 March 21-23
 March 26
 April 26
 May 7-10
 May 10
 May 11
 May 15
 May 16

Registration for spring semester
 Classes begin

 Late registration
 Change of schedule
 Audit registration, including senior citizen audit
 12th class day - Official date of record
 Texas Junior College Teacher's Association convention (All evening classes will be held as scheduled on February 16)
 Holiday for students
 Mid-semester
 Deadline to initiate petition for degree or certificate for spring 1984 graduation
 Spring break for students and faculty
 Spring break for staff
 Classes resume
 Last day to drop a class
 Final examinations
 Last day of classes and final examinations
 End of spring semester
 Practice for graduation (7:30 p.m.)
 Graduation (7:30 p.m.)

Summer Term 11984

June 4	Registration for summer term I
June 6	Classes begin
June 6	Late registration
June 6	Change of schedule
June 6	Audit registration, including senior citizen audit
June 12	Fourth class day - Official date of record
July 3	Last day to drop a class
July 4	Holiday for students, faculty, and staff
July 11	Last day of classes and final examinations
July 12	End of summer term I

Summer Term 111984

July 16	Registration for summer term II
July 18	Classes begin
July 18	Late registration
July 18	Change of schedule
July 18	Audit registration, including senior citizen audit
July 24	Fourth class day - Official date of record
August 2	Deadline to initiate petition for degree or certificate for summer 1984 graduation
August 14	Last day to drop a class
August 22	Last day of classes and final examinations
August 23	End of summer term II

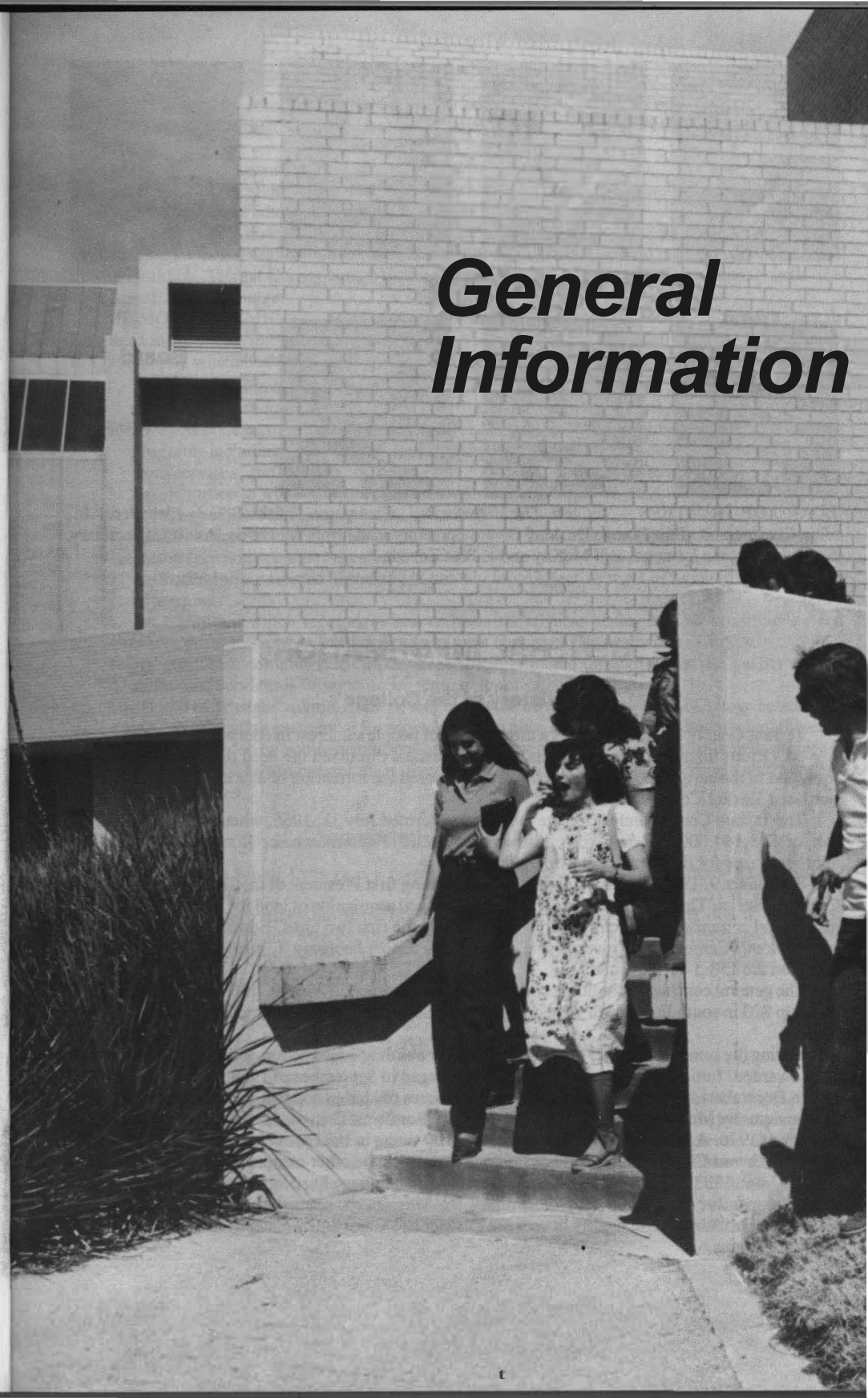
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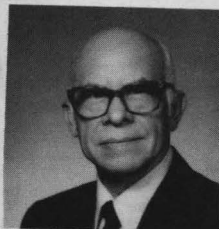
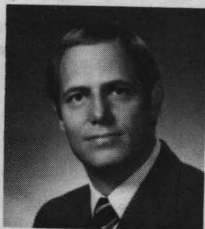
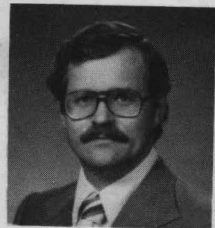
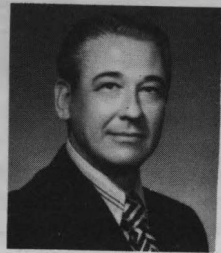
S	M	T	W	T	F	S	S	M	T	W	T	F	S
JANUARY						1	JULY						12
2	3	4	5	6	7	8	3	4	5	6	7	8	9
9	10	11	12	13	14	15	10	11	12	13	14	15	16
16	17	18	19	20	21	22	17	18	19	20	21	22	23
23	24	25	26	27	28	29	24	25	26	27	28	29	30
30	31						31						
FEBRUARY						1	AUGUST						12
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MARCH						1	SEPTEMBER						12
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27	28	29	30	31			25	26	27	28	29	30	31
A., I.						1	OCTOBER						12
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17	18	19	20	21	22	23	16	17	18	19	20	21	22
24	25	26	27	28	29	30	23	24	25	26	27	28	29
MAY						1	NOVEMBER						12
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8	9	10	11	12	13	14	13	14	15	16	17	18	19
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22	23	24	25	26	27	28	27	28	29	30			
29	30	31											
JUNE						1	DECEMBER						12
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26	27	28	29	30			25	26	27	28	29	30	31

1984

S	M	T	W	T	F	S	S	M	T	W	T	F	S
JANUARY						1	JULY						12
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22	23	24	25	26	27	28	24	25	26	27	28	29	30
29	30	31					31						
FEBRUARY						1	AUGUST						12
5	6	7	8	9	10	11	5	6	7	8	9	10	11
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26	27	28					26	27	28	29	30		
MARCH						1	SEPTEMBER						12
4	5	6	7	8	9	10	2	3	4	5	6	7	8
11	12	13	14	15	16	17	9	10	11	12	13	14	15
18	19	20	21	22	23	24	16	17	18	19	20	21	22
25	26	27	28	29	30	31	23	24	25	26	27	28	29
A., I.						1	OCTOBER						12
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MAY						1	NOVEMBER						12
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27	28	29	30	31			27	28	29	30			
JUNE						1	DECEMBER						12
3	4	5	6	7	8	9	4	5	6	7	8	9	10
10	11	12	13	14	15	16	11	12	13	14	15	16	17
17	18	19	20	21	22	23	18	19	20	21	22	23	24
24	25	26	27	28	29	30	25	26	27	28	29	30	31

General Information





**Board
of
Trustees**

BOARD OF TRUSTEES – Top left, Dr. J. Ardis Bell, Chairperson of the Board; Clay Berry Jr., Vice-Chairperson of the Board; Dr. May Owen, Secretary, and Gwen Morrison, Assistant Secretary. Second row, John Lamond, Bill McKay and J. Pete Zepeda.

GENERAL INFORMATION

History of the College

Thrarrant County Junior College is a direct result of people's interest in education. At various times local educators and business leaders discussed the need of a public school, and in the early 1960s citizens seriously considered the formation of a junior college district in Thrarrant County.

The Thrarrant County Junior College District was formed July 31, 1965, when voters approved the sale of \$1 million in bonds for construction, elected a seven-member Board of Trustees, and approved taxes for debt service and operations.

September 9, 1965, the Board named Joe B. Rushing first President of the Thrarrant County Junior College District. Immediately after the Board announced acquisition of land for the multiple campus commission architects to begin planning the first two units. Educational facilities for the South Campus were given to the designing architect February 1, 1966, and construction work began on the 158.5-acre site that May.

The general contract for building construction was awarded in August 1966. Thirteen buildings on the 820 in south Fort Worth were completed by September, 1967, in time for the first classes of 1967-68.

During the summer of 1967, general contracts for building construction of the Northeast Campus were awarded. Initial use of the new physical plant began in September of 1968.

In December, 1968, the College was given 193 acres of land in north-west Thrarrant County for the third campus. Mr. and Mrs. F. Howard Walsh. The North-west Campus became full operational in 1976. A \$20 million bond issue approved by voters in 1971 provided funds for construction of the West Campus and second phase construction on the other campuses.

In March 1983, the May Owen Thrarrant County Junior College District Center named after charter Board member and current Board Secretary Dr. May Owen, opened at 1500 Houston Street in downtown Fort Worth. The facility houses the District and Community Campus offices and contains eight classrooms.

Philosophy and Purposes

TCJC subscribes to the principle that people in a democracy need liberal education, regardless of their vocational or professional fields. It also recognizes that occupational proficiency is essential to a satisfying life.

The Board, administration, and faculty are committed to excellence in all aspects of the College program. Quality education is the primary objective of all programs, whether in university parallel curricula, occupational education, or continuing education programs.

The College recognizes that the young are not the only persons needing higher education, but that many adults, including senior citizens, are finding it necessary and desirable to pursue further education and training. Tarrant County Junior College is uniquely suited to meet the educational needs of a wide age and interest range.

MISSION STATEMENT - TCJC was formed and brought into existence by its constituency to fill a need in the community for educational services. Because of this, the College has a commitment to a philosophy which both defines its essence and asserts its purpose. TCJC has a mission to be:

1. A comprehensive community college committed to offering the best programs and services that it can devise for the people of Thrarrant County at the lowest possible cost to the taxpayer.
2. An open-door institution which provides for all segments of the community a wide range of programs including developmental, general academic, technical-vocational, student development services, and community services.
3. An institution in which the Board, the administration, the faculty, and the staff strive to create a positive climate of learning for all of its students.
4. An institution which is primarily concerned with student growth and learning, and which encourages and promotes excellence in instruction.
5. An institution committed to seeking better and more effective ways of facilitating the process of learning.
6. An institution which recognizes and respects the diverse heritage of its constituency and which provides services and programs to meet the needs created by this diversity.
7. An institution committed to responsible self-examination through which the quality of programs and services is brought under regular appraisal and evaluation.

The Board of Trustees, administration, and faculty of Tarrant County Junior College believe that post-secondary education is essential for most American citizens. They believe that much of this education must be provided by public institutions and are committed to the premise that there is dignity in all honorable work. With this commitment, they accept the responsibility of providing a wide range of educational programs.

Accreditation and Affiliations

Tarrant County Junior College is a member of and accredited by the Southern Association of Colleges and Schools.

TCJC also is approved by the Texas Education Agency and the Coordinating Board, Texas College and University System. Memberships also are held in the Texas Association of Junior Colleges, Association of Texas Colleges and Universities, Southern Association of Junior Colleges, and the American Association of Community and Junior Colleges.

ADMISSION INFORMATION

All material required for admission to Tarrant County Junior College should be on file in the Admissions Office before registration. New and transfer applicants whose files are incomplete at the time of registration will be allowed to enroll on conditional status pending completion of admission files. Re-admission applicants will not be allowed to re-enroll if their admission files were incomplete during the period of prior enrollment. No student will be permitted to re-enroll until all admission requirements have been met. Students are encouraged to submit applications as early as possible to facilitate the pre-registration advisement process. Each campus has a pre-registration advisement

process for new students that may include opportunities for exposure to specialized services and assessment of individual academic needs.

New and transfer students who plan to attend Thrant County Junior College for the summer term only may be admitted by furnishing items (1) and (2) below.

Audit Students: All students registering for audit must meet all entrance requirements.

APPLICATION FOR ADMISSION

Admission to TCJC does not guarantee admission to a specific vocational-technical program. A student should consult the program brochure, program coordinator, campus registrar, or counselor for additional information on admission requirements in the program of his/her choice.

Thrانت County Junior College reserves the right to refuse admission or re-admission to any applicant who does not comply with admissions procedures or where evidence exists that the applicant probably would be incompatible with the aims and objectives of the College or where, in the judgment of the College, the applicant's presence on campus would not be in the best interest of the applicant or the College.

An applicant who has a record of numerous arrests for violations of the law or whose conduct consistently has demonstrated anti-social behavior can be accepted only if the College is fully satisfied that his/her admission will be in the best interest both of the applicant and the College.

A student may make formal application for admission to Thrانت County Junior College by providing the following items.*

ENTRANCE REQUIREMENTS:

NOTE: All non-citizen applicants should see Admission Requirements for Non-Citizen Students in this section.

1. *Application for Admission:* Application packets may be obtained from the Office of Admissions or the campus Registrar's Office.
2. *Five-Dollar (\$5) Application Fee:* This is a non-refundable fee paid by the student before his/her initial enrollment. The fee should be paid by check or money order and must accompany the application for admission.
3. *All students must meet requirements of one of the following:*

a. *High school graduate* - A high school transcript or other written proof of graduation from an accredited high school is required. Graduates from a non-accredited high school may be admitted under the terms of item "c" below.

b. *Transfer from another college* - A student in good standing at another collegiate institution of recognized standing may be admitted by transfer of credits. Grades are recorded as received, not changed in transfer. It is the student's responsibility to arrange for an official transcript from each former institution to be received by the Office of Admissions.

Transcripts are considered official only when they are signed by the registrar and bear the seal of the school from which they are issued. (Holders of baccalaureate and/or post-baccalaureate degrees from accredited colleges and universities may submit written proof of graduation in lieu of transcript.)

The transfer student must meet the academic requirements of Thrانت County Junior College: his/her transcript will be evaluated on the same basis as that of a student attending this College. If the transfer student's accumulated grade point average of all previous work attempted is 2.0 or better (on a 4.0 basis), his/her academic status when he/she enters Thrانت County Junior College will be one of good standing. If his/her accumulated grade point average is less than 2.0, his/her academic status when he/she enters Thrانت County Junior College will be one of probation.

*Students attending only continuing education courses, which are not offered for college credit, do not have to follow these admission procedures. The only general requirement for admission to continuing education courses is payment of the required fee for the course.

c. *Admission by Individual Approval:* Admission under 3-a or 3-b may be required to see a member of the campus staff for evaluation of his/her abilities, aptitudes and interests, prior to a decision as to his/her admittance. This may include, but is not limited to, a standardized written test or other measurement instruments.

d. *Early enrollment of high school students:* Students must have completed their junior year at an accredited high school and must submit an enrollment form with the signature of the high school principal verifying completion of the junior year to accompany the form. Early enrollment forms may be obtained from the Office of Admissions or from campus Registrars' Offices.

e. *Re-admission* - A student seeking re-admission to the college after having been dismissed one semester or more, must apply for re-admission to the Registrar's Office on the campus where he/she was dismissed. If a student has attended another college since his/her withdrawal, a college transcript from that college is required. This transcript is not required of a student who has previously attended TCJC for the summer sessions only.

Applicants not eligible for admission under one of the procedures listed above should contact the Director of Admissions and Records. The Director of Admissions and Records may refer the applicant to the appropriate campus Admissions Committee.

Specialized Admissions

Some occupational programs require a specialized admissions procedure which is separate from regular admission to the College listed in the Specialized Admissions section. Specialized admissions are necessary because of program costs and/or availability. Programs at TCJC must maintain limited enrollments.

Admission procedure is designed to ensure fairness to each applicant in these limited enrollment programs. Prospective applicants should apply early in the spring. Applicants who are admitted usually will be notified by early spring. Applicants who are not admitted may re-apply in subsequent years.

Programs that require specialized admissions are indicated in each prescribed curriculum for occupational programs in the Occupational Programs section. Individuals who desire information on the specialized admissions procedure should contact the Registrar on the campus where the program is offered.

Pre-Registration Advisement

Pre-registration advisement process: All first-time college students will be required to participate in the pre-registration advisement process on the campus of their choice. This process may include discussion with a counselor or advisor, tests, aid application, appropriate course placement, and exposure to other specialized services, such as financial aid and veterans' affairs. Students are reminded that some specialized programs may have additional requirements.

Admission Requirements for Non-Citizen Students*

The following requirements apply to students who are not U.S. citizens:

1. *Legal Immigrant:* Submit a copy of I-551, then meet same admission requirements as U.S. citizen.
- Immigrant Status Pending:* If married to U.S. citizen, submit copy of marriage certificate and evidence that petition to change status has been filed with immigration and Naturalization Service, then meet same admission requirements as U.S. citizen.

*All non-citizen applicants should note Foreign application/evaluation fee, Page 17 •

If not married to U.S. citizen, meet international admission requirements (below) until status change is approved and I-551 is issued.

2. Referee: Submit copy of Immigrant 1-94 indicating Refugee Visa, then meet same admission requirements as U.S. citizen.
3. Non-immigrant: The following requirements apply to all applicants holding visa category A-1, A-2, E, F, G, H, I, J, K, L, M, N, O, P, Q, R, S, T, U, V, W, X, Y, Z, and Naturalization Service and to all non-citizen applicants who do not qualify for admission as Immigrant or Refugee:
 - a. Application for admission.
 - b. Non-refundable \$25 Foreign application/evaluation fee.
 - c. Financial statement documenting source of adequate funds.
 - d. Test of English as a Foreign Language (TOEFL) with minimum score of 550. TOEFL is required regardless of prior enrollment in U.S. high school or college.
 - e. Academic background:
 - 1) Entering freshman: Certified English translation of high school transcript showing completion of secondary school.
 - 2) Transfer from foreign college: Certified English translation of transcript and/or syllabus reflecting course work and/or program completed at college or university outside the United States. Grades received must reflect satisfactory performance.
 - 3) Transfer from U.S. college or university: Official transcript from each college or university attended. Cumulative GPA must be at least 2.5.
 - f. Submit evidence of health/life insurance policy valid through end of academic year.
 - g. Compliance with all requirements and procedures established for visa category by the Immigration and Naturalization Service.
 - h. Application and documents must be submitted 30 days before registration.
4. All Concurrent Enrollment: Alien students enrolled at an area college or university must submit all items except ancillary statement. Permission for Alien Concurrent Enrollment form must be completed by foreign student advisor of the other institution specifying course(s) to be taken.
5. Summer Transfer Students: TCJC does not admit alien students as summer transients. Summer students may qualify for Alien Concurrent Enrollment.

Transfer of Credit

Credit for courses in which a passing grade (D or better) has been earned may be transferred to Tarrant County Junior College from colleges and universities accredited through one of the following associations:

- Middle States Association of Colleges and Schools/Commission on Higher Education
- New England Association of Schools and Colleges
- North Central Association of Colleges and Schools
- Northwest Association of Colleges and Schools
- Southern Association of Colleges and Schools/Commission on Colleges
- Southern Association of Colleges and Schools/Commission on Occupational Education Institutions
- Western Association of Schools and Colleges/Accrediting Commission for Senior Colleges
- Western Association of Schools and Colleges/Accrediting Commission for Community and Junior Colleges

It is the policy of Tarrant County Junior College not to transfer credits received from any United States institution not so accredited. However, students who have gained proficiency through completion of a course or from non-accredited institutions should consult their academic advisor regarding credit by examination.

On receipt of an official transcript from an accredited institution, the grade point average will be computed based on all courses completed. Repeated courses will not be deleted from computation. Transfer GPA will be maintained as part of official TCJC student record.

Course-by-course evaluation will be completed by academic advisor or other appropriate College personnel as needed for degree plan or program planning. Courses transferred will not be posted to TCJC student record.

Course work completed at colleges and universities outside the United States will be considered for transfer on an individual basis. Certified English translation of documents must be submitted to Office of Admissions. Appropriate research will be completed to determine acceptability of the institution and program before course transfer will be allowed.

Students planning to transfer TCJC course work to another college or university are advised to contact the transfer institution to determine its transfer policy. TCJC has established transfer agreements with all area colleges and universities. Campus counseling centers maintain course transfer information provided by those institutions. The decision to accept TCJC courses in transfer and/or to apply those courses to individual degree plans is made by the receiving institution. Students should always consult the college catalog and proper officials of that institution.

Residence Requirements

The State of Texas requires that each student sign an affidavit certifying his/her legal residence at the time of enrollment. (See Residence Status, Pages 8-16.)

In order to be eligible for minimum tuition rates, a student must prove to the satisfaction of the College that he/she is entitled to be classified as a resident of Texas and that he/she resides within the College district, which is coterminous with Tarrant County.

The responsibility for registering under the proper residence classification is that of the student, and any question concerning his/her right to classification as a resident of Texas or of Tarrant County must be clarified prior to the time of his/her enrollment at Tarrant County Junior College.

House Bill 243, regular session of the Sixty-Fourth Legislature of Texas amended Texas public junior college tuition statutes (Section 130.003, Texas Education Code) to the effect that "the governing board of a public junior college district may waive the difference in the rate of tuition for non-resident and resident students for a person, and his dependents, who owns property which is subject to ad valorem taxation by the junior college district."

Senate Bill 250, regular session of the Sixty-Fourth Legislature of Texas amended the statutes governing tuition of Texas public institutions of higher education (Chapter 54, Texas Education Code) to the effect that should a person concurrently enroll in more than one such institution, the person will pay the statutory minimum tuition only once provided that person enrolls in the institution with the lower minimum tuition (junior college) first. In all cases the student must pay the statutory tuition per semester hour at the second institution.

Tarrant County residents who wish to enroll in occupational programs offered by the Dallas County Community College District which are not offered at TCJC may do so on a space-available basis without paying out-of-district tuition fees. The same opportunity is available for Dallas County students who wish to enroll in a TCJC program not offered by DCCCD.

DCCCD programs in which Tarrant County residents are admitted on a space-available basis at in-county tuition rates include:

- | | |
|---------------------------|---------------------------------|
| Advertising Art | Commercial Music |
| Animal Medical Technology | Construction Management |
| Apparel Design | Diesel Mechanics |
| Audio-video Technician | Food Service Operations |
| Aviation Technology | Horology |
| Air Cargo | Hotel/Motel Operations |
| Aircraft Dispatcher | Human Services |
| Airline Marketing | Interior Design |
| Career Pilot | Medical Assistant Technology |
| Fixed Base Operations | Pattern Design |
| Avionics | Optical Technology |
| Automotive Parts | Retail Distribution & Marketing |
| Automotive Machinist | Commercial Design & Advertising |
| Building Trades | Retail Management |
| Carpentry | Solar Energy Technology |
| Electrical | Vocational Nursing |

II. Residence of Individuals Over Eighteen

Statute: Section 54.052(e) An individual who is 18 years of age or over who has come from outside Texas and who is gainfully employed in Texas for a 12-month period immediately preceding registration in an educational institution shall be classified as a resident student as long as he/she continues to maintain a legal residence in Texas.

Section 54.052(f) An individual who is 18 years of age or over who resides out of the state or who has come from outside Texas and who registers in an educational institution before having resided in Texas for a 12-month period shall be classified as a nonresident student.

Section 54.052(g) An individual would have been classified as a resident for the first five of the six years immediately preceding registration, but who resided in another state for all or part of the year immediately preceding registration, shall be classified as a resident student.

Section 54.054 A nonresident student classification is presumed to be correct as long as the residence of the individual in the state is primarily for the purpose of attending an educational institution. After residing in Texas for at least twelve (12) months, a nonresident student may be reclassified as a resident student as provided in the rules and regulations adopted by the Coordinating Board, Texas College and University System. Any individual reclassified as a resident student is entitled to pay the tuition fee for a resident of Texas at any subsequent registration as long as he/she continues to maintain his legal residence in Texas.

A. Establishment of Residence

Any individual 18 years of age or over who moves into the state and who is gainfully employed within the state for a period of 12 months prior to enrolling in an educational institution (defined as any institution of higher education, public or private, above the high school level) is entitled to classification as a resident. If such 12 months' residence, however, can be shown not to have been for the purpose of establishing legal residence in the state but to have been for some other purpose, the individual is not entitled to be classified as a resident. Any student registering in an educational institution prior to having resided in the state for 12 months immediately preceding registration shall be classified as a nonresident for tuition purposes.

B. Re-establishment of Residence

Persons who resided in Texas for at least five years prior to moving from that state, and who have returned to the state for residence purposes before having resided out of the state for a year, will be classified as residents.

C. Reclassification

A person classified as a nonresident student upon first enrollment in an institution of higher education is presumed to be a nonresident for the period during which he or she continues as a student. If such nonresident student withdraws from school and resides in the state while gainfully employed for a period of 12 months, upon reentry into an institution of higher education the student will be entitled to be reclassified as a resident for tuition purposes. Accumulations of summer and other vacation periods do not satisfy this requirement. Reclassification to residence status after residing in the state for 12 months cannot be based solely upon the student's or the student's spouse's employment, registration to vote, registration of a motor vehicle and payment of personal property taxes thereon, or the securing of a Texas driver's license. The presumption of a "nonresident" is not a conclusive presumption, however, and other facts may be considered to determine if the presumption has been overcome. Materials to this determination are business or personal facts or actions unequivocally indicative of a fixed intention to reside permanently in the state. Such facts may include, but are not limited to, the length of residence and full-time employment prior to registering in the institution, the fact of full-time employment and the nature of such employment (regular industrial, business or professional employment as distinguished from student-type employment) while a student, purchase of a home instead with substantial down payment, dependency on a parent or guardian who has resided in Texas for at least 12 months immediately preceding the student's registration, and marriage to a resident of Texas. All of these facts are weighed in the light of the fact that a student's residence while in school is primarily for the purpose of education and not to establish residence and that decisions of an individual as to residence are generally made after the completion of an education and not before.

D. Dependents Over Eighteen

Any individual 18 years of age or over who is dependent on a resident of Texas for federal income tax purposes by the individual's parent or guardian is entitled to pay the resident tuition fee regardless of the length of time he/she has lived in Texas, and any student who is a resident of Texas who marries a nonresident, is entitled to pay the resident tuition fee as long as he/she does not adopt a legal residence of the spouse in another state.

111 Married Students

Statute: Section 54.056 A nonresident who marries and remains married to a resident of Texas, classified as such under this Act at the time of the marriage and at the time the nonresident registers, is entitled to pay the resident tuition fee regardless of the length of time he/she has lived in Texas, and any student who is a resident of Texas who marries a nonresident, is entitled to pay the resident tuition fee as long as he/she does not adopt a legal residence of the spouse in another state.

Nonresident Who Marries A Resident of Texas

The nonresident male or female student who marries a resident of Texas is entitled to pay the resident tuition at the registration period next following the date of marriage on submission of evidence of such marriage and of the spouse's legal residence in Texas. Such marriage evidence is a certified copy of the marriage license or a certified copy of the marriage certificate and documentary evidence of marriage as filed with the county clerk. If the husband and wife are normally presumed to be the same; however, it is possible for either the husband or wife to establish a residence different from the other spouse. In such a situation, the normal standards for a resident of Texas are followed. (See II.) In the event a nonresident student marries a resident of Texas and subsequently is divorced within 12 months, such nonresident student shall be classified as a nonresident for all enrollment periods subsequent to the date of such divorce; provided, however, the nonresident may establish Texas residence pursuant to normal standards.

IV. Military Personnel and Veterans

Statute: Section 54-058(a) Military personnel are classified as provided by this section in the following manner:

(b) An officer, enlisted man or woman, select or draftee of the Army, Army Reserve, Army National Guard, Air National Guard, Texas State Guard, Air Force Reserve, Navy, Navy Reserve, Marine Corps, Marine Corps Reserve, Coast Guard Reserve of the United States, who is assigned to duty in Texas is entitled to the tuition fee and other fees or charges required of Texas residents without regard to the length of time he/she has been assigned to duty or resided within the state. However, out of state Army National Guard or Air National Guard members attending training with Texas Army or Air National Guard members under National Guard Bureau regulations may not be exempted from nonresident tuition by virtue of that training status nor may out-of-state Army, Air Force, Navy, Marine Corps, or Coast Guard Reserve training with units in this state under similar regulations be exempted from nonresident tuition by virtue of such training status. It is the intent of the legislature that only those members of the Army or Air National Guard, Texas State Guard, or other Reserve forces mentioned above who are exempted from the nonresident tuition fee and other fees and charges only when they become members of Texas units of the military organizations mentioned above.

(c) As long as they reside continuously in Texas, the spouse and children of a member of the Armed Forces of the United States who has been assigned to duty elsewhere immediately following assignment to duty in Texas are entitled to pay the tuition fees and other fees or charges provided for Texas residents.

(e) A Texas institution of higher education may charge to the United States Government the nonresident tuition fee for a veteran enrolled under the provisions of a federal law or regulation authorizing educational or training benefits for veterans if the veteran is a member of the Armed Forces of the United States who dies or is killed in action.

(f) The spouse and children of a member of the Armed Forces of the United States who dies or is killed in action are entitled to pay the resident tuition fees, the wife and children become residents of Texas within 60 days of the date of death; and

(g) If a member of the Armed Forces of the United States is stationed outside Texas and his spouse and children establish residence in Texas by residing in Texas and by filing with the Texas institution of higher education at which they plan to register a letter of intent to establish residence in Texas the institution of higher education shall permit the spouse and children to pay the tuition, fees, and other charges provided for Texas residents without regard to length of time that they have resided within the State.

A. Certification of Assignment to Duty in Texas

Subsection (b) provides that military personnel assigned to duty within the State of Texas, their spouses and or wife, as the case may be, and their dependent children shall be entitled to pay the same tuition as a resident of Texas regardless of the length of their physical presence in the state. To be entitled to pay the resident tuition fees, such military personnel shall submit at the time of each registration a statement from their commanding officer or personnel officer certifying that they are then assigned to duty in Texas and that same will be in effect at the time of such registration in an institution of higher education. This subsection also provides that a nonresident member of an out-of-state National Guard will not be entitled to pay the resident tuition.

B. Spouse and Children of Member of Armed Services

Subsection (c) provides that the spouse and dependent children of a member of the armed forces assigned to duty outside the State of Texas immediately after assignment in Texas may be entitled to pay the resident tuition as long as they reside continuously in Texas.

Subsection (g) provides that the spouse and dependent children of a member of the armed forces who is assigned to duty outside the State of Texas may be entitled to pay the resident tuition if they reside in Texas and file with the institution of higher education at which a child or spouse plans to register a letter of intent, an affidavit, or other evidence satisfactory to the institution stating they intend to become permanent residents of Texas.

Subsection (t) provides that a member of the immediate family (which shall include spouse or dependent child) of a member of the armed forces who dies or is killed in action while in military service may qualify to pay the resident tuition if they become residents of Texas within 60 days of the date of death. To qualify under this provision, the student shall submit to the institution of higher education satisfactory evidence establishing the date of death and residence in Texas.

The military personnel spouse and dependent children enumerated in (b), (c), (t), and (g) are classified as nonresidents but shall be entitled to pay the resident tuition regardless of their length of residence in Texas if they comply with the provisions of the statute and these rules and regulations.

C. Nonresidents Attending College Under Federal Benefits Programs for Veterans

Subsection (e) provides that the institution of higher education may charge the nonresident tuition fee for a nonresident veteran to the United States Government under the provisions of any federal law or regulation authorizing educational or training benefits for veterans.

D. Legal Residence of Person in Military Service

A person in military service is presumed to maintain during his or her entire period of active service the same legal residence which was in effect at the time of entering military service. A person stationed at a state on military service is presumed not to establish a legal residence in that state because his or her presence is not voluntary but under military orders. It is possible for a member of the military service to abandon the domicile of original entry into the service and to select another, but to show establishment of new domicile during the term of active service, there must be clear and unequivocal proof of such intent. An extended period of service alone is not sufficient. The purchase of residential property is not conclusive evidence unless coupled with other facts indicating an intent to do, in roots, the community and to reside there after termination of military service. Evidence which will be considered in determining this requisite intent includes, but is not limited to, a substantial move into a residence and the claiming of a homestead exemption thereon; registration to vote and voting in local elections; registration of an automobile in Texas and payment of personal property taxes thereon; obtaining Texas driver's license; maintaining checking accounts, savings accounts, and safety deposit boxes in Texas banks; existence of wills or other legal documents indicating residence in Texas; change of name-of-record and designation of Texas as the place of legal residence for income tax purposes on military personnel records; business transactions or activities not normally

engaged in by military personnel; membership in professional or other state organizations, and marriage to a resident of Texas. Purchase of property during terminal years of military service retirement generally is given greater weight than a similar purchase made prior to such terminal period.

E. Residence Classification of Veterans After Separation from Military Service

A person who enrolls in an institution of higher education after separation from military service must be classified as a nonresident student unless (1) the individual was a legal resident of Texas at the time of entry into military service and has not relinquished that residence, (2) the individual can prove that during military service he or she has, in fact, established a bona fide, legal residence in Texas at a time at least 12 months prior to registration, or (3) the individual has resided in Texas other than as a student for 12 months prior to registration and subsequent to discharge from service. The nonresident classification is a presumption, however, which can be overcome pursuant to the guidelines and standards for establishing Texas residence. (See II.)

V. Employees of Institutions of Higher Education Other Than Students

Statute: Section 54.059 A teacher, professor, or other employee of a Texas institution of higher education is entitled to register himself, his/her spouse, and their children in a state institution of higher education by paying the tuition fee and other fee or charges required for Texas residents without regard to the length of time he/she has resided in Texas. A teacher, professor, or other employee of a Texas institution of higher education is any person employed at least one-half time on a regular monthly salary basis by a state institution of higher education.

A person employed at least half-time on a regular monthly salary basis (not an hourly employee) by any public institution of higher education, with an effective date of employment on the 12th class day of a regular semester or the 4th class day of a summer term, may pay the same tuition as a resident of Texas for self, husband or wife as the case may be and their dependent children, regardless of the length of residence in the state. To be entitled to pay the resident tuition fees such employee must submit prior to the time of each registration a statement certifying employment from the Director of Personnel or a designated representative of the institution of higher education by which he or she is employed.

VI. Student Employees

Statute: Section 54.05(o) A teaching assistant, research assistant, or other student employee of any institution covered by this section is entitled to register himself/herself, his/her spouse, and their children in a state institution of higher education by paying the tuition fees and other fees or charges required for Texas residents, without regard to the length of time he/she had resided in Texas; provided that said student employee is employed at least one-half time in a position which relates to his/her degree program under rules and regulations established by the employer institution. This exemption shall continue for students employed two consecutive semesters through the summer session following such employment if the institution is unable to provide employment and, as determined under standards established by the institution, if the employee has satisfactorily completed his employment.

A student employed at least half-time by any public institution of higher education in a degree program-related position, with an effective date of employment on or before the 12th class day of a regular semester, or the 4th class day of a summer term, may pay the same tuition as a resident of Texas for him or herself, spouse, and their dependent children regardless of the length of residence in the state. The institution which employs the student shall determine whether or not the student's job relates to his or her degree program. If a student is employed by an institution of higher education for consecutive fall and spring semesters and was further eligible to pay the tuition charged to Texas residents during those fall and spring semesters because of the provisions of this subsection, then the student may continue to pay the resident tuition rate during the summer session following the spring employment if the institution is unable to provide employment and if the student's employment was satisfactorily completed.

VII. Competitive Scholarships

Statute: Section 54.051 (p) A student who holds a competitive scholarship of at least \$200 for the academic year or summer for which he/she is enrolled and who is either a nonresident or a citizen of a country other than the United States of America is entitled to pay the fees and charges required of Texas residents without regard to the length of time he/she has resided in Texas, provided that he/she must compete with other students, including Texas residents, for the scholarship and that the scholarship must be awarded by a scholarship committee officially recognized by the administration of the institution of higher education.

An official scholarship committee or committees of a public institution of higher education may award competitive scholarships in amounts of \$200 or more for the academic year, the summer sessions, or both. If a nonresident or foreign student, in competition with other students, including Texas residents, obtains one of these competitive scholarships, the student may pay the same tuition as a resident of Texas during the registration period in which the scholarship is in effect. The student must present a statement from the official scholarship committee certifying the period of time during which the scholarship will be in effect.

VIII. Reciprocity Clause Applicable to Junior Colleges, Upper Level Institutions

Statute: Section 54.050 Resident of Bordering State: Tuition. The nonresident tuition fee prescribed in this chapter does not apply to a nonresident student who is a resident of a state situated adjacent to Texas and who registers in any Texas public junior college situated in a county immediately adjacent to the state in which the nonresident student resides. The nonresident junior college student described in this section shall pay an amount equivalent to the amount charged a Texas student registered at a similar school in the state in which the nonresident student resides. The nonresident student described in this section shall pay equivalent fees and charges to those charged Texas students registered at a similar institution in the state in which the nonresident student resides, when such student registers at a Texas public senior upper level (those institutions offering only junior, senior, and graduate level programs) institution of higher education located within the Texas public junior college district from which the nonresident student has graduated or completed 45 semester credit hours.

A nonresident who is a resident of a state of the United States bordering Texas is entitled to pay Texas resident rates upon registering in any Texas public junior college if the district of such college includes any part of a county that is immediately adjacent to the state in which the nonresident resides, providing that Texas residents are entitled to pay in-state fees and charges at a similar school in the bordering state.

The nonresident student described in this rule shall be entitled to pay Texas resident rates at a Texas public senior upper level institution of higher education (those institutions offering only junior, senior and graduate level programs) which is located within the Texas public junior college district from which the nonresident student has graduated or completed 45 semester credit hours, provided that a Texas resident is entitled to pay in-state fees and charges at a similar institution in the bordering state.

IX. Waiver of Nonresident Tuition By Junior Colleges

Statute: Section 130.003(b) (4) ... the governing board of a public junior college district may waive the difference in the rate of tuition for nonresident and resident students for a person, and his/her dependents, who owns property which is subject to ad valorem taxation by the junior college district ...

The governing board of a public junior college district may waive the difference in the rate of tuition for nonresident and resident students for a person, or his/her dependents, who owns property which is subject to ad valorem taxation by the junior college district. The person, or his/her dependents, applying for such waiver shall verify property ownership by presentation of an ad valorem tax statement or receipt, issued by the tax office of the junior college district; or by the presentation of a

deed, property closing statement, or other appropriate evidence of ownership of property which is subject to ad valorem taxation by the junior college district. If a sworn affidavit accepted at the time of registration, verification of the student as an ad valorem taxpayer must be provided by the end of the semester of enrollment.

X. Citizens of Any Country Other Than The United States of America

Statute: Section 54.057 An alien who is living in this country under a visa permitting permanent residence or who has filed with the proper Federal immigration authorities a declaration of intention to become a citizen has the same privilege of qualifying for resident status for fee purposes ... as has a citizen of the United States. A resident alien residing in a junior college district immediately adjacent to Texas boundary lines shall be charged the resident tuition by that junior college.

An alien living in the United States under a visa permitting permanent residence or one who has filed with the proper federal authorities a declaration of intention to become a citizen, has the privilege of qualifying for Texas resident status for tuition purposes as has a citizen of the United States.

XI. Student Responsibilities

A. Student Responsibility to Register Under Proper Classification

The responsibility of registering under the proper residence classification is that of the student. If there is any question as to right to classification as a resident of Texas, the student's obligation, prior to or at the time of registration, to raise the question with the administrative officials of the institution in which he or she is registered and have such officials determined.

a. Notification Upon Becoming a Nonresident

Every student who is classified as a resident student but who becomes a nonresident at any time by virtue of a change of legal residence by the student or a change of domicile by the person owning the student's domicile is required to notify the proper administrative officials of his or her institution at once.

XII. Official Change of Residence Status

A. Application for Reclassification

Every student classified as a nonresident student shall be considered to retain such status until he or she makes written application for reclassification in the form prescribed by the institution and is officially reclassified in writing as a resident of Texas by the proper administrative officers of the institution.

B. Reclassification as a Nonresident

Every person who has been classified as a resident of Texas shall be reclassified as a nonresident student whenever he or she shall report, or there is found to exist, circumstances indicating a change in legal residence to another state. If any student who has been classified as a resident of Texas shall be found to have been erroneously so classified, that student shall be reclassified as a nonresident and shall be required to pay the difference between the resident and nonresident fees for those semesters in which he or she was erroneously classified. In addition, the student shall be required to pay back all monies borrowed from the Texas Opportunity Plan Fund.

C. Reclassification as a Resident

If any student has been erroneously classified as a nonresident student and subsequently proves to the satisfaction of the appropriate officials of an institution of higher education that he or she should have been classified as a resident student, that student shall be reclassified as a resident of Texas and shall be entitled to a refund of the difference between the resident and nonresident fees for the semesters in which he or she was erroneously classified.

XIII. Penalties

Statute: Section 54.053 The governing board of each institution required by this Act to charge a non-resident tuition or registration fee is subject to the rules, regulations, and interpretations issued by the Coordinating Board, Texas College and University System, for the administration of the nonresident tuition provisions of this Act. The rules, regulations and interpretations promulgated by the Coordinating Board shall be furnished to the presidents or administrative heads of all Texas public senior and junior colleges and universities.

Section 54.061 The governing board of an institution of higher education may assess and collect from each nonresident student who fails to comply with the rules and regulations of the boards concerning nonresident fees a penalty not to exceed \$10 a semester.

Student Compliance with Institutional Rules and Regulations

Each institution has been authorized by statute to assess and collect from each nonresident student failing to comply with the provisions of the tuition statute and with these interpretations concerning nonresident fees a penalty not to exceed \$10 a semester. In addition, if a student has obtained residence classification by virtue of deliberate concealment of facts, or misrepresentation of fact, that student may be subject to appropriate disciplinary action, in accordance with the rules and regulations that may be adopted by the governing boards of the respective institutions of higher education.



TUITION AND FEES

All tuition and fees are subject to change without notice. All tuition and fees must be paid at the time of enrollment. A student is not officially registered until payment is made in full. Until all his/her financial obligations to the College have been satisfied, a student may not graduate, re-enroll, or have his/her transcript issued.

Tuition at Tarrant County Junior College for the fall or spring semester is as follows:

1. Legal resident of Tarrant County for tuition purposes: - per semester hour with a minimum of \$25 per semester. Since state legislation requires a \$25 minimum, Tarrant County residents may take up to six semester hours for the same tuition as for one semester hour.
2. Legal resident of any other Texas county for tuitional purposes: \$4 per semester hour with a minimum of \$25 per semester plus an out-of-district fee of \$3 per semester hour.
3. Legal resident of another state for tuitional purposes: \$40 per semester hour.
4. Non-resident alien for tuitional purposes: \$40 per semester hour.

In addition to tuition, the following fees are required, as applicable:

*Application fee	(non-refundable) \$ 5
Foreign application/evaluation fee	(non-refundable) \$25
Physical education fee	\$ 8
Bowling	\$16
Scuba diving	\$16
Computer programming courses	\$16
Laboratory fee (for each laboratory course)	\$ 8
Photography (JRN and ART)	\$16
Welding	\$16
Private music lessons	
½ hour per week per semester	\$40
1 hour per week per semester	\$70
Late registration fee (for students who complete enrollment on scheduled late registration date)	\$ 5
Student services fee	\$1 per semester hour to a maximum of \$10 per semester
Returned check fee	\$ 5
Change of schedule fee	\$ 5
Graduation fee	(non-refundable) \$10
Transcript fee	\$ 1

All nursing, law enforcement, and allied health students will be required to pay a fee for liability insurance as provided by the College.

Tuition and fees for the summer session will be listed in the summer session bulletin.

Students officially withdrawing during a regular semester are eligible for a refund of tuition and fees according to the following schedule:

Prior to the first calendar class day	100%
During the first five calendar class days	80%
During the second five calendar class days	70%
During the third five calendar class days	50%
During the fourth five calendar class days	25%
Thereafter	none

*The application fee, once paid, will be valid for all future registrations by the student, provided that initial enrollment actually occurs within two years of fee payment.

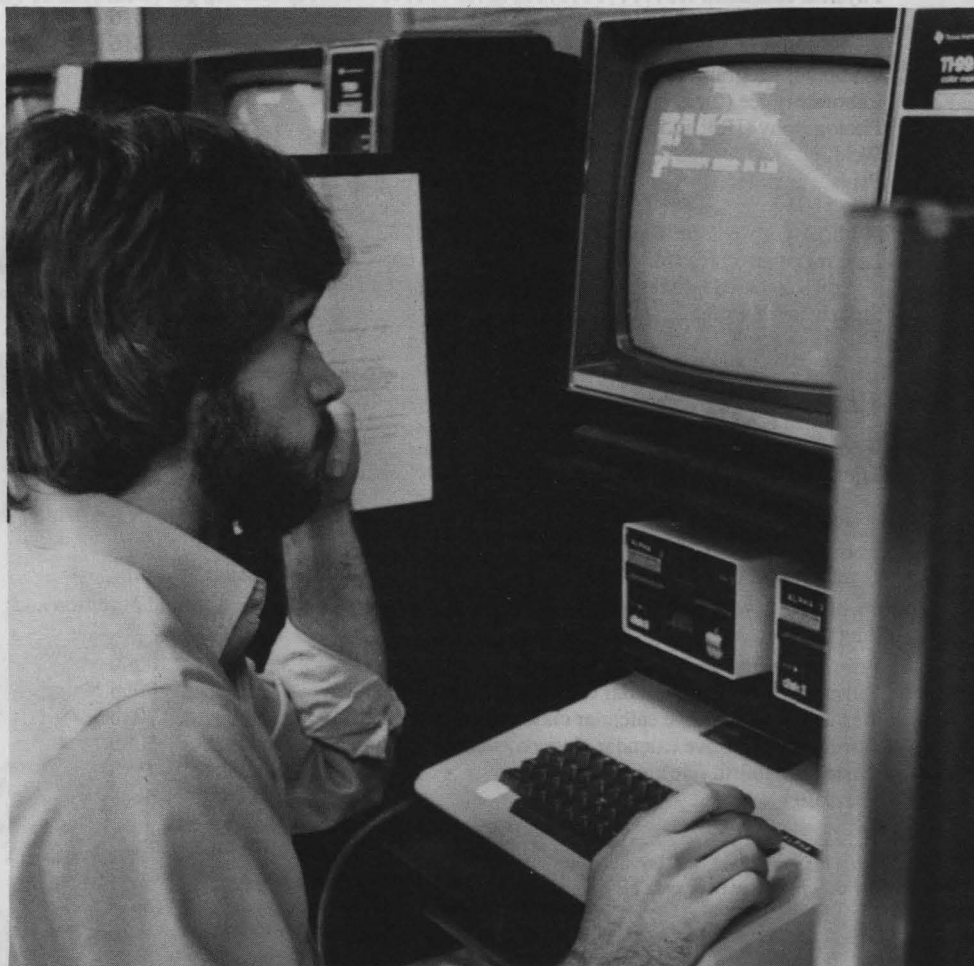
Students officially withdrawing from a summer semester are eligible for a refund of tuition and fees according to the following schedule:

Prior to the first calendar class day	100%
During the first, second, or third calendar class days	80%
During the fourth, fifth, or sixth calendar class days	50%
Thereafter	none

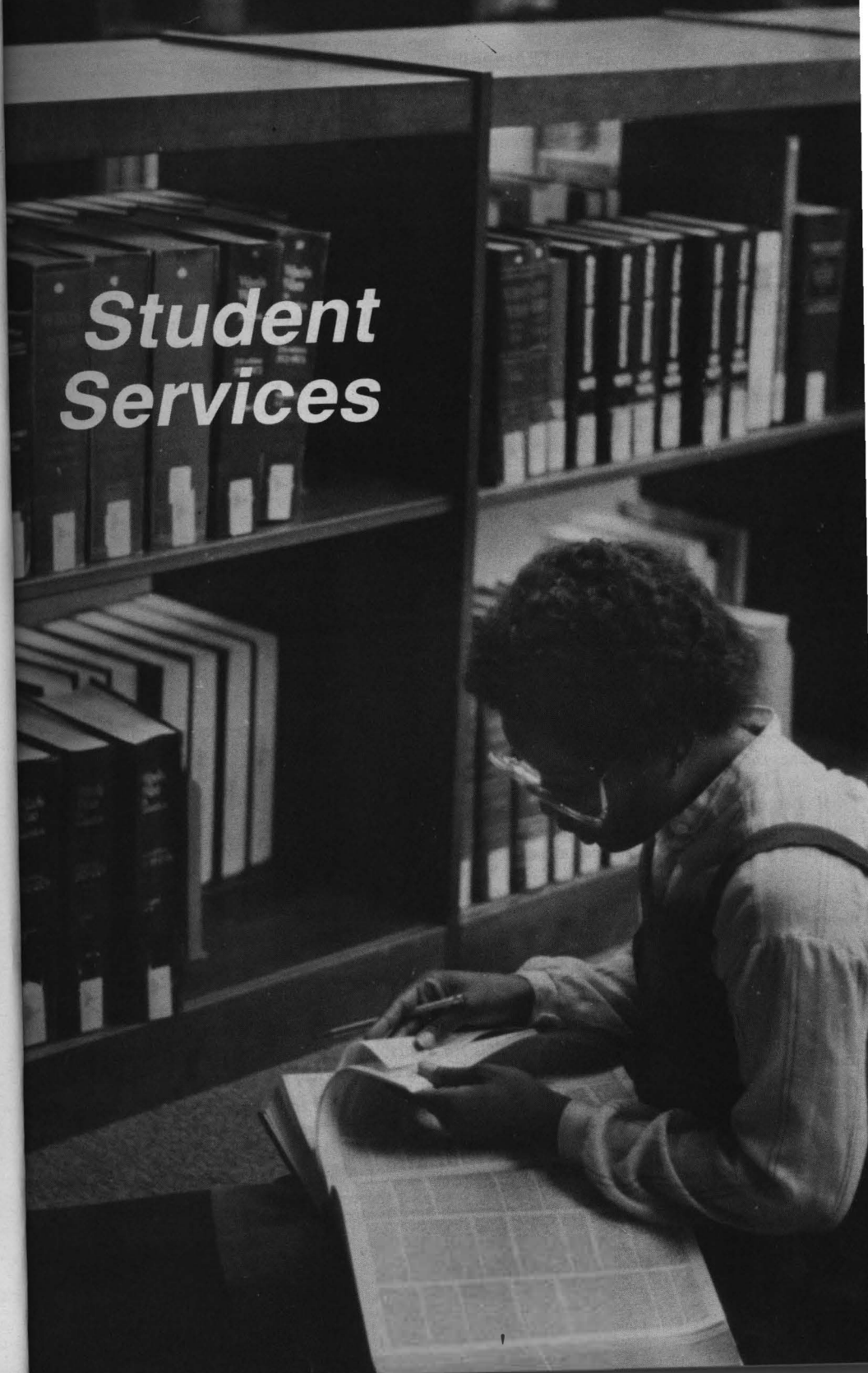
On or before the 12th calendar class day of a regular semester or the 4th calendar class day of a summer semester, a student making official program changes may apply for a 100 percent refund of tuition and fees of applicable courses, subject to minimum tuitional requirements, provided the student remains enrolled at the College.

Refund of tuition and fees is subject to change by legislative and/or Board of Trustees action without notice.

Refunds are not automatic: A student eligible for any kind of refund should request it immediately by filling out the appropriate form. No refunds can be made until after the third week of classes to allow all checks to clear the banks. Refunds are processed in order of receipt. Processing of all refunds for the fall or spring semester often requires as much as eight weeks. Refunds to students are reduced by any amount owed the College. No refund is made beyond that due on the above schedule to a student suspended from the College by College authorities.



Student Services



STUDENT SERVICES

Counseling and Testing

At each campus, a qualified staff of counselors is available for consultation with students. Counselors are prepared to discuss matters of academic, vocational and personal-social concern. Services are available for both individual and group counseling during the day and certain evening hours.

As one portion of TCJC's guidance program, faculty advisors and counselors will assist students in their programs of study. All new students participate in the pre-testing and advisement process, which may be required by the respective campuses. Returning or readmission students are urged to review their degree plans and consult with their faculty advisor, counselor or educational advisor. Fall and spring enrollees may receive their program advisement during the pre-testing and advisement process (check with respective campuses for the exact date). Students should satisfy admission requirements as early as possible and prior to testing and advisement.

A Testing Center on each campus administers the College's program of credit-by-examination and advanced placement. Currently enrolled students with unusual experience or training are urged to contact the Testing Center to determine if credit-by-examination is available and appropriate in a particular area.

Other services offered through the Testing Center include career testing designed for those students who may need assistance in choosing a major field and/or career, and skills testing in such areas as reading comprehension, mathematics, and English that may be required of all beginning students.

Student Activities

TCJC offers a variety of social, intellectual, cultural and recreational opportunities for social growth and development. The student activities program includes lectures, films, forums, and numerous social activities.

Students may choose from a variety of student organizations, depending on their individual interests. A complete list of student organizations is available in the Student Activities Office.

Health Center

The College maintains a student Health Center. As an outpatient clinic, the center is equipped with rest areas and an examination/treatment room. The center, which is concerned with the total health needs of students, conducts a number of programs to encourage effective hygiene, health awareness and preventive medicine.

Services of the Health Center are covered in student services fees and are available without further charge to any student currently enrolled in the College. Students are urged to take advantage of the services and to report to the center in case of accidents, illnesses or other health problems. It is the policy of the Health Center to keep all services and treatments confidential.

Special Services

TCJC provides special assistance for students with unique problems. These students may be, but are not limited to, members of a minority group, members of a family with low income status, or students with citizenship classifications other than "U.S. citizens."

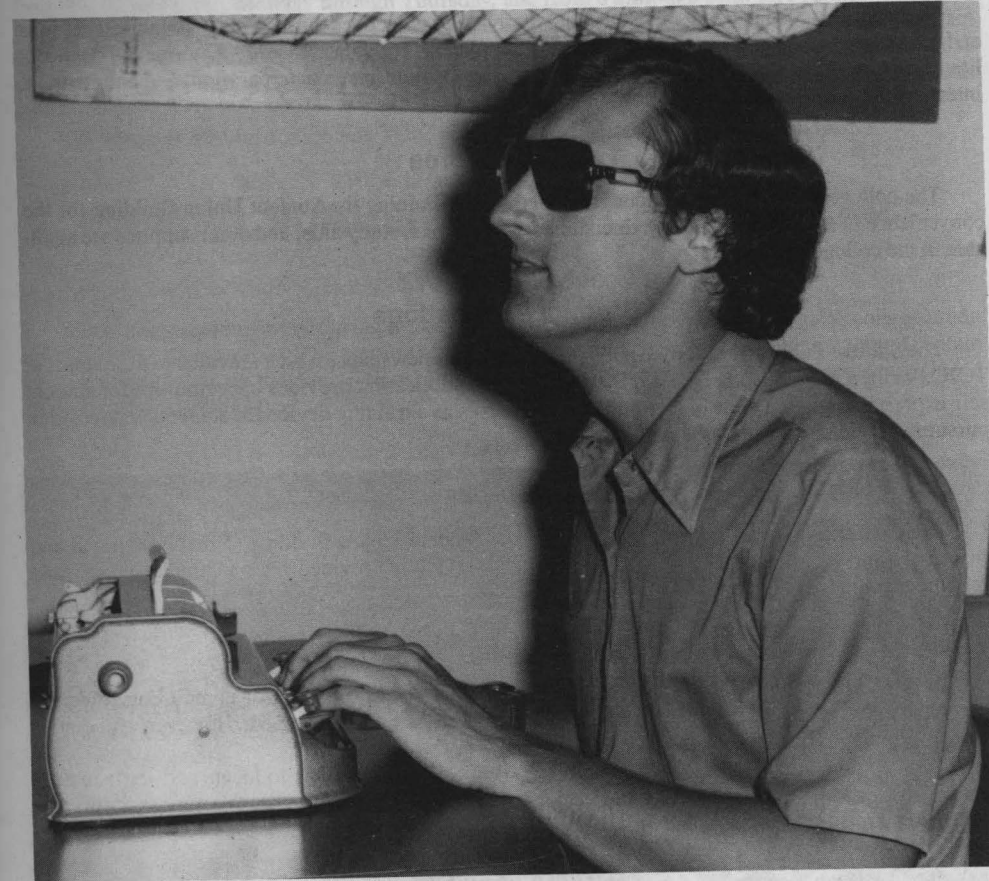
Students in any of these categories are assisted by the Office of Special Services on the South and Northeast Campuses in gaining admission to the College and obtaining financial aid. Other supportive assistance includes tutorial services, which are available to all eligible students; occupational information and inter-cultural programs. Persons needing these services should contact the respective office on the campus they wish to attend.

Rehabilitation Assistance

The Texas Rehabilitation Commission offers assistance for tuition and non-refundable fees to students who have certain disabling conditions, provided the vocational objective selected by the

handicapped person has been approved by an appropriate representative of the Commission. Through this state agency, other rehabilitation services are available to assist handicapped persons to become employable.

Application for this type of assistance should be mailed to the nearest Rehabilitation Office. Inquiries may be addressed to: Texas Vocational Rehabilitation Commission, 909 East Seminary, Fort Worth, Texas 76115, phone 921-0244; or call the Counseling Office on any TCJC campus.



SCOOP (Service Center for Opportunities to Overcome Problems)

The SCOOP program offers supportive services to handicapped students. Services include interpreters for the hearing impaired, note takers, mobility assistants, readers, and others. Also available are media aids such as magnifiers, captioned materials and books on tape.

Financial Aid

There are many financial aid programs for students attending TCJC, including loans, grants, jobs and scholarships.

Financial aid applications for loans, grants and jobs are available after April 15 for awards to be made for use during the following school year. Students are encouraged to apply for financial aid as soon as possible after this availability date, since funds for these programs are limited.

The cost of attending TCJC will differ depending on the student's academic major and circumstances. In compliance with the Higher Education Act of 1976, a student consumer information bulletin is available upon request from the Financial Aid Office.

Career Placement Services

The Career Placement Services Center on each campus provides career planning and placement services for students and ex-students seeking part-time, seasonal, or full-time employment. Placement personnel assist students with job prospecting, career planning, and employability skills development. Assisting applicants in obtaining positions compatible with their personal qualities, education and experience is stressed.

Students are aided in being realistic about their career objectives through classroom presentations and individual career planning discussions. Placement also provides resource material and hand-out literature to assist students in their career selection, application/resume preparation, and employment interviewing techniques.

College Stores

The college store on each campus is located in or adjoining the Student Union Building for the convenience of students and faculty. Such items as textbooks, study aids, and other supplies are available in the college stores.

Student Publications

The Student Publications Office publishes the campus newspaper which is available to students at TCJC. Written, edited, and produced by students, this publication provides opportunities for student self-expression, gives a view of campus life, and serves as a training device for students interested in pursuing publications work as a career.

Cafeterias

The cafeteria on each campus is located in the Student Union Building. Breakfast, lunch and snacks are served to students and faculty. Catering service is provided for on-campus events, and vending machines are operated as an additional service.

Housing

Tarrant County Junior College is planned as an institution primarily for commuting students. Therefore, no College dormitories are available and none are being planned. However, some non-College housing is available in the area.

It is recommended that out-of-town students arrive in sufficient time to locate and settle in adequate housing prior to registration. The student and his/her family assume sole responsibility for locating and making arrangements for housing.

Parking Facilities

Parking space will be provided for all students who desire to bring their cars to the campus. Each student who parks a car on campus will be required to register the car with college officials and to have a parking permit affixed to the back glass. This permit can be obtained during registration from the Director of Security. Students with cars will be required to park in the student parking areas and observe safe driving habits in and around the campuses. Parking and traffic regulations are set forth in detail in the Student Handbook and the campus Motor Vehicle Regulations brochure.

Benefits for Texas Veterans

Veterans who were residents of Texas at the time of enlistment in the armed forces and who are Texas residents at the time of enrollment, and who are no longer eligible for VA educational assistance, may apply for exemption from payment of tuition under the Hazlewood Act. Application may be made through the Bursar's Office on each campus. A certified copy of the veteran's discharge papers should be filed with that office.

Office of Veterans Affairs

TCJC has an Office of Veterans Affairs on each of its campuses. These offices assist the veteran in minimizing the problems of adaptation to an educational environment. Services provided by the Office of Veterans Affairs include peer counseling, referral services, general and specific information about all available benefits, and assistance in filing claims for such benefits. These offices are open from 8 a.m. to 9 p.m., Monday through Thursday, and from 8 a.m. to 5 p.m. on Friday.

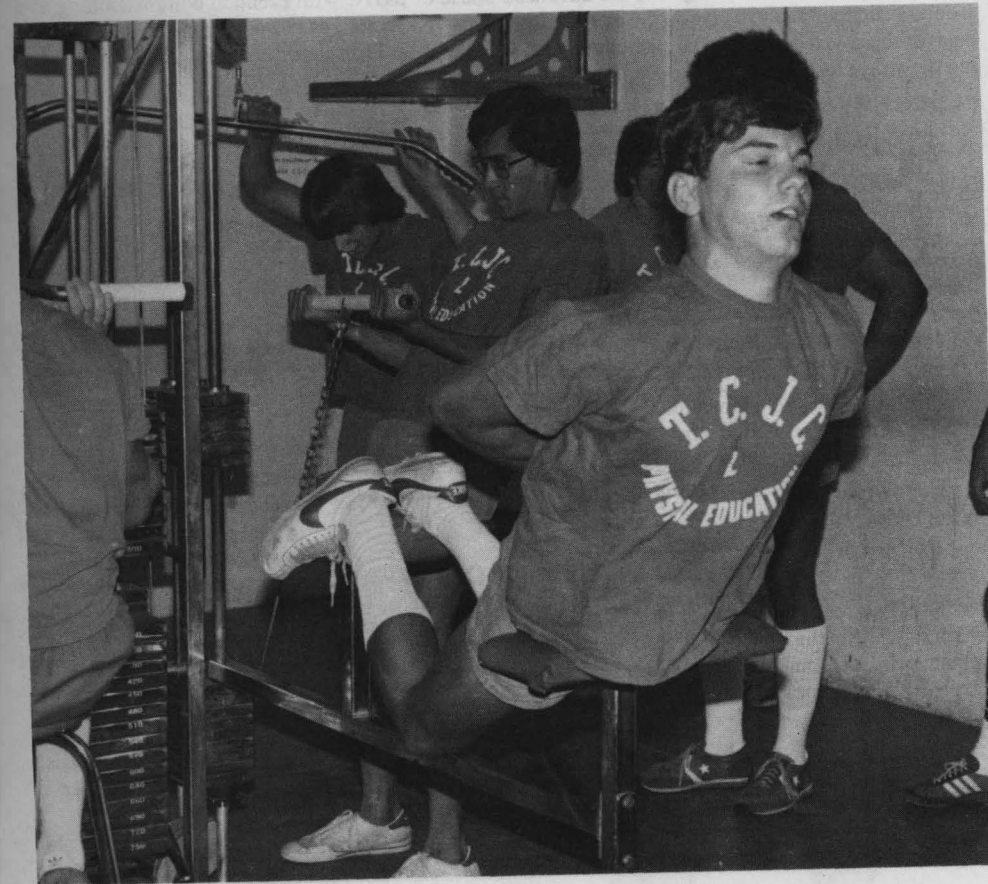
All persons who will be using VA educational assistance while enrolled at TCJC should contact the Office of Veterans Affairs as soon as initial admission requirements are completed. All questions concerning regulations governing the use of VA educational assistance should be directed to that office.

The Veterans Administration and TCJC consider 12 semester hours to be a full load.

EVENING, SUMMER AND SPECIAL PROGRAMS

Evening Classes

Since many students work during the daytime hours, the College provides regular college courses during the evenings. The evening academic courses are taught by the college staff and contain the same material as do the day sections. Information on other types of evening classes is included under Continuing Education.



Summer Session

The summer session at TCJC consists of two terms of six weeks each. Credit earned in a course is equivalent to that offered in the same course during a regular semester. Limitations on the amount of credit which may be earned during the summer session are discussed under the section headed "Course Load." Detailed information about course offerings is included in the summer session bulletin.

Aerospace Studies (AFROTC)

Air Force ROTC is offered to all regularly enrolled TCJC students. These TCJC courses are conducted at Texas Christian University in conjunction with the Aerospace Studies Department. The Air Force ROTC general military course is available to qualified students who desire to earn appointments as commissioned officers in the United States Air Force. TCJC Air Force ROTC courses do not obligate students for future military service. For more information, contact the TCU Aerospace Studies Department at (817) 921-7461.

Military Science

The Army Reserve Officer Training Corps (ROTC) offers many unique opportunities for both male and female students. The ROTC program is directed toward training today for leadership tomorrow. In addition to the classroom and leadership laboratory sessions, it provides for a variety of extra-curricular enrichment activities, such as orienteering, ranger training, rappelling, riflery, and military social events. The first two years do not obligate the students for future military service, but they do prepare them for entry into the advanced phase of ROTC with eventual commissioning as a second lieutenant in the active Army or Reserve Forces. The basic phase students are eligible to compete for the coveted Army ROTC scholarships. More detailed information can be obtained by contacting the Army ROTC Office.

Pre-Technical Program

The pre-technical program (South Campus) is designed to assist students in deciding on career choices. Simultaneous assistance is given in basic academic skills, personal enrichment, vocational counseling, and exposure to existing occupational programs. Courses offered in the core program are Survey of Occupations (TEC 1333); Applied Communications (ENG 1303) or Developmental English (ENG 1203); Technical Reading (RDG 1613 and 1623), and Human Relations (PSY 1643).

Honors Program

The Honors Program provides for TCJC South Campus students of superior academic background and abilities an opportunity for an interdisciplinary educational program of intellectual stimulation, academic excellence, and personal satisfaction. The program is designed to provide required and elective freshman and sophomore college courses, regardless of the student's major. Information on the Honors Program, including admission requirements, is available from the Humanities Division, TCJC South Campus.

Children's Center

The Children's Center on the Northeast Campus provides an academic laboratory facility through which students in the Child Development Program and related fields can study child growth and development principles and gain practical experience for working with the young child. To accomplish this purpose a professionally trained staff is employed to provide a well-rounded teaching and development program for the young children enrolled. The Center operates ten months of the year except for staff and administrative holidays. Children two through five years are accepted on a full-week basis.

Further information regarding enrollment procedures, tuition, registration and supply fee is available through the coordinator of the Children's Center.

General And Academic Regulations



GENERAL REGULATIONS

Official Communications

A request that a student report to an administrative or faculty office may be made by letter or telephone. Failure to comply with such a request may result in disciplinary action.

Communications to the entire student body are considered properly delivered when they are placed on official campus bulletin boards. Each student is responsible for checking the bulletin boards regularly and giving proper heed to such communications.

Student Conduct and Discipline

The Dean of Student Development Services is responsible directly to the campus president for establishing student disciplinary procedures which will assure prompt and appropriate action, while at the same time provide due process.

The Bill of Rights and Responsibilities, including a Code of Conduct, is published in appropriate campus publications and is distributed at the time of registration.

Administrative Withdrawal

The College reserves the right to withdraw a student from class, if, in the judgment of College officials, such withdrawal is in the best interest of the student or the student body at large.

Change of Name or Address

A student who changes his/her residence or mailing address is expected to notify the registrar of this change immediately. Any communication from the College mailed to the name and address on record or which is posted on the college bulletin boards is considered to have been properly delivered and the student is responsible therefor.

Access to Student Records

The following information concerning student records maintained by TCJC is provided in compliance with the Federal Education Rights and Privacy Act of 1975 (PL 93-380):

The act provides that all records maintained on a student be made available for inspection by that student. The student must not only have access to the full record, but must also be given opportunity to challenge any portion of the record.

The act further provides that certain portions of the record are deemed directory information. Directory information may be released to the public without authorization of the student. However, students may require that any or all directory information be withheld from the public by making written request to the Registrar's Office. The request must be made by the last official date of registration for a given semester and applies only to that semester. Directory information as defined by TCJC includes name, current address, telephone, date and place of birth, major, dates of attendance, degrees and awards received, previous educational institutions attended, and eligibility and participation in officially recognized activities and sports.

Portions of the student record not included in directory information may not be released to the public without specific written authorization of the student.

Additional information about access to student records is available from the Director of Admissions and Records.

Minor Children on campus

From time to time, classes and activities are offered at TCJC for minor children. On these occasions, they are invited to avail themselves of these opportunities.

At other times, however, parents are cautioned that minor children are neither permitted to remain unattended on campus, nor to attend classes with their parents.

ACADEMIC REGULATIONS

Credit for Courses

The semester hour is the unit of credit at Tarrant County Junior College and is defined generally as the amount of credit given for one lecture or classroom hour per week for a 16-week semester. A class meeting three times a week, therefore, carries three semester hours of credit. Laboratory classes may require additional contact hours per credit hour.

Course Load

A student who is enrolled for less than 12 semester hours is considered a part-time student. One who is enrolled for 12 or more semester hours is considered a full-time student.

The normal, full course load during the regular semester is five academic courses or from 14 to 17 semester hours. One-hour courses may be added above the five academic courses. No student will be permitted to enroll for six academic courses or for more than 18 semester hours without the permission of the dean of instruction. The normal load during each six-week term of the summer session is six semester hours. The maximum load for a six-week session is eight semester hours and the maximum credit that a student can earn during the entire summer session is fourteen semester hours. The College reserves the right to limit the course load carried by any student.

Students who are employed or who plan to seek employment are cautioned to consider carefully the amount of college work they attempt in relation to the number of hours they are employed each week and to the student activities in which they participate. Students who overload themselves in these areas are likely to have scholastic difficulties. A good rule to remember is that two hours of preparation outside class are necessary for each hour of class time.

Class Schedule

The courses offered for each semester will be published in the class schedules prior to the beginning of the semester. Copies of these schedules will be available in campus Registrar's Office and in the Admissions Office.

The College reserves the right to cancel any course section for any semester in which there is an inadequate number of registrants.

Change of Schedule

Each change of schedule after enrollment has been completed will entail a fee of \$5. Any withdrawal from classes prior to the official date of record (see college calendar) of any semester or term is to be initiated in the Registrar's Office and must be approved by the Bursar's Office.

A student who officially withdraws from a course prior to the official date of record will not receive a grade and the course will not appear on his/her permanent record.

Courses may be added only during the scheduled add/drop period. The add must be processed by the bursar and the registrar before it becomes official. Payment for the course must be made at the time the course is added.

Examinations

A final examination, not to exceed two hours in length, will be given at the end of each semester in each course. Other examinations will be given during the course of the semester at the discretion of the instructor.

A student who must be absent from a final examination should petition the dean of instruction for permission to postpone the examination. A student who is absent without permission from a final examination will be graded F on the examination. Postponed final examinations must be taken within 30 days from the beginning of the next long semester.

A make-up of a test other than the final examination will be at the discretion of the instructor if a student is absent on the day of the test.

Advanced Placement Program

Advanced placement is the privilege of an individual in suitable class, course, and/or program in accordance with the aims, capabilities, readiness, educational background, and aspirations of that individual. Students may obtain advanced placement in certain courses on the basis of examinations administered by the department offering those courses or by the campus Testing Center. Inquiries concerning advanced placement should be directed to the Testing Center at least three weeks prior to the beginning of each term.

Credit-by-Examination

Students who believe that they already possess the knowledge and/or skills taught in certain courses or programs offered by the College may challenge these for credit-by-examination/experience. A request to challenge these for credit may be based on superior high school achievement in the subject and/or appropriate work or other learning experiences. Credit-by-examination is not available in all courses offered by the College. Students should direct inquiries concerning courses that may be challenged for credit-by-examination to the campus Testing Center and/or the department involved.

Upon successful completion of any credit-by-examination/experience, a grade of credit (CR) will be awarded and will not affect the grade point average.

Tesg and/or postin fees are charged in accordance with schedules set by TCJC policy and/or commercial testing agencies (when such tests are used).

Auditing a Course

When space is available, permission to audit a course may be granted to students who have been admitted to the College and who do not wish credit for the work. Students who already have credit for the course must comply with the College's policy on repetition of courses.

Students auditing a course may not, under any circumstances, claim credit for the course. Registration of audit students will occur on the last day of late registration, or on the date specified in the College Catalog. If a student who is registered for a course may not change from credit to audit in the course during audit registration or at any time during the semester.

Charges for auditing a course are the same as for regular registration.

Grades and Grade Points

The grading system used at Thrant County Junior College is as follows:

A (excellent), B (good), C (average), D (passing), F (failure), I (incomplete), W (approved without award), WF (without award failing), NC (non-credit), AU (audit), CR (credit).

A:	4 points per semester hour
B:	3 points per semester hour
C:	2 points per semester hour
D:	1 point per semester hour
For WF:	0 points per semester hour

The G.P.A. is found by dividing the total number of grade points by the total number of semester hours attempted. Grades of CR, NC, W, I, or AU do not affect the grade point average.

Incompletes

The conditional grade of I may be given to a student only with the approval of the instructor and the dean of instruction. It is the responsibility of the student to arrange with the instructor for completion of the course when an I is given. To remove an I, the student must complete the work of the course within 30 days after the beginning of the next long semester and receive, without penalty, the earned grade. If the 30-day period, the I will become an F unless the student has completed the work satisfactorily.

Dean's List

The Dean's List is composed of those students who are enrolled for 12 or more semester hours of work and who make a grade point average of 3.5 or more on their semester grades. The Honor List is composed of those students who are enrolled for 12 or more semester hours and who make a grade point average of 3.0 to 3.49. The Merit List is composed of students who are enrolled for fewer than 12 semester hours and who make a grade point average of at least 3.5.

Scholastic Probation

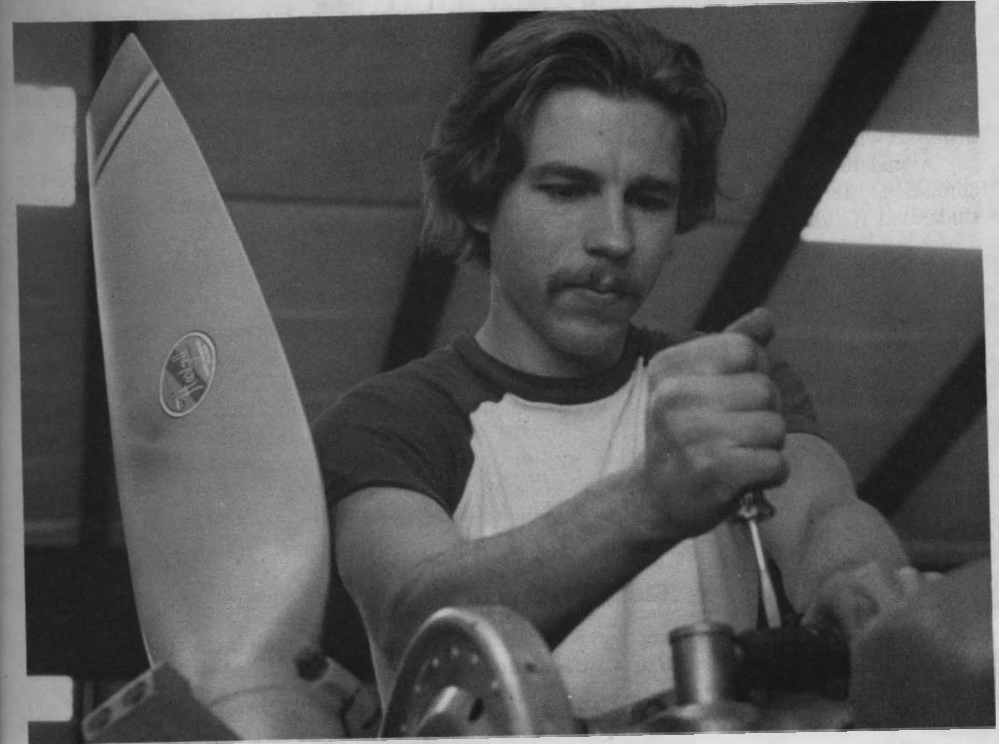
Whenever a student's cumulative record indicates that he/she is failing to make satisfactory progress, he/she is considered to be scholastically deficient and is placed on scholastic probation. Scholastic probation is a conditional permission for a student to continue in college.

When a student's cumulative grade point average falls below 2.0, he/she will be placed on scholastic probation. Should the student earn a grade point average of 1.5 or better on the next nine or more hours attempted, he/she may continue on probation. Should he/she earn a grade point average of less than 1.5 on the nine or more hours attempted, he/she will be placed on enforced academic withdrawal. Part-time students on probation who take less than nine semester hours per semester will have their progress evaluated on the above basis after attempting nine or more hours of work.

In order to be removed from scholastic probation, the student must attain a cumulative grade point average of 2.0.

Repetition of Courses

Students may enroll more than a second time in only those courses so designated in the Catalog, unless special permission is granted by the dean of instruction. Students repeating, with the dean's approval, a course not designated as being repeatable will be awarded credit only one time, with the last grade received posted as the permanent grade for the course. Grades of ALL courses taken are included in determining cumulative grade point average.



Class Attendance and Withdrawal

Punctual and regular class attendance is required of all students registered at TCJC. No unexcused absences or "cuts" are allowed. Students are responsible for all class work covered during absences from class, even in cases in which they are able to satisfy the instructor that the absence was unavoidable.

Faculty members will verify student attendance in class activities on or before the official date of record (see college calendar). Non-attendance by students during this period will result in their being withdrawn from classes and their names removed from official class rolls. Failure to attend class regularly after the official date of record will result in administrative withdrawal of the student from the class or from the College.

The College shall terminate all student services and privileges, such as health services, library privileges, and facilities usage, at the time a student withdraws. At the time of withdrawal, the student is required to surrender his/her student ID card at the campus Bursar's Office.

A complete description of the attendance and withdrawal procedures is contained in a Student Handbook distributed at registration.

Enforced Academic Withdrawal

A student who is on scholastic probation and who fails to meet the requirements for removal from probation or for continued probation will be placed on enforced academic withdrawal for one regular semester or the entire summer session, whichever follows immediately after the date of enforced withdrawal. In order to be readmitted, the student must report for a counseling interview for re-evaluation of his/her college program at least six weeks prior to the beginning of the term for which he/she is eligible for readmission.

After this period of enforced academic withdrawal the student may be re-admitted on scholastic probation. Should he/she again not meet the requirements for removal from probation nor for continued probation, he/she will be placed on enforced academic withdrawal for one calendar year. After one year of enforced academic withdrawal he/she may be admitted on scholastic probation. Should he/she again not meet the required scholastic standards, he/she will be placed on enforced academic withdrawal for one calendar year and may be readmitted only upon approval of the Admissions Committee.

A student on probation is responsible for knowing if he/she has passed the minimum standards for continuation in college. An ineligible student who registers with the College will be subject to dismissal with forfeiture of all tuition and fees.

A student who is on enforced academic withdrawal from another institution is ineligible for admission to Tarrant County Junior College unless he/she has met the scholastic standards required of students at TCJC and is approved by the Admissions Committee.

Transcript of College Record

The transcript of college work is an official copy of the student's permanent record bearing the College seal and the signature of the Director of Admissions and Records. Copies of a student's transcript are available upon written request from the Office of the Registrar or the Office of Admissions. A fee of \$1 will be charged for each transcript issued. Payment of the transcript fee and all delinquent fees must be made to the Bursar's Office before the student's record will be released.

The student should allow a period of one week for delivery of the transcript after the request has been submitted or after the close of a semester for which grades are being requested.

If a student desires a transcript of work completed at another institution, he/she must secure the transcript from the other institution.

Classification of Students

A student who has earned fewer than 30 semester hours of college credit is classified as a freshman. A student who has earned 30 or more semester hours of credit is classified as a sophomore.



**Continuing
Education**

CONTINUING EDUCATION

Continuing Education, through a program of non-credit courses and activities, is one of the primary service areas through which TCJC strives to meet the needs of the community.

Courses frequently are planned in cooperation with business representatives, educators, individuals, and special interest groups. The wide range of educational programs is designed to meet the broad age and interest range of the people. This balanced offering reflects the changing needs of the community, whether recreational, vocational, avocational, or in the humanities. The format of offerings includes courses, workshops, forums, conferences, symposia, seminars, and other activities.

Representative Continuing Education classes are listed under the headings of:

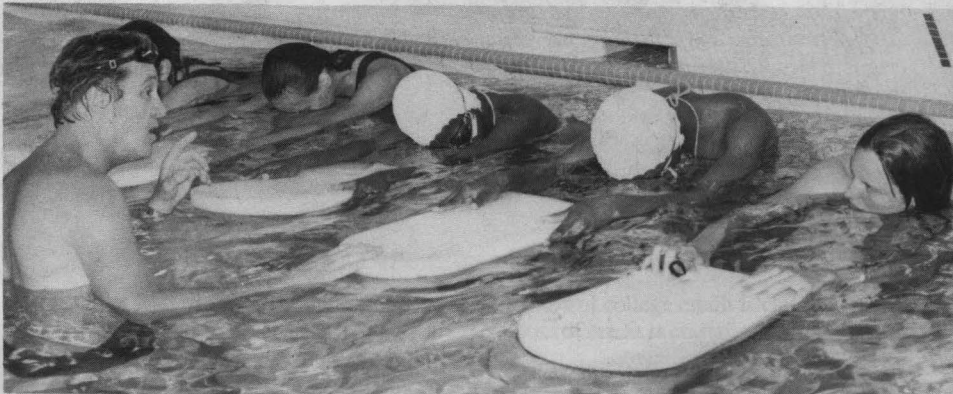
Sports	Business, Management and Supervision
Languages	Communications: Written and Oral
Insurance	Mechanical and Technical Skills
Automotive	Floral and Interior Decoration
Real Estate	Personal and Family Interests
Agriculture	Recreation and Relaxation
Dance Programs	Senior Citizens Activities
Music and Drama	Sewing and Needlework
Fitness Classes	Health Care Programs
Art and Crafts	Cooking and Dietetic
Children and Youth	Office Occupations

A special catalog listing these non-credit courses is available on request. Traditional college credit is not granted for most of these classes; however, Continuing Education Units (CEUs) and Certificates of Completion are awarded in selected courses.

The Continuing Education program is designed to respond to educational needs, which TCJC can serve as they are identified. Goals of Continuing Education are:

1. To involve participants in programs that will help them experience self-realization and develop the communicative, decision-making, and social skills necessary for their development in, and service to, society.
2. To provide programs promoting the continuous learning and upgrading of adults.
3. To improve programs for adults who require greater skills or academic qualifications.
4. To provide special programs of training and retraining for the employed, the unemployed, or the underemployed.
5. To provide programs in cultural enrichment.
6. To provide special programs and related services for senior adults.
7. To provide educational support as well as general or personal interest courses for youth.
8. To schedule the offerings to meet the needs of the people.
9. To provide quality education at the most reasonable cost.

In most cases, Continuing Education offerings vary from one session to a full semester. These are open to all persons without regard to previous educational background, and formal admission to the College is not required.



The Continuing Education Unit (CEU)

It is Tarrant County Junior College policy to award Continuing Education Units (CEUs) for certain non-credit activities. TCJC's Community Campus is responsible for assuring that all courses for which CEUs are offered meet criteria established by the Southern Association of Colleges and Schools.

The Continuing Education Unit (CEU) is a nationally recognized unit of measurement for successful participation in a non-credit continuing education program. Participants in TCJC's programs that award CEUs have a permanent transcript available on request. This transcript may be used for job promotion, certification, and other student benefits.

One CEU is defined as ten (10) contact hours of participation in an organized continuing education experience under responsible sponsorship, capable direction, and quality instructors. One unit is awarded for each 10 clock hours of successful instruction participation with decimal units given for less than 10 hours.

The following criteria are applied for the awarding of CEUs:

1. The non-credit activity is planned in response to an assessment of need for a target population.
2. There is a statement of objectives and rationale.
3. Content is selected and organized in a sequential manner.
4. Planning includes the opportunity for input by a representative of the group to be served, the faculty area having content expertise, and continuing education personnel.
5. The activity is of an instructional nature and is sponsored or approved by an academic or administrative unit of TCJC best qualified to assure the quality of the program content and the instructor.
6. There is a provision for registration for individual participants and to provide data for institutional reporting.
7. Before the activity, evaluation procedures are determined and criteria established for awarding CEUs to students. This may include the evaluation of student performance, instructional procedures, and course effectiveness.
8. A permanent CEU record and retrieval system will be maintained.

A brochure providing more detailed information is available at the Office of Community Services on each campus.

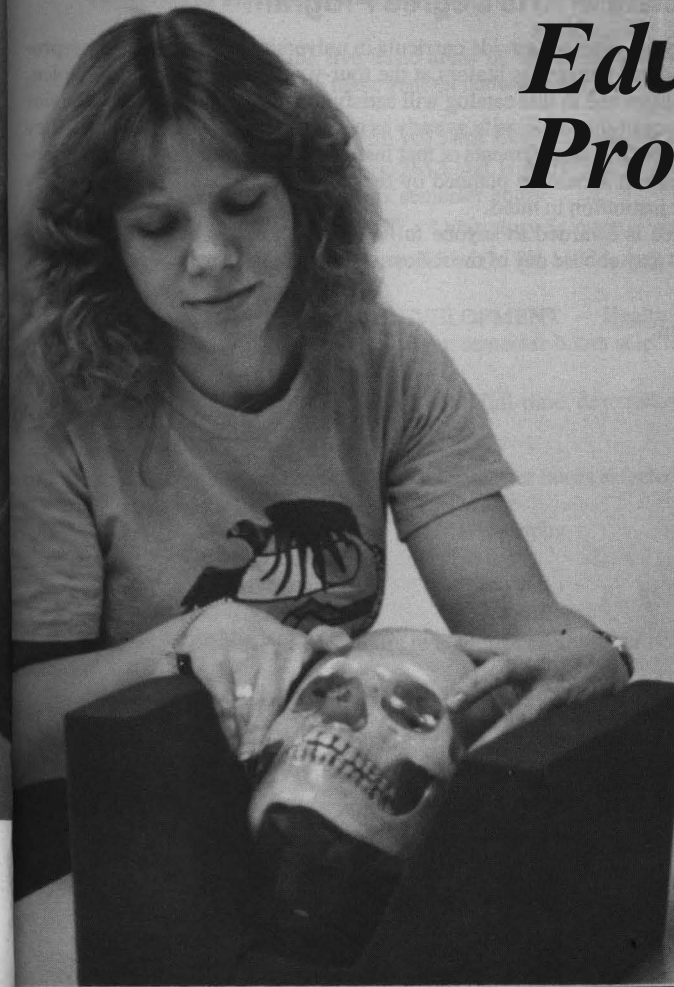
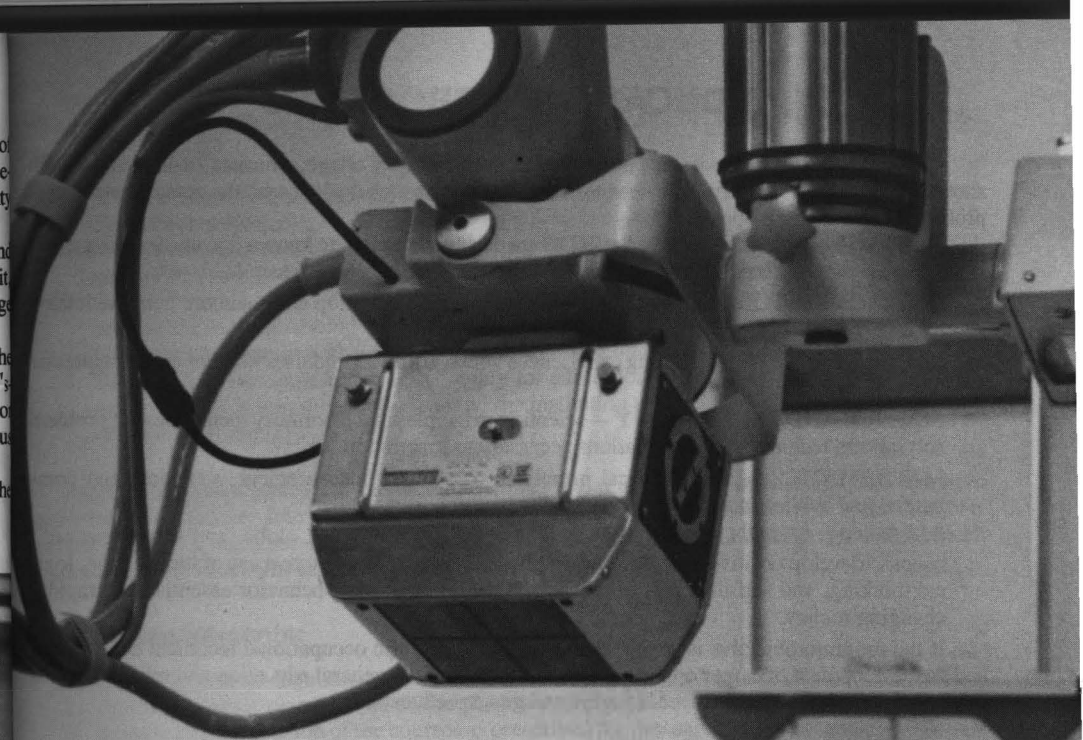
Community Campus

The Community Campus is responsible for the administration, development, and coordination of the Continuing Education program of the College as spelled out in the Philosophy and Purpose Statement. Continuing Education offerings are divided into three operational areas of the Community Campus: Community Services, Special Projects, and Senior Citizens Activities.

The Community Campus was organized for the primary purpose of responding quickly and effectively to identified needs of the community. Since the majority of the programs are non-credit the Community Campus is in a position to respond more quickly than normal processes of the College would permit.

The Community College is mainly an administrative structure; it is designed to go beyond the boundary of College-owned land to serve people wherever they may be located within the TCJC District. As an outreach organization, it is responsible for non-credit courses, whether conducted on- or off-campus. Additionally, it will provide assistance in the promotion and development of off-campus credit courses.

For additional information or a current catalog, contact the Community Services Office at the campus nearest you, or call the Community Campus at 338-4711, ext. 266.



Educational Programs

EDUCATIONAL PROGRAMS

General education, as viewed at Thrant County Junior College, consists of learning which should be universal for all students - experiences gained through dealing with the personal and social problems confronting all people.

All educational programs offered at TCJC are designed to provide knowledge and learning experiences to encompass, but are not necessarily limited to, the following areas:

COMMUNICATIONS - knowledge and experiences to develop and maintain communication skills.

SOCIAL HERITAGE - learning experiences which afford an understanding of and an appreciation for one's social heritage.

SCIENCE AND TECHNOLOGY - scientific principles and laboratory techniques for problem solving and technological applications necessary to function in society.

MATHEMATICS - mathematical principles (consumer, measurement, statistics, and computers) and applications necessary to function in society.

PERSONAL GROWTH AND DEVELOPMENT - knowledge, skills, and learning experiences to develop positive attitudes toward physical fitness, constructive use of leisure time, logical thinking, and self-directed, goal-oriented, problem-solving behavior essential to a rapidly changing society.

If the program objective is specialized training for specific occupational/technical competencies and the development of career opportunities, the content of the general education and related courses is tailored to both the areas of specialization and general education.

Associate in Arts Degree Program

The purpose of this degree program is to provide curricula in university parallel and the pre-professional areas which enable students to enter as juniors at the four-year institution of their choice. While the liberal arts curricula suggested in this catalog will satisfy the requirements of most senior institutions, it is the students' responsibility to identify as early as possible the institution to which they will transfer and to ascertain the specific requirements of that institution for the freshman and sophomore year. Each student's curriculum should be planned by the student and a counselor or faculty advisor with a specific four-year institution in mind.

The Associate in Arts degree is awarded to anyone fulfilling the general and specific degree requirements. Although students may choose any of the following fields of study, they are not limited to these.

University-Parallel Studies in:

Agriculture
Art
Biology
Business Administration
Chemistry
Computer Science
Engineering Sciences
Geology
Liberal Arts
Drama
English
Government
History
Philosophy
Psychology
Religion
Sociology

Mathematics

Music
Physics
Speech/Communications

Pre-Professional Studies in:

Dentistry
Law
Medicine
Optometry
Osteopathy
Pharmacy
Veterinary Medicine

Students who attend Tarrant County Junior College for one or two years and transfer to senior colleges or universities should have no difficulty completing transfer of credits if these steps are followed:

1. Select a major field of study and a senior college or university which offers a bachelor's degree in the chosen field.
2. Write or visit the admissions office of the senior college or university and obtain a current copy of its catalog. Study the freshman and sophomore courses suggested.
3. See your academic advisor or counselor at TCJC who will help you select TCJC courses corresponding to those offered for freshmen and sophomores at the senior college or university.
4. Complete the courses with a grade point average of at least 2.0 (C average).
5. Early in your last semester at TCJC, apply for admission to the senior college or university and ask TCJC Admissions Office to send the institution to which you are transferring a transcript of your credits.

Bachelor's degrees awarded by most senior colleges and universities require 124-130 semester hours, or approximately four years of study. The A.A. degree certifies completion of the first two years of study, or a minimum of 64 semester hours. Most senior institutions will accept 66 semester hours in transfer; many will accept 72 or more.

Degree Requirements:

1. Complete general requirements on Page 40.
2. Approved degree plan must be on file prior to making application for graduation.
3. Satisfactory completion of the courses as prescribed for the major or field of study. Consult a counselor or an academic advisor early in your program of study.

To promote growth in the five basic areas of human development, students seeking the A.A. degree are required to complete these general education courses:

COMMUNICATIONS - English 1613 and English 1623 - six semester hours

SOCIAL HERITAGE - History 2613 and History 2623 - six semester hours; Government 2613 and Government 2623 - six semester hours .

SCIENCE AND TECHNOLOGY - Laboratory Science - six to eight semester hours

MATHEMATICS - three semester hours (MTH 1403A may not be used to fulfill this requirement)

PERSONAL GROWTH AND DEVELOPMENT - Health Concepts - HPE 1611 - one semester hour; Social Sciences - three semester hours selected from: Psychology, Sociology, Health and Physical Education

NOTE: Psychology 1611 is required of all full-time, day students during the first regular semester of their freshman year.

ELECTIVES - Humanities - six semester hours selected from:

Art	Music
Drama	Philosophy
Fine Arts	Religion
Foreign Language	Speech
Journalism	

Sufficient additional elective hours to complete 64 semester hours credit

Associate in Applied Science Degree Programs

This degree program offers many unique curricula designed for students majoring in agriculture, education, distribution and marketing, office occupations, industrial education, technical education, public services, health occupations, and homemaking education. These curricula are designed to enable the graduate to enter an occupation with a marketable skill, an acceptable level of competency and the ability to communicate intelligently. The curricula provide highly specialized courses to develop technical skill and general education courses to enable students to be effective members of society. Several A.A.S. degree programs provide a foundation for transfer to a four-year institution offering Bachelor of Science degrees in occupational programs.

The Associate in Applied Science degree is awarded for the completion of any of the following degree programs:

Accounting (S, NE, NW)	Industrial Supervision (S)
Agribusiness Technology (NW)	Interpreting for the Deaf (NW)
Air Conditioning and Refrigeration Technology (S)	Legal Assistant (NE)
Architectural Technology (NE)	Machine Shop Technology (S)
Associate Degree Nursing (S)	Marketing (S, NE, NW)
Auto Body Repair (NW)	Media Technology (NE)
Automotive Service Technology (S, NW)	Medical Laboratory Technology (NE)
Automotive Technology Apprenticeship (S)	Medical Record Technology (NE)
Aviation Maintenance Technician (NW)	Mental Health/Mental Retardation (NE)
Banking and Finance (NE)	Mid-Management (S, NE, NW)
Business (S, NE, NW)	Nondestructive Evaluation Technology (S)
Cast Metals Technology (S)	Office Careers (S, NE, NW)
Child Development (NE)	Physical Therapist Assistant (NE)
Civil/Construction Technology (NE)	Postal Service Administration (NW)
Commercial Transportation (NE)	Property Tax Appraisal (NE)
Computer Science (S, NE, NW)	Quality Technology (S)
Criminal Justice (NE)	Radiologic Technology (NE)
Dental Hygiene (NE)	Real Estate (S, NE, NW)
Dietetic Technician (S)	Respiratory Therapy (NE)
Drafting and Design Technology (S, NE)	Secretarial Careers (S, NE, NW)
Electromechanical Technology (S)	Small Business Management (NW)
Electronic Technology (S)	Welding Technology (S)
Emergency Medical Technology (NE)	S Indicates South Campus
Fashion Merchandising (NE)	NE Indicates Northeast Campus
Fire Technology (S)	NW Indicates Northwest Campus
Horticulture (NW)	

Degree Requirements:

1. Completion of general requirements listed on Page 40.
2. Completion of minimum 64 semester hours of credit.
3. Completion of prescribed curriculum for two-year occupational program as outlined on the following pages.

Certificates of Completion

In addition to the Associate degree programs, ICJC offers certificate programs designed to meet specific needs of the community. These programs are normally one year in length; upon completion of the prescribed courses, the student receives Certificate of Completion.

A certificate is awarded for the completion of any of the following programs:

Air Conditioning and Refrigeration (S)
Appliance Service and Repair (S)
Auto Body Repair (NW)
Automotive Service Technology (NW, S)
Business (NW, NE, S)
Cast Metals Technology (S)
Child Development Assistant (NE)
Commercial Transportation (NE)
Dental Assistant (NE)
Emergency Medical Technology (NE)
Fashion Merchandising (NE)
Fire Technology (S)
General Clerical (NW, NE, S)
General Stenographic (NW, NE, S)
Graphic Arts (NE)
Horticulture (NW)
Machine Shop Technology (S)
Medical Transcription (NE)
Mid-Management (NW, NE, S)
Motorcycle Service Technician (NW)
Radio-Television Repair (S)
Real Estate (NW, NE, S)
Small Gasoline Engine Repair (NW)
Surgical Technology (NE)
Welding Technology (S)

S	Indicates South Campus
NB	Indicates Northeast Campus
NW	Indicates Northwest Campus

Certificate Requirements:

1. Completion of minimum requirements for admission to the individual's program of study.
2. Completion of at least 12 semester hours in residence at County J or College and enrollment in courses required for the certificate when application for the certificate is made.
3. A minimum grade point average of 2.0 in the courses presented to meet the requirements for the certificate.
4. Formal application for graduation during academic year.
5. Satisfactory settlement of all financial obligations.

Vocational Block-Time Programs

In a limited number of occupational programs, ICJC offers vocational block-time study. These programs usually involve four to five hours per day in intensive, skill-building courses. Block-time programs offered include:

Appliance Service and Repair (S)
Machine Shop (S)
Motorcycle Service Technician (NW)
Radio-Television Repair (S)
Welding (S)

S	Indicates South Campus
NW	Indicates Northwest Campus

Requirements for Certification In Vocational Block-Time Programs:

1. Completion of minimum requirements for admission to the individual's program of study.
2. Completion of at least 12 semester hours in residence at Tarrant County Junior College and enrollment in courses required for the certificate when application for the certificate is made.
3. A minimum grade point average of 2.0 in the courses presented to meet the requirements for the certificate.
4. Formal application for graduation during academic year.
5. Satisfactory settlement of all financial obligations.

Graduation Information

Tarrant County Junior College offers two types of associate degrees and a number of certificates of completion. A student has the option of meeting the degree requirements as outlined in the catalog in effect on the date of his/her first enrollment at TCJC or meeting those listed in any later catalog, provided he/she meets the requirements not later than five years from the date of the catalog selected and was enrolled in the College during the academic year covered by the catalog.

General Requirements:

(For Associate in Arts and Associate in Applied Science degrees)

1. Completion of minimum requirements for admission to the individual's program of study.
2. Completion of at least 15 semester hours in residence at TCJC.
3. A minimum cumulative grade point average of 2.0 in all courses presented for graduation and in all courses taken at TCJC.
4. Petition for graduation before date listed in the College calendar.
5. Earn a minimum of 64 semester hours credit, including a minimum of 15 hours of sophomore-level courses, nine of which must be taken at TCJC.
6. Satisfactory settlement of all financial obligations.

Application for Graduation:

Only one formal graduation exercise is held each year at Tarrant County Junior College: a formal commencement at the end of the spring semester. Students completing graduation requirements during the summer or fall semesters may choose to receive their diplomas *in absentia* at the end of that semester and/or participate in the formal commencement exercise conducted at the conclusion of the following spring semester. The candidate must indicate the catalog of his/her degree plan.

To be considered a candidate for a degree or certificate, the student must submit a formal application for graduation to the registrar on or before the date specified in the College Catalog. Graduation fee of \$10 is nonrefundable.

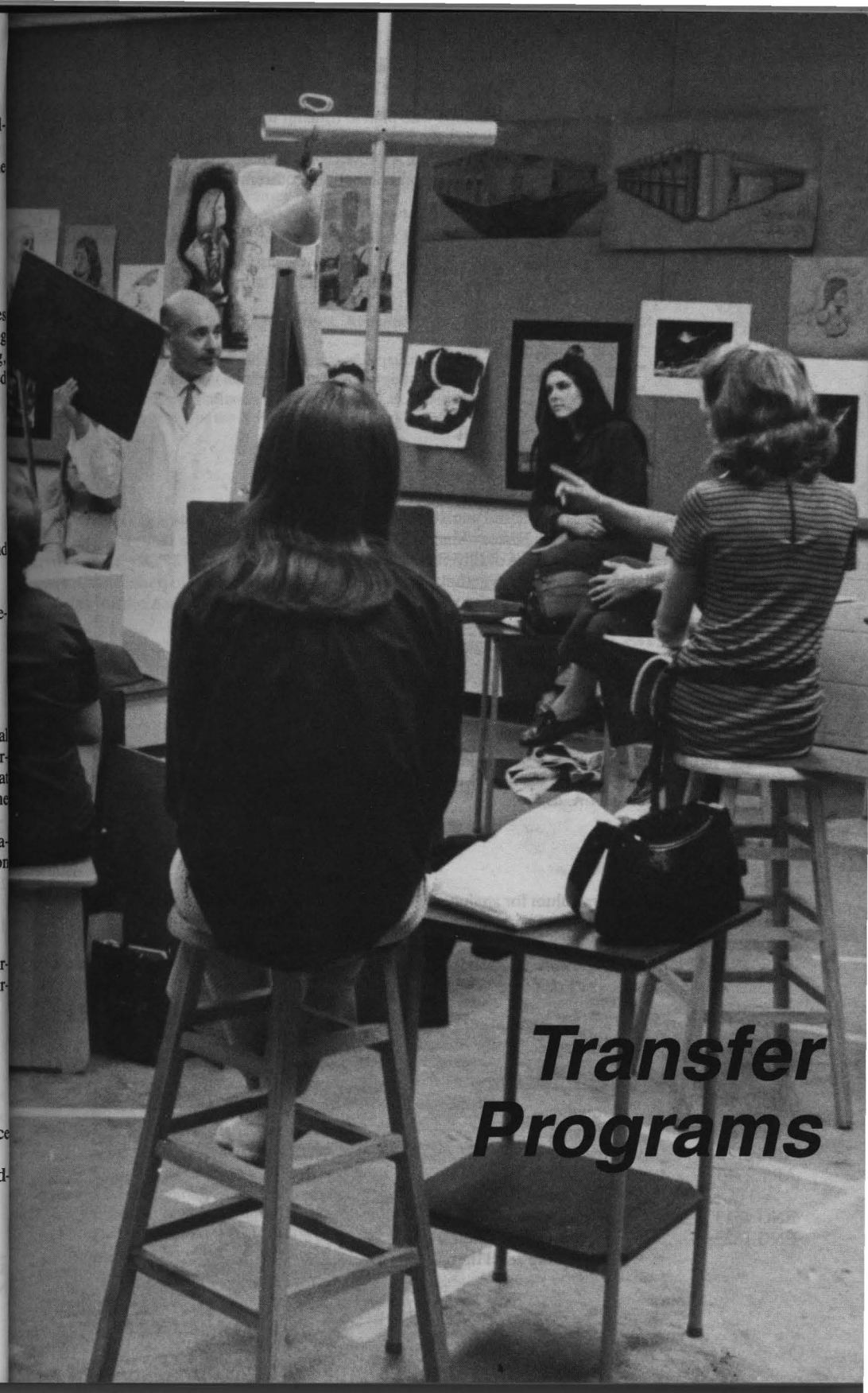
Graduation Honors:

Graduation honors will be given to students who maintain a superior cumulative gradepoint average during their two years of study. Three classifications of honor guidelines will be recognized during the graduation exercises:

Designation	Cumulative G.P.A.
Highest Honors	3.80 or above
High Honors	3.60 to 3.79
Honors	3.35 to 3.59

The following guidelines will determine the student's eligibility for graduation honors:

1. Only students completing the Associate in Arts degree and the Associate in Applied Science degree will be eligible for these honors.
2. When cumulative grade point average for honors is determined, only TCJC courses, including all course work during the semester of graduation, will be counted.



Transfer Programs

AGRICULTURE

1-0101-0

This is a suggested curriculum for students who plan to transfer to a senior college or university. Transferability and specific requirements can be determined only by the receiving institution. Students should CONSULT A COUNSELOR OR ACADEMIC ADVISOR early in their program of study. Completion of this curriculum and the general graduation requirements on Page 37 will qualify students for the Associate in 1/4 degree.

COURSE NO.	TITLE	SEMESTER HRS.
AGR 1333	*Livestock Production	3
AGR2313	*Field Crop Production	3
AGR2333	*Agricultural Economics	3
BIO 1654	*General Biology I	4
BIO 1664	*General Biology II	4
CHM 1634	*General Chemistry I	4
CHM1644	*General Chemistry II	4
ENG 1613	English Composition I	3
ENG 1623	English Composition II	3
	*Sophomore-level literature	3
GOV2613	United States Government	3
GOV2623	Texas State and Local Government	3
HIS2613	United States History to 1876	3
HIS2623	United States History Since 1876	3
HPE 1611	Health Concepts of Physical Activity	1
HPE	**Physical education activity	3
MTH 1633	Functional Approach to College Algebra	3
MTH 1643	*Functional Approach to College Trigonometry	3
PSY 1611	**Orientation to College	1
SPE 1623	Public Speaking	3
	**Prescribed electives	3
	**Electives (to complete minimum of 64 total semester hours)	

*Students should consult an academic advisor in selecting these courses.

**See the general requirements for the Associate in Arts degree for a more complete description of courses required to qualify for the A.A. degree.

ART

1-1002-0

This is a suggested curriculum for students who plan to transfer to a senior college or university. Transferability and specific requirements can be determined only by the receiving institution. Students should CONSULT A COUNSELOR OR ACADEMIC ADVISOR early in their program of study. Completion of this curriculum and the general graduation requirements on Page 37 will qualify students for the Associate in Arts degree.

COURSE NO.	TITLE	SEMESTER HRS.
ART 1613	***Art Appreciation	3
ART 1633	*Design I	3
ART 1643	*Design II	3
ART 1653	*Drawing I	3
ART 1663	*Drawing II	3
ART2703	*Art History Survey I	3
ART2713	*Art History Survey II	3
	**Art electives	9-12
ENG 1613	English Composition I	3
ENG 1623	English Composition II	3
	***Sophomore-level literature	6

GOV 2613	United States Government	3
GOV 2623	Texas State and Local Government	3
HIS 2613	United States History to 1876	3
HIS 2623	United States History Since 1876	3
HPE 1611	Health Concepts of Physical Activity	1
HPE	****Physical education activity	3
	****Laboratory science	6-8
MTH 1613	***Fundamentals of College Mathematics I	3
MTH 1623	***Fundamentals of College Mathematics II	3
	***Foreign language	6-8
PSY 1611	****Orientation to College	1

*Indicates freshman studio core courses. Required of art majors prior to enrollment in sophomore-level courses.

**All art electives must have prior approval of Department Chairperson.

**Students should consult an academic advisor in selecting these courses.

•••• See the general requirements for the Associate in Arts degree for a more complete description of courses required to qualify for the A.A. degree.

BIOLOGY

1-0401-0

This is a suggested curriculum for students who plan to transfer to a senior college or university. Transferability and specific requirements can be determined only by the receiving institution. Students should CONSULT A COUNSELOR OR ACADEMIC ADVISOR early in their program of study. Completion of this curriculum and the general graduation requirements on Page 37 will qualify students for the Associate in Arts degree.

COURSE NO.	TITLE	SEMESTER HRS.
BIO 1654	General Biology I	4
BIO 1664	General Biology II	4
BIO2644	*Environmental Biology; or BIO 2614; or BIO 2624; or BIO 2664	4
BIO2654	*General Botany or BIO 2614; or BIO 2624; or BIO 2664	4
CHM 1634	General Chemistry I	4
CHM 1644	General Chemistry II	4
ENG 1613	English Composition I	3
ENG 1623	English Composition II	3
	*Sophomore-level literature	6
G<JV2613	United States Government	3
G<JV2623	Texas State and Local Government	3
HIS2613	United States History to 1876	3
HIS2623	United States History Since 1876	3
HPE 1611	Health Concepts of Physical Activity	1
HPE	**Physical education activity	3
MTH 1725	*Calculus with Analytic Geometry I	5
PHY 1614	General College Physics I; or CHM2614	4
PHY 1624	General College Physics II; or CHM2624	4
PSY 1611	**Orientation to College	1
	**Prescribed electives	6

*Students should consult an academic advisor in selecting these courses.

•• See the general requirements for the Associate in Arts degree for a more complete description of courses required to qualify for the A.A. degree.

BUSINESS ADMINISTRATION
1-0501-0

This is a suggested curriculum for students who plan to transfer to a senior college or university. Transferability and specific requirements can be determined only by the receiving institution. Students should CONSULT A COUNSEWR OR ACADEMIC ADVISOR early in their program of study. Completion of this curriculum and the general graduation requirements on Page 37 will qualify students for the Associate in Arts degree.

COURSE NO.	TITLE	SEMESTER HRS.
ACC 1623	Principles of Accounting I	3
ACC 1633	Principles of Accounting II	3
CSC 1604	*Fundamentals of Programming	4
ECO2613	Principles of Economics I	3
ECO2623	Principles of Economics II	3
ENG 1613	English Composition I	3
ENG 1623	English Composition II	3
	*Sophomore-level literature	3
	**Laboratory science	6-8
GOV2613	United States Government	3
GOV2623	Texas State and Local Government	3
HIS2613	United States History to 1876	3
HIS2623	United States History Since 1876	3
HPE 1611	Health Concepts of Physical Activity	1
HPE	**Physical education activity	3
MTH 1603	College Algebra for the Social and Management Sciences	3
MTH 1663	Mathematics of Business Analysis	3
PSY 1611	**Orientation to College	1
SPE 1613	Fundamental of Speech Communication; or SPE 1633	3
	**Prescribed electives	3
	**Electives (to complete minimum of 64 total semester hours)	

*Students should consult an academic advisor in selecting these courses.

**See the general requirements for the Associate in Arts degree for a more complete description of courses required to qualify for the A.A. degree.

CHEMISTRY
1-1905-0

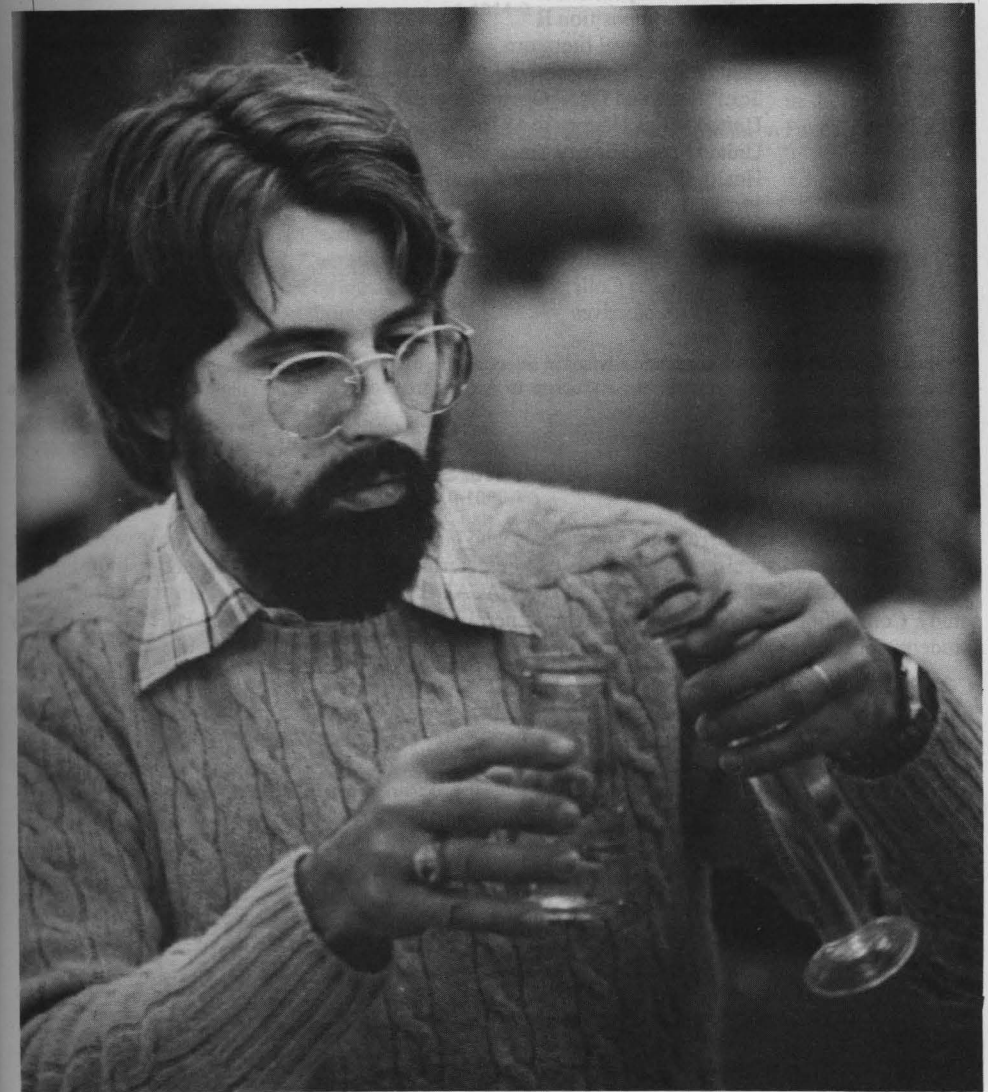
This is a suggested curriculum for students who plan to transfer to a senior college or university. Transferability and specific requirements can be determined only by the receiving institution. Students should CONSULT A COUNSEWR OR ACADEMIC ADVISOR early in their program of study. Completion of this curriculum and the general graduation requirements on Page 37 will qualify students for the Associate in Arts degree.

COURSE NO.	TITLE	SEMESTER HRS.
CHM 1634	General Chemistry I	4
CHM1644	General Chemistry II	4
CHM2614	Organic Chemistry I	4
CHM2624	Organic Chemistry II	4
ENG 1613	English Composition I	3
ENG 1623	English Composition II	3
	*Sophomore-level literature	6
GOV2613	United States Government	3
GOV2623	Texas State and Local Government	3

HIS 2613	United States History to 1876.	3
HIS 2623	United States History Since 1876	3
HPE 1611	Health Concepts of Physical Activity	1
HPE	**Physical education activity	3
MTH 1725	Calculus with Analytic Geometry I	5
MTH 1734	Calculus with Analytic Geometry II	4
MTH 2653	Calculus with Analytic Geometry ID	3
PHY 2614	Engineering Physics I	4
PHY 2624	Engineering Physics II	4
PSY 1611	**Orientation to College	1
	**Prescribed electives	6

*Students should consult an academic advisor in selecting these courses.

**See the general requirements for the Associate in Arts degree for a more complete description of courses required to qualify for the A.A. degree.



COMPUTER SCIENCE

1-901-1

This is a suggested curriculum for students who plan to transfer to a senior college or university. Transferability and specific requirements can be determined only by the receiving institution. Students should CONSULT A COUNSELOR OR ACADEMIC ADVISOR early in their program of study. Completion of this curriculum and the general graduation requirements on Page 37 will qualify students for the Associate in Arts degree.

COURSE NO.	TITLE	SEMESTER HRS.
CSC 1604	*Fundamentals of Programming	4
CSC 1614	*Programming Utilizing BASIC Language	4
CSC 1624	*Assembly Language I	4
CSC 1664	*FORTRAN Programming	3
CSC2654	*PL/I Programming; or elective	3
ENG 1613	English Composition I	3
ENG 1623	English Composition II	3
	*Sophomore-level literature	6
GOV2613	United States Government	3
GOV2623	Texas State and Local Government	3
HIS2613	United States History to 1876	3
HIS2623	United States History Since 1876	3
HPE 1611	Health Concepts of Physical Activity	1
HPE	**Physical education activity	3
	**Laboratory science	6-8
MTH 1725	*Calculus with Analytic Geometry I	5
PSY 1611	**Orientation to College	1
	**Prescribed electives	6

*Students should consult an academic advisor in selecting these courses.

**See the general requirements for the Associate in Arts degree for a more complete description of courses required to qualify for the A. A. degree.

ENGINEERING SCIENCES

1-901-0

This is a suggested curriculum for students who plan to transfer to a senior college or university. Transferability and specific requirements can be determined only by the receiving institution. Students should CONSULT A COUNSELOR OR ACADEMIC ADVISOR early in their program of study. Completion of this curriculum and the general graduation requirements on Page 37 will qualify students for the Associate in Arts degree.

COURSE NO.	TITLE	SEMESTER HRS.
CHM 1634	General Chemistry I	4
CHM1644	General Chemistry II	4
ENG 1613	English Composition I	3
ENG 1623	English Composition II	3
ENR 1601	Introduction to Engineering	1
ENR 1613	Engineering Graphics I	3
ENR 1623	Engineering Graphics II	3
ENR2603	Mechanics I (Statics)	3
ENR2613	*Mechanics II (Dynamics); or ENR 2633	3
ENR2643	*Circuit Analysis	3
GOV2613	United States Government	3
GOV2623	Texas State and Local Government	3
HIS2613	United States History to 1876	3
HIS2623	United States History Since 1876	3

HPE 1611	Health Concepts of Physical Activity	1
HPE	**Physical education activity	3
MTH 1725	Calculus with Analytic Geometry I	5
MTH 1734	Calculus with Analytic Geometry II	4
MTH 2653	Calculus with Analytic Geometry III	3
PHY 2614	Engineering Physics I	4
PHY 2624	Engineering Physics II	4
PSY 1611	**Orientation to College	1
	**Prescribed electives	6

*Students should consult an academic advisor in selecting these courses.

**See general requirements for the Associate in Arts degree for a more complete description of courses required to qualify for the A. A. degree.

GEOLOGY

1-19140

This is a suggested curriculum for students who plan to transfer to a senior college or university. Transferability and specific requirements can be determined only by the receiving institution. Students should CONSULT A COUNSELOR OR ACADEMIC ADVISOR early in their program of study. Completion of this curriculum and the general graduation requirements on Page 37 will qualify students for the Associate in Arts degree.

COURSE NO.	TITLE	SEMESTER HRS.
CHM 1634	General Chemistry I	4
CHM 1644	General Chemistry II	4
ENG 1613	English Composition I	3
ENG 1623	English Composition II	3
	*Sophomore-level literature	6
GEL 1614	General Geology I	4
GEL 1624	General Geology II	4
GfN2613	United States Government	3
GfN2623	Texas State and Local Government	3
IDS2613	United States History to 1876	3
IDS2623	United States History Since 1876	3
HPE 1611	Health Concepts of Physical Activity	1
HPE	**Physical education activity	3
MTH 1725	Calculus with Analytic Geometry I	5
MTH 1734	Calculus with Analytic Geometry II	4
MTH2653	Calculus with Analytic Geometry III	3
PHY2614	Engineering Physics I	4
PHY2624	Engineering Physics II	4
PSY 1611	**Orientation to College	1
	**Prescribed electives	6

*Students should consult an academic advisor in selecting these courses.

**See general requirements for the Associate in Arts degree for a more complete description of courses required to qualify for the A. A. degree.

LIBERAL ARTS
1-15000

This is a suggested curriculum for students who plan to transfer to a senior college or university. Transferability and specific requirements can be determined only by the receiving institution. Students should CONSULT A COUNSELOR OR ACADEMIC ADVISOR early in their program of study. Completion of this curriculum and the general graduation requirements on Page 37 will qualify students for the Associate in Arts degree.

COURSE NO.	TITLE	SEMESTER HRS.
BUA 1613	Introduction to Business; or ECO2613	3
ENG 1613	English Composition I	3
ENG 1623	English Composition II	3
	*Sophomore-level literature	6
GOV2613	United States Government	3
GOV2623	Texas State and Local Government	3
HIS 2613	United States History to 1876	3
HIS 2623	United States History Since 1876	3
HPE 1611	Health Concepts of Physical Activity	1
HPE	**Physical education activity	3
	**Laboratory science	6-8
MTH 1613	*Fundamentals of College Mathematics I	3
	*Foreign language	12-14
PHI 1613	Introduction to Philosophy	3
PSY 1611	**Orientation to College	1
PSY 1613	Introduction to Psychology	3
SOC 1613	Introduction to Sociology	3
	**Prescribed electives	3

*Students should consult an academic advisor in selecting these courses.

**See general requirements for the Associate in Arts degree for a more complete description of courses required to qualify for the A.A. degree.

MATHEMATICS
1-1701-0

This is a suggested curriculum for students who plan to transfer to a senior college or university. Transferability and specific requirements can be determined only by the receiving institution. Students should CONSULT A COUNSELOR OR ACADEMIC ADVISOR early in their program of study. Completion of this curriculum and the general graduation requirements on Page 37 will qualify students for the Associate in Arts degree.

COURSE NO.	TITLE	SEMESTER HRS.
ENG 1613	English Composition I	3
ENG 1623	English Composition II	3
	*Sophomore-level literature	6
GOV2613	United States Government	3
GOV2623	Texas State and Local Government	3
HIS 2613	United States History to 1876	3
HIS2623	United States History Since 1876	3
HPE 1611	Health Concepts of Physical Activity	1
HPE	**Physical education activity	3
	**Laboratory science	6-8

MTH 1725	Calculus with Analytic Geometry I	5
MTH 1734	Calculus with Analytic Geometry II	4
MTH 2653	Calculus with Analytic Geometry II	3
MTH 2663	Introduction to Differential Equations	3
PSY 1611	**Orientation to College	1
	**Prescribed electives	6
	**Electives (to complete minimum of 64 total semester hours)	

*Students should consult an academic advisor in selecting these courses.

**See the general requirements for the Associate in Arts degree for a more complete description of all courses required to qualify for the A.A. degree.

MUSIC
1-10040

This is a suggested curriculum for students who plan to transfer to a senior college or university. Transferability and specific requirements can be determined only by the receiving institution. Students should CONSULT A COUNSELOR OR ACADEMIC ADVISOR early in their program of study. Completion of this curriculum and the general graduation requirements on Page 37 will qualify students for the Associate in Arts degree.

COURSE NO.	TITLE	SEMESTER HRS.
ENG 1613	English Composition I	3
ENG 1623	English Composition II	3
	*Sophomore-level literature	6
GOV 2613	United States Government	3
GOV 2623	Texas State and Local Government	3
HIS 2613	United States History to 1876	3
HIS 2623	United States History Since 1876	3
HPE 1611	Health Concepts of Physical Activity	1
HPE	**Physical education activity	3
	**Laboratory science	6-8
MTH 1613	*Fundamentals of College Mathematics I	3
MTH 1623	*Fundamentals of College Mathematics II	3
	*Foreign language	6-8
MUS 1612	Harmony I	2
MUS 1622	Ear Training I	2
MUS 1632	Harmony II	2
MUS 1642	Ear Training II	2
MUS 1651	Vocal Diction I (Voice Major)	1
MUS 1661	Vocal Diction II (Voice Major)	1
MUS2612	Harmony ID	2
MUS2613	Music Literature I	3
MUS2622	Ear Training ID	2
MUS2623	Music Literature II	3
MUS2632	Harmony IV	2
MUS2642	Ear Training IV	2
	*Performing organization	4
	*Private music lessons	12-16
PSY 1611	**Orientation to College	1

*Students should consult an academic advisor in selecting these courses.

**See the general requirements for the Associate in Arts degree for a more complete description of all courses required to qualify for the A.A. degree.

PHYSICS
1-1902-0

This is a suggested curriculum for students who plan to transfer to a senior college or university. Transferability and specific requirements can be determined only by the receiving institution. Students should CONSULT A COUNSELOR OR ACADEMIC ADVISOR early in their program of study. Completion of this curriculum and the general graduation requirements on Page 37 will qualify students for the Associate in Arts degree.

COURSE NO.	TITLE	SEMESTER	HRS.
CHM 1634	General Chemistry I	4	
CHM1644	General Chemistry II	4	
ENG 1613	English Composition I	3	
ENG 1623	English Composition II	3	
	*Sophomore-level literature	6	
GOV2613	United States Government	3	
GOV2623	Texas State and Local Government	3	
HIS 2613	United States History to 1876	3	
HIS2623	United States History Since 1876	3	
HPE 1611	Health Concepts of Physical Activity	1	
HPE	**Physical education activity	3	
MIH 1725	Calculus with Analytic Geometry I	5	
MIH 1734	Calculus with Analytic Geometry II	4	
MTH2653	Calculus with Analytic Geometry III	3	
MTH2663	Introduction to Differential Equations	3	
PHY2614	Engineering Physics I	4	
PHY2624	Engineering Physics II	4	
PSY 1611	**Orientation to College	1	
	**Prescribed electives	6	

*Students should consult an academic advisor in selecting these courses.

**See the general requirements for the Associate in Arts degree for a more complete description of all courses required to qualify for the A.A. degree.

**PRE-PROFESSIONAL STUDIES
IN
DENTISTRY, MEDICINE, OPTOMETRY, OSTEOPATHY,
PHARMACY, AND VETERINARY MEDICINE**
1-1200-0

This is a suggested curriculum for students who plan to transfer to a senior college or university. Transferability and specific requirements can be determined only by the receiving institution. Students should CONSULT A COUNSEWR OR ACADEMIC ADVISOR early in their program of study. Completion of this curriculum and the general graduation requirements on Page 37 will qualify students for the Associate in Arts degree.

COURSE NO.	TITLE	SEMESTER	HRS.
BIO 1654	General Biology I	4	
BIO 1664	General Biology II	4	
BI02624	*Comparative Vertebrate Anatomy; orBI02664	4	
CHM 1634	General Chemistry I	4	
CHM 1644	General Chemistry II	4	
CHM2614	Organic Chemistry I	4	

CHM 2624	Organic Chemistry II	4
ENG 1613	English Composition I	3
ENG 1623	English Composition II	3
GOV 2613	United States Government	3
GOV 2623	Texas State and Local Government	3
HIS 2613	United States History to 1876	3
HIS 2623	United States History Since 1876	3
HPE 1611	Health Concepts of Physical Activity	1
HPE	**Physical education activity	3
MTH 1725	*Calculus with Analytic Geometry I	5
PHY 1614	General College Physics I	4
PHY 1624	General College Physics II	4
PSY 1611	**Orientation to College	1
	**Prescribed electives	6

*Students should consult an academic advisor in selecting these courses.

**See the general requirements for the Associate in Arts degree for a more complete description of courses required to qualify for the A.A. degree.

PRE-PROFESSIONAL STUDIES IN LAW
1-1401-0

This is a suggested curriculum for students who plan to transfer to a senior college or university. Transferability and specific requirements can be determined only by the receiving institution. Students should CONSULT A COUNSELOR OR ACADEMIC ADVISOR early in their program of study. Completion of this curriculum and the general graduation requirements on Page 37 will qualify students for the Associate in Arts degree.

COURSE NO.	TITLE	SEMESTER	HRS.
ACC 1623	Principles of Accounting I	3	
ACC 1633	Principles of Accounting II	3	
ECO 2613	Principles of Economics I	3	
ECO 2623	Principles of Economics II	3	
ENG 1613	English Composition I	3	
ENG 1623	English Composition II	3	
	*Sophomore-level literature	6	
GOV 2613	United States Government	3	
GOV 2623	Texas State and Local Government	3	
HIS 1613	Western Civilization to 1660	3	
HIS 1623	Western Civilization Since 1660	3	
HIS 2613	United States History to 1876	3	
HIS 2623	United States History Since 1876	3	
HPE 1611	Health Concepts of Physical Activity	1	
HPE	**Physical education activity	3	
	**Laboratory science	6-8	
MTH 1603	College Algebra for the Social and Management Sciences	3	
MTH 1663	Mathematics of Business Analysis	3	
PHI 2633	Logic	3	
PSY 1611	**Orientation to College	1	
SPE 1613	Fundamentals of Speech Communication; orSPE 1633	3	

*Students should consult an academic advisor in selecting these courses.

**See the general requirements for the Associate in Arts degree for a more complete description of courses implied to qualify for the A.A. degree.

SPEECH/COMMUNICATIONS
1-15060

This is a suggested curriculum for students who plan to transfer to a senior college or university. Transferability and specific requirements can be determined only by the receiving institution. Students should CONSULT A COUNSELOR OR ACADEMIC ADVISOR early in their program of study. Completion of this curriculum and the general graduation requirements on Page 37 will qualify students for the Associate in Arts degree..

COURSE NO.	TITLE	SEMESTER HRS
ENG 1613	English Composition I	3
ENG 1623	English Composition II	3
	*Sophomore-level literature	6
	*Foreign language	8
GOV2613	United States Government	3
GOV2623	Texas State and Local Government	3
HIS2613	United States History to 1876	3
HIS2623	United States History Since 1876	3
HPE 1611	Health Concepts of Physical Activity	1
HPE	**Physical education activity	3
	**Laboratory science	6-8
MTH 1613	Fundamentals of College Mathematics	3
PSY 1611	**Orientation to College	1
SPE 1611	Speech Workshop or SPE 2623; or SPE2643	1-3
SPE 1613	Fundamentals of Speech Communication	3
SPE 1623	Public Speaking	3
SPE2613	Voice and Diction	3
	**Prescribed electives	6
	**Electives (to complete minimum of 64 total semester hours)	

*Students should consult an academic advisor in selecting these courses.

**See the general requirements for the Associate in Arts degree for a more complete description of course required to qualify for the A.A. degree.



**Occupational
Programs**

**ACCOUNTING (ACC)*
(Northeast, Northwest and South Campuses)**

Course descriptions begin on Page 110

Associate In Applied Science Degree Program
2-5821-0

SPECIALIZED COURSES (33 HOURS)

ACC 1623	Principles of Accounting I
ACC 1633	Principles of Accounting II
ACC2613	Intermediate Accounting I
ACC2623	Intermediate Accounting II
ACC2633	Income Tax Accounting
ACC2643	Cost Accounting
ACC2753	Managerial Accounting
BUA 1303	Business Mathematics
BUA 1613	Introduction to Business
BUA2663	Business Law I
BUA2733	Principles of Management

GENERAL EDUCATION AND RELATED COURSES (33 HOURS)

CSC 1603	Introduction to Computers
ECO2613	Principles of Economics I
ENG 1303	Applied Communications I; or ENG 1613
ENG 1313	Applied Communications II; or ENG 1623
GOV2613	United States Government
GOV2623	Texas State and Local Government
HPE 1611	Health Concepts of Physical Activity
HPE 1641	Physical Education Activity; or HPE 1741
OFO2303	***Business Communications
PSY 1611	**Orientation to College
PSY 1613	Introduction to Psychology
SPE 1633	Business and Professional Communication
	****Electives (3 hours)

*Student should consult accounting faculty advisor prior to enrolling in this program.

**Required of all full-time day students during the first regular semester of their freshman year.

***Requires the ability to type. Students may demonstrate proficiency or register for OFO 1303, Fundamentals of Typewriting, to meet this requirement; but OFO 1303 will not reduce the 64 semester hours necessary for graduation.

****Sufficient electives to meet minimum 64 semester hours necessary for graduation. All electives must have prior approval of department chairperson. Suggested electives include: BUA 2673, BUA 2763, MKT 2673 and OFO 1343.



**AGRIBUSINESS (AGR)
(Northwest Campus)**

Course descriptions begin on Page 111

Associate In Applied Science Degree Program
2-5021-0

SPECIALIZED COURSES (34 HOURS)

AGR 1312	Introduction to Agribusiness
AGR 1323	Agricultural Marketing
AGR 1333	Livestock Production
AGR 2313	Field Crop Production
AGR 2333	Agricultural Economics
AGR 2343	Agricultural Credit and Finance
AGR 2353	Agricultural Feeds and Feeding
AGR 2363	Management Principles of Agricultural Engineering
AGR 2371	Agribusiness Seminar
HFT2624	Soil Management
	**Electives (6 hours)

GENERAL EDUCATION AND RELATED COURSES (36 HOURS)

ACC 1623	Principles of Accounting I
ACC 1633	Principles of Accounting II
BUA1303	Business Mathematics
BUA2663	Business Law I
BUA2733	Principles of Management
CHM 1604	Essentials of General and Biological Chemistry
ENG 1303	Applied Communications I; or ENG 1613
ENG 1313	Applied Communications II; or ENG 1623
HPE 1611	Health Concepts of Physical Activity
MKT 2723	Salesmanship
PSY 1611	*Orientation to College
PSY 1643	Human Relations
SPE 1623	Public Speaking

...; oif all full-time day students during the first regular semester of their freshman year.

**electives must have prior approval of the department chairperson. Suggested electives include: AGR 2373, MJR 2383, HRT 1624 and HRT 2673.

**AIR CONDITIONING AND REFRIGERATION TECHNOLOGY (ACR)
(South Campus)**

Course descriptions begin on Page 112

Associate In Applied Science Degree Program
2-7221-0

SPECIALIZED COURSES (39 HOURS)

ACR 1303	Electrical Fundamentals for Air Conditioning and Refrigeration
ACR 1306	Basic Air Conditioning and Refrigeration
ACR 1316	Air Conditioning and Refrigeration Systems
ACR 1326	Air Conditioning (Heating)
ACR 2306	Commercial Refrigeration Systems
ACR 2313	Air Conditioning and Refrigeration Controls
ACR 2323	Psychrometrics, Load Calculation and Duct Sizing
ACR 2333	Air Conditioning Systems Troubleshooting
ACR2343	Heat Pump Systems

GENERAL EDUCATION AND RELATED COURSES (28 HOURS)

DRF 1313	Basic Drafting
ENG 1303	Applied Communications I; or ENG 1613
ENG 1313	Applied Communications II; or ENG 1623
GOV2613	United States Government
MTH 1323	Technical Algebra and Trigonometry I
PHY 1623	Technical Physics I
PSY 1611	**Orientation to College
TEC2333	Employee-Employer Relations
	*Electives (6 hours)

Students must furnish their own hand tools.

•All electives must have prior approval of the department chairperson. Suggested electives are ACR 1301 and ACR 1302.

•Required of all full-time day students during the first regular semester of their freshman year.

Students may obtain credit by examination in certain courses on the basis of an examination administered by the department offering those courses or by the campus Testing Center.

Certificate of Completion Program

3-7221-9

This program includes 39 credit hours of course work in the Air Conditioning and Refrigeration Technology curriculum. The certificate is intended primarily for students enrolled in evening classes who plan to take only courses directly related to the air conditioning and refrigeration trade. The certificate is awarded to students who satisfactorily complete the following courses:

COURSE NO.	TITLE	SEMESTER HRS.
ACR 1303	Electrical Fundamentals for Air Conditioning and Refrigeration	3
ACR1306	Basic Air Conditioning and Refrigeration	6
ACR 1316	Air Conditioning and Refrigeration	6
ACR 1326	Air Conditioning (Heating)	6
ACR2306	Commercial Refrigeration Systems	6
ACR2313	Air Conditioning and Refrigeration Controls	3
ACR2323	Psychrometrics, Load Calculations and Duct Sizing	3
ACR2333	Air Conditioning Systems Troubleshooting	3
ACR2343	Heat Pump Systems	3
		39

Students enrolled in the Air Conditioning Program are required to furnish their own hand tools for use in laboratory classes.

APPLIANCE SERVICE AND REPAIR (APP)

(South Campus)

Course descriptions begin on Page 113

Block-Time, Certificate Program

3-8223-9

These courses are scheduled in a semester block format. Students must allow approximately five to five hours per day for intensive, skill-building courses. Contact program coordinator for further information.

COURSE NO.	TITLE	SEMESTER HRS.
APP 1312	Laundry and Dishwasher Appliances	12
	Basic electricity	
	Appliance electrical application	
	Clothes washers I	
	Clothes washers II	
	Clothes dryers	
	Dishwashers	
APP 1322	Kitchen Appliances	12
	Electric ranges	
	Gas ranges	
	Microwaves	
	Water heaters and compactors	
APP 1324	Basic Appliances Refrigeration	4
APP 1334	Domestic Refrigeration and Air Conditioning Installation	4
	Freezers and refrigerators	
	Window units	
		—
		32

Students enrolled in the Appliance Service and Repair Program are required to furnish their own hand tools for use in laboratory classes.



**ARCHITECTURAL TECHNOLOGY (ARC)
(Northeast Campus)**

Course descriptions begin on Page 113

Associate In Applied Science Degree Program
2-8621-0

SPECIALIZED COURSES (45 HOURS)

- ARC 1403 Equipment of Buildings
- ARC 1413 Architectural Drafting I
- ARC 1573 Construction Processes
- ARC2413 Architectural Drafting II
- ARC2423 Architectural Drafting III
- ARC2443 Professional Office Practices
- CIV 1403 Surveying
- CIV2453 Structural Analysis and Detailing
- CIV2483 Construction Estimating
- ENR.1613 Engineering Graphics I
- ENR1623 Engineering Graphics II
- MEC 1523 Engineering Materials
- MEC2523 Mechanics and Strengths of Materials

**Electives (6 hours)

GENERAL EDUCATION AND RELATED COURSES (26 HOURS)

- BUA 1613. Introduction to Business
- ENG 1303 Applied Communications I; or ENG 1613
- ENG 1313 Applied Communications II; or ENG 1623
- GOV2613 United States Government; or GOV 2623
- MTH 1323 Technical Algebra and Trigonometry I
- MTH 1333 Technical Algebra and Trigonometry II
- PHY 1614 General College Physics I.
- PSY 1611 *Orientation to College
- TEC2333 Employee-Employer Relations

*Required of all full-time day students during the first regular semester of their freshman year.
 ••All electives must have prior approval of the department chairperson. Suggested electives include: ARC 2403 CIV 2413, CIV 2433, ORF 1302, ORF 1353 or ORF 2383.

**AUTO BODY REPAIR (ABR)
(Northwest Campus)**

Course descriptions begin on Page 115

Associate In Applied Science Degree Program
2-6421-0

SPECIALIZED COURSES (40 HOURS)

- ABR 1313 Introduction to Auto Body Construction and Repair
- ABR 1316 Principles of Auto Body Repair
- ABR 1326 Auto Body Panel Repair
- ABR 1334 Auto Body Refinishing
- ABR2316 Frame Repair and Realignment
- ABR2324 Major Vehicle Damage Repair
- ABR2343 Auto Body Shop Management
- ABR2344 Related Problems
- ABR2354 Auto Body Repair Practicum

GENERAL EDUCATION AND RELATED COURSES (25 HOURS)

- BUA 1303 Business Mathematics; or MTH 1403b or c
- DRF 1313 Basic Drafting
- ENG 1303 Applied Communications I; or ENG 1613
- ENG 1313 Applied Communications II; or ENG 1623
- PSY 1611 *Orientation to College
- SPE 1613 Fundamentals of Speech Communication

**Electives (9 hours)

*Required of all full-time day students during the first regular semester of their freshman year.

**All electives must have prior approval of the department chairperson.

Students may obtain credit by examination in certain courses on the basis of an examination administered by the department offering those courses or by the campus Testing Center.

**Certificate of Completion Program
3-6421-9**

The Auto Body Repair Program offers this certificate program in addition to the two-year degree. It includes 32 credit hours of course work in the Auto Body Repair curriculum. The certificate is primarily for students enrolled in evening classes. All courses in the certificate program can be applied toward the Associate in Applied Science degree in Auto Body Repair. A certificate is awarded to students who satisfactorily complete the following courses:

COURSE NO.	TITLE	SEMESTER	HRS.
ABR 1313	Introduction to Auto Body Construction and Repair	3	3
ABR 1316	Principles of Auto Body Repair	6	6
ABR 1326	Auto Body Panel Repair	6	6
ABR 1334	Auto Body Refinishing	4	4
ABR 2316	Frame Repair and Realignment	6	6
ABR 2324	Major Vehicle Damage Repair	4	4
ABR 2343	Auto Body Shop Management	3	3
			32

Students enrolled in the Auto Body Repair Program are required to furnish their own hand tools for use in laboratory classes.

**AUTOMOTIVE SERVICE TECHNOLOGY (AUT)
(Northwest and South Campuses)**

Course descriptions begin on Page 116

Associate in Applied Science Degree Program
2-6422-0

SPECIALIZED COURSES (46 HOURS)

- AUT 1303 Related Automotive Electricity
- AUT 1306 Basic Automotive Principles
- AUT 1313 Automobile Power Unit
- AUT 1316 Automotive Electrical and Fuel Systems
- AUT 2316 Automobile Suspension, Steering and Brakes
- AUT 2326 Automobile Air Conditioning
- AUT 2343 Automobile Service Management
- AUT 2344 Related Problems
- AUT 2346 Automotive Power Train
- AUT 2353 Introduction to Automotive Diesel

GENERAL EDUCATION AND RELATED COURSES (19 HOURS)

- ENG 1303 Applied Communications I; or ENG 1613
- ENG 1313 Applied Communications II; or ENG 1623
- MTH 1323 Technical Algebra and Trigonometry I; or MTH 1403b or c
- PSY 1611 **Orientation to College
*Electives (9 hours)

*All electives must have prior approval of the department chairperson. Suggested electives include: AUT 1302, BUA 2733, GOV 2613, GOV 2623, ROG 1613, ROG 1623, SPE 1623, HPE 1611 and any other physical education activity course.

**Required of all full-time day students during the first regular semester of their freshman year.

Students may obtain credit by examination in certain courses on the basis of an examination administered by the department offering those courses or by the campus Testing Center.

Certificate of Completion Program

3-6422-9

The Automotive Program of the Department of Industrial Technology offers this certificate program in addition to the two-year degree program. It includes 42 credit hours of course work in the automotive curriculum. The certificate is intended primarily for students enrolled in evening classes who plan to take only courses directly related to the automotive trade. The certificate is awarded to students who satisfactorily complete the following courses:

COURSE NO.	TITLE	SEMESTER HR
AUT 1303	Related Automotive Electricity	3
AUT 1306	Basic Automotive Principles	6
AUT 1313	Automobile Power Unit	3
AUT 1316	Automobile Electrical and Fuel System	6
AUT2316	Automobile Suspension, Steering, and Brakes	6
AUT2326	Automobile Air Conditioning	6
AUT2343	Automotive Service Management	3
AUT2346	Automotive Power Train	6
AUT2353	Introduction to Automotive Diesel	3
		42

Students enrolled in the Automotive Service Technology Program are required to furnish their own hand tools for use in laboratory classes.

**AUTOMOTIVE TECHNOLOGY APPRENTICESHIP (ATA)#
(South Campus)**

Course descriptions begin on Page 117

Associate In Applied Science Degree Program

2-6422-1

SPECIALIZED COURSES (46 HOURS)

- ATA 1303 Automotive Electrical Systems I
- ATA 1313 Automotive Electrical Systems II
- ATA 1323 Heating and Air Conditioning Theory
- ATA 1333 Automotive Tuneup and Diagnosis
- ATA 1343 Automotive Brake Systems
- ATA 1354 Automotive Service and Parts Department Practices
- ATA 1503 Automotive Internship I
- ATA 1513 Automotive Internship II

- ATA 1523 Automotive Internship III
- ATA 1533 Automotive Internship IV
- ATA 1543 Automotive Internship V
- ATA 1553 Automotive Internship VI
- ATA 2303 Automotive Steering and Suspension Systems
- ATA 2313 Automotive Engine Repair
- ATA 2323 Automotive Transmissions and Drive Systems

GENERAL EDUCATION AND RELATED COURSES (18 HOURS)

- ENG 1303 Applied Communications I; or ENG 1613
- ENG 1313 Applied Communications II; or ENG 1623
- MTH 1323 Technical Algebra and Trigonometry I
- PHY 1623 Technical Physics I
- *Electives (6 hours)

#Specialized admission requirements.

*All electives must have prior approval of the department chairperson.



**AVIATION MAINTENANCE TECHNICIAN (AER)
(Northwest Campus)**

Course descriptions begin on Page 118

**Associate In Applied Science Degree Program
2-6621-0**

The Associate in Applied Science degree (A.A.S.) and certificate will be awarded upon successful completion of the entire Aviation Maintenance Technician Program. A student may elect to receive the certificate by completing only the AER courses and appropriate English and mathematics course or equivalents. Students not seeking the A.A.S. degree must meet the same specialized admission requirements. Upon successful completion of either program, the certificate earned qualifies student to take Federal Aviation Administration (FAA) examination for airframe and powerplant license.

All AER courses are offered at TCJC Meacham Field facility. Students must furnish their own hand tools.

***GENERAL EDUCATION AND RELATED COURSES (17 HOURS)**

- ENG 1303 Applied Communications I; or ENG 1613
- ENG 1313 Applied Communications II; or ENG 1623
- MTH 1403 Introductory Mathematics
- PHY 1613 Fundamentals of Physics
- **Electives (5 hours)

*Approval of specific courses required.

**All electives must have prior approval of the department chairperson. Suggested electives include: AER 2481, ORF 1313, ELE 1324, ENG 2683, GOV 2613, GOV 2623, HIS 1613, HIS 1623, HIS 2623, ROG 1613, and TPD 1343.

GENERAL AVIATION MAINTENANCE COURSES (17 HOURS)

- AER 1313 Background for Aircraft Science
- AER 1323 Advanced Aircraft Science
- AER 1344 Ground Operation and Servicing
- AER 1364 Materials and Processes
- AER 1383 Basic Electricity

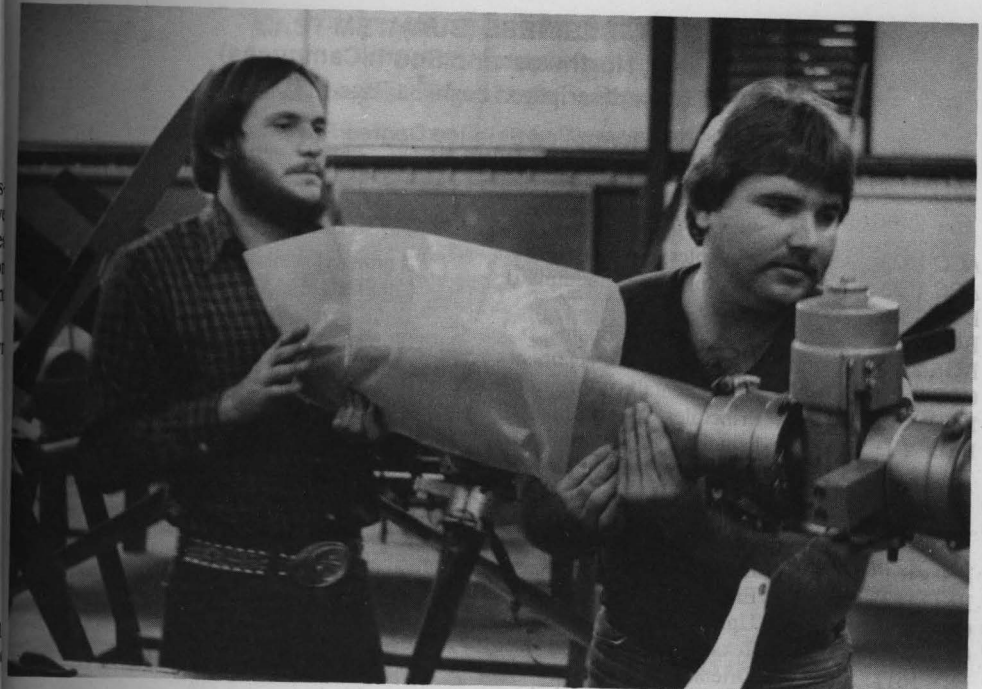
***AIRFRAME COURSES (29 HOURS)**

- AER 1333 Assembly and Rigging
- AER 1335 Sheet Metal Structures
- AER 1356 Airframe Electrical Systems
- AER 1372 Aircraft Landing Gear Systems
- AER 1374 Hydraulic, Pneumatic and Fuel Systems
- AER 1392 Aircraft Covering and Finishing
- AER 1402 Welding
- AER 1403 Utility Systems
- AER 1412 Airframe Inspection and Review

***POWERPLANT COURSES (26 HOURS)**

- AER2412 Turbine Engines
- AER2425 Powerplant Fuel Systems
- AER2434 Propellers
- AER2442 Powerplant Lubrication Systems
- AER2456 Reciprocating Engines Overhaul
- AER2465 Powerplant Electrical Systems
- AER2472 Powerplant Inspection and Review

*In order to meet Federal Aviation Administration regulation certification requirements, a student must have successfully completed the General Aviation Maintenance courses prior to enrollment in Airframe and Powerplant courses. Appropriate general education courses or equivalents are also prerequisite to Airframe or Powerplant courses.



**BANKING AND FINANCE (BAN)
(Community and Northeast Campuses)**

Course descriptions begin on Page 119

**Associate In Applied Science Degree Program
2-5626-0**

SPECIALIZED COURSES (36 HOURS)

- BAN 1603 Principles of Bank Operations
- BAN 1653 Introduction to Commercial Lending
- BAN 2303 Money and Banking
- BAN 2313 Bank Marketing
- BAN 2403 Bank Management
- BAN 2413 Supervision and Personnel Administration
- *Electives (18 hours)

GENE - EDUCATION AND RELATED COURSES (30 HOURS)

- ACC 1623 Principles of Accounting I
- ACC 1633 Principles of Accounting II
- BUA 1303 Business Mathematics
- BUA 2733 Principles of Management
- ECO 2613 Principles of Economics I
- ENG 1613 English Composition I
- GOV 2613 United States Government
- GOV 2623 Texas State and Local Government
- **Electives (6 hours)

*Suggested electives include: BAN 1613, BAN 1623, BAN 1633, BAN 2323, BAN 2333, BAN 2343, BAN 2353, BAN 2363, BAN 2373, BAN 2433, BAN 2443, BAN 2453, BAN 2463 and BAN 2663.

*Suggested electives include: BUA 1613, PSY 1613, SPE 1633 and CSC 1603.

BUSINESS (BUA)*
(Northeast, Northwest and South Campuses)

Course descriptions begin on Page 123

Associate In Applied Science Degree Program
2-5822-0

SPECIALIZED COURSES (46 HOURS)

ACC 1623	Principles of Accounting I
ACC 1633	Principles of Accounting II
BUA 1303	Business Math
BUA 1613	Introduction to Business
BUA2733	Principles of Management
CSC 1604	Fundamentals of Programming
ECO2613	Principles of Economics I
ECO2623	Principles of Economics II
***Occupational Specialty Courses (21 hours)	

GENERAL EDUCATION AND RELATED COURSES (19 HOURS)

ENG 1613	English Composition I
ENG 1623	English Composition II
GOV2613	United States Government
GOV2623	Texas State and Local Government
PSY 1611	**Orientation to College
PSY 1613	Introduction to Psychology
SPE 1633	Business and Professional Communication

*Student should consult the business faculty advisor prior to enrolling in this program.

**Required of all full-time students during the first regular semester of their freshman year.

***Students must consult the faculty advisor for approval of occupational specialty courses. Faculty advisors will approve occupational specialty courses only after the student declares an occupational objective. Normally occupational specialty courses will be business courses; any occupational specialty courses outside the business curriculum must clearly relate to the student's declared occupational objectives.

Certificate of Completion Program
3-5822-9

COURSE NO.	TITLE	SEMESTER	HRS.
BUA 1303	Business Mathematics	3	
BUA 1613	Introduction to Business	3	
ACC 1623	Principles of Accounting I	3	
ACC 1633	Principles of Accounting II	3	
BUA2653	Office Management	3	
CSC 1603	Introduction to Computers	3	
ENG 1303	Applied Communications I	3	
OFO 1343	Office Machines	3	
OFO2303	Business Communications	3	
PSY 1611	*Orientation to College	1	
SPE 1633	Business and Professional Communication	3	
		31	

*Required of all full-time day students during the first regular semester of their freshman year.

CAST METALS TECHNOLOGY (CMT)
(South Campus)

Course descriptions begin on Page 123

Associate In Applied Science Degree Program
2-6249-0

SPECIALIZED COURSES (41 HOURS)

CMT 1412	Cast Metals Training I
CMT 1414	Basic Metals Casting
CMT 1422	Sands and Cores
CMT 1432	Cast Metals Training II
CMT 2424	Casting Design and Patternmaking
CMT 2434	Melting and Molding
CMT 2444	Foundry Practice
MAS 1514	Machine Shop I
MEC 1523	Engineering Materials
MEC 1573	Manufacturing Processes
MEC 2533	Fluid Power
SUP 1313	Industrial Safety and Regulations
*Electives (3 hours)	

GENERAL EDUCATION AND RELATED COURSES (25 HOURS)

DRF 1383	Mechanical Drafting
ELE 1323	Basic Electricity
ENG 1303	Applied Communications I; or ENG 1613
ENG 1313	Applied Communications II; or ENG 1623
GOV 2613	United States Government; or GOV 2623
MTH 1323	Technical Algebra and Trigonometry I
MTH 1333	Technical Algebra and Trigonometry II
TEC 1301	Introduction to Technology
TEC 2333	Employee-Employer Relations

*Approved electives include: NDE 1513, QUA 1433, SUP 1303, and WEL 1313.

Certificate of Completion Program
3-6249-9

COURSE NO.	TITLE	SEMESTER	HRS.
CMT 1412	Cast Metals Training I		2
CMT 1414	Basic Metals Casting		4
CMT 1422	Sands and Cores		2
CMT 1432	Cast Metals Training II		2
CMT 2424	Casting Design and Patternmaking		4
CMT 2434	Melting and Molding		4
CMT 2444	Foundry Practice		4
DRF 1383	Mechanical Drafting		3
MTH 1323	Technical Algebra and Trigonometry;		
	or MTH 1403		3
		28	

CHILD DEVELOPMENT (CDP)*••

(Northeast Campus)

Course descriptions begin on Page 124

Associate In Applied Science Degree Program

2-5222-0

SPECIALIZED COURSES (48 HOURS)

CDP 1406	Survey of Child Care
CDP 1413	Infant and Toddler Care
CDP 1416	The Special Child
CDP2413	Child Health and Nutrition
CDP2416	Seminar in Child Care
CDP2426	Child Development Internship
CDP2433	Child development Seminar
PSY 1613	Introduction to Psychology
PSY 1623	Child Growth and Development
PSY 1643	Human Relations
	*Electives (6 hours)

GENERAL EDUCATION AND RELATED COURSES (18 HOURS)

ENG 1303	Applied Communications I; or ENG 1613
ENG 1313	Applied Communications II; or ENG 1623
GOV2613	United States Government; or GOV 2623
HPE 1611	Health Concepts of Physical Activity
HPE	Physical Education Activity (1 hour)
PSY 1611	**Orientation to College
SOC 1613	Introduction to Sociology
SOC2613	Marriage and the Family

*Suggested electives include: ART 1673, MET 1614 and SPN 1614.

**Required of all full-time day students during the first regular semester of their freshman year.

***This program is a competency-based program designed to prepare students for testing for the National Child Development credential.

CHILD DEVELOPMENT ASSISTANT (CDP)

(Northeast Campus)

Certificate of Completion Program

3-5222-9

COURSE NO.	TITLE	SEMESTER HR
CDP 1416	The Special Child	6
CDP 1413	Infant and Toddler Care	3
CDP2413	Child Health and Nutrition	3
CDP2416	Seminar in Child Care	6
CDP2426	Child Development Internship	6
ENG 1303	Applied Communications I; or ENG 1613	3
HPE 1611	Health Concepts of Physical Activity	1
PSY 1611	*Orientation to College	1
PSY 1623	Child Growth and Development	3
	Elective	3
		35

*Required of all full-time day students during the first regular semester of their freshman year.

CIVIL/CONSTRUCTION TECHNOLOGY (CIV)

(Northeast Campus)

Course descriptions begin on Page 125

Associate In Applied Science Degree Program

All Civil/Construction Program options have the same general education and related course requirements, and common specialty courses. Areas of specialty are determined through the selection of Civil/Construction or Surveying option. Students must complete the general education and related courses, the specialized courses, and courses required for one of the options to receive an Associate in Applied Science degree.

SPECIALIZED COURSES (18 HOURS)

ARC 2443	Professional Office Practices
CIV 1403	Surveying
CIV 2483	Construction Estimating
ENR 1613	Engineering Graphics I
ENR 1623	Engineering Graphics II
MEC 1523	Engineering Materials

CIVIL/CONSTRUCTION OPTION (27 HOURS)

2-8424-1

ARC 1403	Equipment of Buildings
ARC 1573	Construction Processes
CIV 2413	Soils and Foundations
CIV 2433	Properties of Concrete and Asphalt
CIV 2453	Structural Analysis and Detailing
DRF 2383	Civil Drafting
MEC 2523	Mechanics and Strength of Materials
	*Approved Electives (6 hours)

SURVEYING OPTION (27 HOURS)

2-8424-2

BUA 2663	Business Law I
CIV 2443	Advanced Surveying
CIV 2513	Land Surveying
CIV 2523	Topographic Surveying
CIV 2533	Legal Principles of Boundary Locations
CIV 2553	Route Surveying
REA 2793	Real Estate Law
	*Approved electives (6 hours)

GENERAL EDUCATION AND RELATED COURSES (26 HOURS)

BUA 1613	Introduction to Business
ENG 1303	Applied Communications I; or ENG 1613
ENG 1313	Applied Communications II; or ENG 1623
GOV 2613	United States Government; or GOV 2623
MTH 1323	Technical Algebra and Trigonometry I
MTH 1333	Technical Algebra and Trigonometry II
PHY 1614	General College Physics I
PSY 1611	**Orientation to College
TEC 2333	Employee-Employer Relations

*Suggested electives include ARC 1413, CSC 1614, CIV 2443, CIV 2463, GEL 1614, GEL 1624, and DRF 1302.

**Required of all full-time day students during the first regular semester of their freshman year.

**COMMERCIAL TRANSPORTATION (TPD)
(Northeast Campus)**

Course descriptions begin on Page 126

Associate In Applied Science Degree Program
2-5422-0

SPECIALIZED COURSES (31 HOURS)

TPD 1303	Introduction to Transportation
TPD 1333	Physical Distribution and Traffic Management
TPD 1343	Air Transportation
TPD 1353	Export/Import Traffic Management
TPD2303	Transportation Regulation (ICA) I
TPD2313	Classification Procedures and Rate Computation I
TPD2323	Classification Procedures and Rate Computation II
TPD2333	Transportation Regulations (ICA) II
**Electives (7 hours)	

GENERAL EDUCATION AND RELATED COURSES (33 HOURS)

ACC 1623	Principles of Accounting I
ACC 1633	Principles of Accounting II
BUA 1303	Business Mathematics
BUA 1613	Introduction to Business
CSC 1603	Introduction to Computers
ENG 1613	English Composition I
ENG 1623	English Composition II
GOV2613	United States Government
GOV2623	Texas State and Local Government
HPE 1611	Health Concepts of Physical Activity
HPE	Physical Education Activity
PSY 1611	*Orientation to College
SOC 1613	Introduction to Sociology

*Required of all full-time day students during the first regular semester of their freshman year.

**suggested electives include: ECO 2613, ECO 2623 and TPD 2343. In lieu of seven hours elective, a student desiring to obtain credit for current work experience may take TPD 1302, TPD 2312 or TPD 2322.

**Certificate of Completion Program
3-5422-9**

COURSE NO.	TITLE	SEMESTER HR
TPD 1303	Introduction to Transportation	3
TPD2313	Classification Procedures and Rate Computation I	3
TPD2323	Classification Procedures and Rate Computation II	3
BUA 1303	Business Mathematics	3
BUA 1613	Introduction to Business	3
CSC 1603	Introduction to Computers	3
ENG 1613	English Composition I	3
ENG 1623	English Composition II	3
	*Electives	6
		—
		30

*All electives must have prior approval of the department chairperson.

**COMPUTER SCIENCE (CSC)
(Northeast, Northwest and South Campuses)**

Course descriptions begin on Page 127

Associate In Applied Science Degree Program

BUSINESS APPLICATIONS OPTION

2-<21-1

SPECIALIZED COURSES (38 HOURS)

CSC 1604	Introduction to Programming
CSC 1624	Assembly Language I
CSC 1634	COBOL Programming I
CSC 2614	COBOL Programming II
CSC 2623	Systems Development and Design
CSC 2633	Computer Related Applications
CSC 2634	Operations Management
*Computer Science electives (12 hours)	

GENERAL EDUCATION AND RELATED COURSES (31 HOURS)

ACC 1623	Principles of Accounting I
ACC 1633	Principles of Accounting II
ACC 2643	Cost Accounting or CSC 1644 or approved elective
BUA 2733	Principles of Management or approved elective
ENG 1613	English Composition; or ENG 1303
GOV 2613	United States Government; or GOV 2623
MTH 1603	College Algebra for the Social and Management sciences; or MTH 1403C
PSY 1611	**Orientation to College
SPE 1633	Business and Professional Speaking
***Approved electives (6 Hours)	

*Computer science electives may be selected from: CSC 1614, CSC 1623, CSC 1644, CSC 1654, CSC 1664, CSC 2604, CSC 2644, CSC 2664, CSC 2694, CSC 2744, or CSC 2754. CSC 2744 and CSC 2754 are cooperative computer training courses.

**Required of all full-time students during the first regular semester of their freshman year.

***All approved electives must have prior approval of the Department Chairperson. Normally, electives will be business electives outside the business curriculum must clearly relate to the student's declared occupational objective.

ENGINEERING APPLICATIONS OPTION

2-<21-2

SPECIALIZED COURSES (40 HOURS)

CSC 1604	Introduction to Programming
CSC 1614	Programming Utilizing BASIC Language
CSC 1623	Microcomputers and Minicomputers
CSC 1624	Assembly Language I
CSC 1654	Assembly Language for Micro/Minicomputers
CSC 1664	FORTRAN Programming
CSC 2623	System Development and Design
CSC 2634	Operations Management
CSC 2654	PL/I Programming
*Computer Science Electives (6 Hours)	

GENERAL EDUCATION AND RELATED COURSES (30 HOURS)

- ENR 1601 Orientation to Engineering
- ENR 1613 Engineering Graphics I
- ENG 1613 English Composition I; or ENG 1303
- GOV2613 United States Government; or GOV 2623
- MTH 1633 Functional Approach to College Algebra;
or MTH 1323
- MTH 1643 Functional Approach to College Trigonometry;
or MTH 1333
- PHY 1614 General College Physics I
- PSY 1611 **Orientation to College
- SPE 1633 Business and Professional Speaking
- *** Approved electives (6 Hours)

*Computer science electives may be selected from: CSC 1634, CSC 1644, CSC 2604, CSC 2614, CSC 2634, CSC 2644, CSC 2664, CSC 2694, CSC 2744, or CSC 2754. CSC 2744 and CSC 2754 are cooperative training courses.

**Required of all full-time students during the first regular semester of the freshman year.

*** All approved electives must have prior approval of the Department Chairperson. Normally, electives will be engineering or related courses; any elective outside the engineering curriculum must clearly relate to the student's declared occupational objective.

**CRIMINAL JUSTICE (CRJ)
(Northeast Campus)**

Course descriptions begin on Page 129

Associate in Applied Science Degree Program

All Criminal Justice Program options have the same general education and related course requirements and common specialty courses. Areas of specialty are determined through the selection of either the Law Enforcement or Corrections/Social Service option. Students must complete the general education and related courses, the specialized courses, and courses required for one of the options to receive an Associate in Applied Science degree.

SPECIALIZED COURSES (12 HOURS)

- CRJ 1303 Introduction to Criminal Justice
- CRJ 1333 Police Role in Crime and Delinquency
- CRJ2303 Legal Aspects of Law Enforcement
- CRJ2333 Criminal Procedure and Evidence

**LAW ENFORCEMENT OPTION (21 HOURS)
2-7021-1**

- CRJ 1383 Vice and Drug Control
- CRJ2313 Criminal Investigation
- CRJ2343 Police-Community Relations
- CRJ2353 Police Organization and Administration
- *Electives (9 hours)

**CORRECTIONS/SOCIAL SERVICE OPTION (23 HOURS)
2-7021-2**

- CRJ2423 Penology
- CRJ2433 Probation, Parole and Community Corrections
- SPN 1614 Elementary Spanish I
- SPN 1624 Elementary Spanish II
- **Electives (9 hours)

GENERAL EDUCATION AND RELATED COURSES (32 HOURS)

- ENG 1613 English Composition I
- ENG 1623 English Composition II
- GOV 2613 United States Government
- GOV 2623 Texas State and Local Government
- HPE 1611 Health Concepts of Physical Activity
- MTH 1613 Fundamentals of College Mathematics I; or CSC 1603 or
other approved math or science courses
- MTH 1623 Fundamentals of College Mathematics II; or CSC 1614 or
other approved math or science courses
- PSY 1611 0•Orientation to College
- PSY 1613 Introduction to Psychology
- SOC 1613 Introduction to Sociology
- SOC 2663 Introduction to Criminology
- SPE 1633 Business and Professional Communication

*Suggested electives include: CRJ 1323, CRJ 1343, CRJ2323, CRJ2423, CRJ2433, JRN 1703, SPN 1614 and SPN 1624.

**Suggested electives include: CRJ 1323, CRJ 1343, CRJ 1383, CRJ 2313, CRJ 2323, CRJ 2343, CRJ 2353, CRJ 2513, JRN 1703, SPN 2613, and SPN 2623.

***Required of all full-time day students during the first regular semester of their freshman year.



DENTAL ASSISTANT (DAS)#

(Northeast Campus)

Course descriptions begin on Page 130

Certificate of Completion Program

3-8023-9

COURSE NO.	TITLE	SEMESTER HRS
DAS 1403	Dental Anatomy	3
DAS 1404	Dental Sciences	4
DAS 1413	Dental Assisting I	3
DAS 1423	Dental Assisting II	3
DAS 1443	Dental Assisting III	3
DAS 1481	Seminar	1
DAS 1491	Clinical Dental Assistant	1
DAS 1491	Clinical Dental Assisting	1
DAS 1491	Clinical Dental Assisting	1
DHY 1411	Dental Radiology Laboratory	1
DHY 1411	Dental Radiology Laboratory	1
DHY 1432	Dental Radiology	2
-DHY 1433	Dental Materials	3
BI02603	Human Biology	3
MRT 1433	Record Management Techniques	3
PSY 1611	*Orientation to College	1
PSY 1643	Human Relations	3
SPE 1633	Business and Professional Communication	3
		40

After successful completion of this curriculum, the student is eligible to take the certification examination conducted by the Certifying Board of the American Dental Assistants Association.

Specialized admission requirements. Students must complete and earn a minimum grade of C in each specialized course.

*Required of all full-time day students during the first regular semester of their freshman year.

DENTAL HYGIENE (DHY)#

(Northeast Campus)

Course descriptions begin on Page 130

Associate In Applied Science Degree Program

2-8034-0

SPECIALIZED COURSES (45 HOURS)

DHY 1402	Introduction to Dental Hygiene
DHY 1411	Dental Radiology Laboratory
DHY 1411	Dental Radiology Laboratory
DHY 1411	Dental Radiology Laboratory
DHY 1412	Oral Embryology and Histology
DHY 1422	Biochemical Nutrition
DHY 1432	Dental Radiology
DHY 1433	Dental Materials
DHY 1442	Head and Neck Anatomy
DHY 1443	Oral Pathology
DHY 1452	Tooth Morphology

DHY 1491	Clinical Dental Hygiene
DHY 1492	Clinical Dental Hygiene
DHY 1492	Clinical Dental Hygiene
DHY 1502	Pre-Clinical Dental Hygiene
DHY 1512	Pre-Clinical Laboratory
DHY 1522	Dental Hygiene I
DHY 2402	Dental Specialities
DHY 2412	Dental Pharmacology
DHY 2422	Periodontics
DHY 2423	Dental Health Education
DHY 2432	Dental Hygiene II
DHY 2442	Dental Hygiene III

GENERAL EDUCATION AND RELATED COURSES (30 HOURS)

BIO 1314	Microbiology
BIO 1323	Anatomy and Physiology I
BIO 1333	Anatomy and Physiology II
CHM 1604	Essentials of General and Biological Chemistry
ENG 1613	English Composition I
GOV 2613	United States Government; or GOV 2623
PSY 1611	*Orientation to College
PSY 1643	Human Relations; or PSY 1613
SOC 1613	Introduction to Sociology
SPE 1633	Business and Professional Communication; or SPE 1613

After successful completion of the above curriculum, the student is eligible to take the necessary examinations to become a registered dental hygienist through the Registry of Dental Examiners of the American Dental Association.

#Specialized admission requirements. Students must complete and earn a minimum grade of C in each specialized course.

*Required of all full-time day students during the first regular semester of their freshman year.



**DIETETIC TECHNICIAN (HEC)
(South Campus)**

Course descriptions begin on Page 147

**Associate In Applied Science Degree Program
2-5223-2**

SPECIALIZED COURSES (25 HOURS)

HEC 1633	Food Selection and Preparation
HBC 1643	Nutrition I
HEC 1673	Management I
HEC 1683	Dietetic Orientation
HEC 1703	Dietetic Chemistry
HEC 1792	Nutrition II Experience
HEC 1843	Nutrition II
HBC 1873	Management II
HEC2343	Nutrition ID
HEC2393	Nutrition ID Experience
HEC2543	Nutrition IV
HEC2594	Nutrition IV Experience
HEC2663	Personnel Management in Dietetics
HEC2683	Community Nutrition
HEC2991	Dietetic Seminar

GENERAL EDUCATION AND RELATED COURSES (22 HOURS)

ENG 1303	Applied Communications I; or ENG 1613
ENG 1313	Applied Communications II; or ENG 1623
GOV2623	Texas State and Local Government
PSY 1611	*Orientation to College
PSY 1613	Introduction to Psychology; or PSY 1643
SOC 1613	Introduction to Sociology
	**Electives (6 hours)

*Required of all full-time day students during the first regular semester of their freshman year.

**Suggested electives include HEC 2982, HEC2633, BIO 1314, BIO 1323, BIO 1333, SPE 1613 and CSC 150

**DRAFTING AND DESIGN TECHNOLOGY (ORF)
(Northeast and South Campuses)**

Course descriptions begin on Page 132

**Associate In Applied Science Degree Program
2-8622-0**

SPECIALIZED COURSES (46 HOURS)

ARC 1413	Architectural Drafting I
CIV2453	Structural Analysis and Detailing; or DRF 2413
CSC 1604	Fundamentals of Programming; or QUA 1443
DRF 1353	Technical Illustration I
DRF 1373	Electrical Drafting I
DRF2303	Machine Drawing and Design
DRF2363	Computer-Aided Drafting
DRF2383	Civil Drafting
ENR 1613	Engineering Graphics I
ENR 1623	Engineering Graphics II

MEC 1523	Engineering Materials
MEC 1573	Manufacturing Processes
MEC 2523	Mechanics and Strengths of Materials
	**Electives (6 hours)

GENERAL EDUCATION AND RELATED COURSES (23 HOURS)

ENG 1303	Applied Communications I; or ENG 1613
ENG 1313	Applied Communications II; or ENG 1623; or ENG 2683
GOV 2613	United States Government; or GOV 2623
MTH 1323	Technical Algebra and Trigonometry I; or MTH 1633
MTH 1333	Technical Algebra and Trigonometry II; or MTH 1643
PHY 1614	General College Physics I; or PHY 1634
PSY 1611	*Orientation to College; or TEC 1301
TEC 2333	Employee-Employer Relations

*Required of all full-time day students during the first regular semester of their freshman year.

**All electives must have prior approval of the department chairperson. Suggested electives include: ARC 2413, DRF 1302, DRF 1313, DRF 1383 and DRF 2403.

**ELECTROMECHANICAL TECHNOLOGY (MEC)t
(South Campus)**

Course descriptions begin on Page 133

**Associate In Applied Science Degree Program
2-8427-0**

SPECIALIZED COURSES (47 HOURS)

DRF 2303	Machine Drawing and Design
ELE 1323	Basic Electricity
ELE 1413	Computers for Industrial Applications
ELE 2344	Motors and Generators
ELE 2443	Industrial Controls
MAS 1514	Machine Shop I
MEC 1523	Engineering Materials
MEC 1533	Mechanisms
MEC 1573	Manufacturing Processes
MEC 2523	Mechanics and Strengths of Materials
MEC 2533	Hydraulics and Pneumatics
MEC 2763	Robotics
SUP 2723	Maintenance Management
WEL 1313	Welding I
	*Elective (3 hours)

GENERAL EDUCATION AND RELATED COURSES (23 HOURS)

DRF 1383	Mechanical Drafting
ENG 1303	Applied Communications I; or ENG 1613
GOV 2613	United States Government; or GOV 2623
MTH 1323	Technical Algebra and Trigonometry I
MTH 1333	Technical Algebra and Trigonometry II
PHY 1634	Technical Physics II
TEC 1301	Introduction to Technology
TEC 2333	Employee-Employer Relations

*Approved electives include: CMT 1414, ELE 2334, MAS 1564, NDE 1513, QUA 1433 and SUP 1303.

†This is an interdisciplinary program combining topics in electronic technology and mechanical technology. It is administered within the Department of Engineering Technology.

**ELECTRONIC TECHNOLOGY (ELE)
(South Campus)**

Course descriptions begin on Page 134

Associate In Applied Science Degree Program

All Electronic Technology Program options have the same general education and related course requirements and common specialty courses. Areas of specialty are determined through the selection of the Communications, Digital Electronics, or Industrial Electronics option. Students must complete the general education and related courses, the specialized courses, and courses required for one of the options to qualify for the Associate in Applied Science degree.

SPECIALIZED COURSES (20 HOURS)

- ELE 1304 Direct Current Circuits
- ELE 1314 Alternating Current Circuits
- ELE 1324 Introduction to Electron Devices
- ELE 1334 Digital Electronics Fundamentals
- ELE2304 Introduction to Electronic Circuits

**COMMUNICATIONS OPTION (30 HOURS)
2-8824-1**

- ELE 1313 Electronics Assembly
 - ELE2314 Electronic Communication Systems
 - ELE2324 Instruments and Measurements
 - ELE2343 Circuit Analysis
 - ELE2345 FCC License Preparation
 - ELE2354 Pulse Techniques
 - PHY 1634 Technical Physics II
- *Electives (3 hours)

*All electives must have prior approval of the department chairperson. Suggested electives include: ORF 236, ELE 1323, ELE 1413, ELE 2344, ELE 2364, ELE 2403, ELE 2443 and MTH 2303.

**DIGITAL ELECTRONICS OPTION (30 HOURS)
2-8824-2**

- ELE 1313 Electronics Assembly
- ELE2324 Instruments and Measurements
- ELE2334 Digital Systems
- ELE2354 Pulse Techniques
- ELE2364 Microprocessor Hardware-Software Design
- ELE2374 Computer Interfacing
- CSC 1654 Assembly Language for Micro/Mini Computer
- CSC2603 FORTRAN Programming

**INDUSTRIAL ELECTRONICS OPTION (26-27 HOURS)
2-8824-5**

- DRF 1313 Basic Drafting
- ELE2332 National Electrical Code; or ELE 2443
- ELE2343 Circuit Analysis
- ELE2344 Motors and Generators
- ELE2354 Pulse Techniques
- ELE2403 Power Distribution Systems
- MEC 1523 Engineering Materials
- PHY 1634 Technical Physics II

GENERAL EDUCATION AND RELATED COURSES (19 HOURS)

- TEC 2333 Employee-Employer Relations
- ENG 1303 Applied Communications I; or ENG 1613
- ENG 1313 Applied Communications II; or ENG 1623
- GOV 2613 United States Government
- TEC 1301 Introduction to Technology
- MTH 1323 Technical Algebra and Trigonometry I
- MTH 1333 Technical Algebra and Trigonometry II

**EMERGENCY MEDICAL TECHNOLOGY (EMT)#
(Northeast Campus)**

Course descriptions begin on Page 136

**Associate In Applied Science Degree Program
2-8040**

SPECIALIZED COURSES (28 HOURS)

- EMT 1405 Emergency Medical Procedures I
- EMT 1491 Clinical Practice (2 hours total)
- EMT 2405 Emergency Medical Procedures II
- EMT 2415 Emergency Medical Procedures III
- EMT 2472 Advanced Field Experience
- MED 1432 Medical Terminology
- MED 2402 Medical and Surgical Diseases
- MED 2442 Basic Pharmacology
- MED 2463 Management in Health Care; or BUA 2733

GENERAL EDUCATION AND RELATED COURSES (43 HOURS)

- BIO 1324 Anatomy and Physiology I
 - BIO 1334 Anatomy and Physiology II
 - BUA 1613 Introduction to Business
 - BUA 2663 Business Law I
 - CHM 1604 Essentials of General and Biological Chemistry
 - CSC 1603 Introduction to Computers
 - ENG 1613 English Composition I
 - GOV 2613 United States Government; or GOV 2623
 - MTH 1323 Technical Algebra and Trigonometry I
 - PSY 1611 *Orientation to College
 - PSY 1643 Human Relations; or PSY 1613
 - SPE 1633 Business and Professional Speaking; or SPE 1613
- **Approved Electives (6 hours)

#Specialized admission requirements for the Emergency Medical Technology (EMT) courses, MED 2402, MED 2442, and MED 2463. Students must complete and earn a minimum grade of C in each specialized course.

*Required of all full-time day students during the first regular semester of their freshman year.

**In special cases EMT 1403 may be approved as an elective.

Certificate of Completion Programs#

**BASIC PROGRAM
3-8040-S**

COURSE NO.	TITLE	SEMESTER HRS.
EMT 1405	*Emergency Medical Procedures I	5

On successful completion of this curriculum, the student is eligible to take the state examination for certification as a registered emergency medical technician by the Texas Department of Health Resources.

ADVANCED OR PARAMEDIC PROGRAM*

3-8040-7

EMT 1491	Clinical Practice	1
EMT 1491	Clinical Practice	1
EMT2405	Emergency Medical Procedures II	5
EMT2415	Emergency Medical Procedures III	5
EMT2472	Advanced Field Experience	2

After successful completion of this curriculum, the student is eligible to take the state examination for certification as a registered advanced Emergency Medical Technician (Paramedic) by the Texas Department of Health Resources.

#Specialized admission requirements for the basic and advanced programs. Students must complete and earn a minimum grade of C in each specialized course.

*Completion of EMT 1405 will not assure one of admission into the advanced program.

**FASHION MERCHANDISING (FAS)#
(Northeast Campus)**

Course descriptions begin on Page 139

Associate In Applied Science Degree Program

2-5623-0

SPECIALIZED COURSES (39 HOURS)

FAS 1352	Fashion Training I
FAS 1353	Introduction to Fashion Merchandising
FAS 1362	Fashion Training II
FAS 1363	Fashion Marketing
FAS 2333	Fashion Product Technology I
FAS2343	Fashion Product Technology II
FAS2352	Retail Management Training I
FAS2353	Retail Sales Promotion
FAS2362	Retail Management Training II
FAS2363	Retail Buying and Merchandising
MET 1601	Media Workshop
MID 1313	Motivation Seminar
MID 1333	Management Essentials
MKT2683	Principles of Advertising
MKT2723	Salesmanship

GENERAL EDUCATION AND RELATED COURSES (26 HOURS)

BUA 1303	Business Mathematics
BUA 1613	Introduction to Business
ENG 1613	English Composition I
ENG 1623	English Composition II
GOV2613	United States Government; or GOV 2623
HPE 1611	Health Concepts of Physical Activity
OFO2343	Office Accounting; or ACC 1623
PSY 1611	*Orientation to College
	**Electives (6 hours)

#Specialized admission requirements.

*Required of all full-time day students during the first regular semester of their freshman year.

** All electives must have prior approval of the department chairperson. Suggested electives include: FAS 2302, ACC 1633, MKT 2713, BUA 2663, and ECO 2613.

Certificate of Completion Program

3-5623-9

COURSE NO.	TITLE	SEMESTER HRS.
FAS 1352	Fashion Training	2
FAS 1353	Fashion Motivation and Personal Development	3
FAS 1362	Fashion Training	2
FAS 1363	Introduction to Fashion Marketing	3
BUA 1613	Introduction to Business	3
ENG 1613	English Composition I	3
ENG 1623	English Composition II	3
HEC 2613	Textiles	3
PSY 1611	**Orientation to College	1
	*Electives	9
		—
		32

*All electives must have prior approval of the department chairperson. Suggested electives include: HPE 1611, HPE 1621, HPE 1631, HPE 1641, HPE 1741, ECO 2613, ECO 2623, PSY 1613, SOC 1613, and SPE 1633.

**Required of all full-time day students during the first regular semester of their freshman year.



**FIRE TECHNOLOGY (FIR)
(South Campus)**

Course descriptions begin on Page 140

**Associate In Applied Science Degree Program
2-6821-0**

SPECIALIZED COURSES (12 HOURS)

FIR 1353	Fire and Arson Investigation
FIR 1383	Building Codes and Construction
FIR 1443	Fire Science Chemistry
FIR2363	Hazardous Materials I

FIRE PROTECTION OPTION (35 HOURS)

FIR 1323	Fire Protection Systems
FIR 1334	Fire Fighting Tactics and Strategy
FIR 1413	Fire Prevention I
FIR 1433	Fundamentals of Fire Protection
FIR2303	Fire Administration I
FIR2333	Fire Administration II
FIR2383	Industrial Fire Protection I
FIR2393	Industrial Fire Protection II
CHM 1614	Fundamentals of Chemistry I
	*Electives (6 hours)

*All electives must have prior approval of the department chairperson. Suggested electives include: FIR 1363, FIR 1403, FIR 1423, FIR 2343, FIR 2373, and FIR 2423.

FIRE INVESTIGATION OPTION (39 HOURS)

FIR 1393	Inspection Practices I
FIR 1413	Fire Prevention I
FIR 1423	Fire Prevention II
FIR2423	Fire Safety Education
FIR2443	Techniques of Fire Investigation
FIR2453	Fire Insurance Fundamentals
PSY 1613	Introduction to Psychology
ELE 1323	Basic Electricity
CRJ 1303	Introduction to Criminal Justice
CRJ 1333	Police Role in Juvenile Crime and Delinquency
CRJ2303	Legal Aspects of Law Enforcement
CRJ2313	Criminal Investigation
CRJ2333	Criminal Procedure and Evidence

GENERAL EDUCATION AND RELATED COURSES (18 HOURS)

ENG 1303	Applied Communications I or ENG 1613
ENG 1313	Applied Communications II or ENG 1623
SPE 1633	Business and Professional Communication
MTH 1323	Technical Algebra and Trigonometry I
GOV2623	Texas State and Local Government
	*Electives (3 hours)

*All electives must have prior approval of the department chairperson. Suggested electives include: FIR 1363, FIR 1403, FIR 2343 and FIR 2373.

**Certificate of Completion Program
3-6821-9**

The certificate requires at least 31 semester hours of work in the aggregate covering both academic and technological instruction.

1. Academic courses, 13 semester hours, including:
 - A. ENG 1303, MTH 1323 and CHM 1614
 - B. BNG 1313 or SPE 1633
2. Fire hnology courses, 18 semester hours, including:
 - A. PIR 1443 Fire Science Chemistry
FIR 1413 Fire Prevention
 - B. Twelve semester hours in other Fire Technology courses



**GENERAL CLERICAL (OFO)
(Northeast, Northwest and South Campuses)**

Course descriptions begin on Page 164

**Certificate of Completion Program
3-5824-9**

The General Clerical certificate will be awarded upon successful completion of a minimum of 31 semester hours with a 2.0 grade point average. Program requirements are as follows:

COURSENO.	TITLE	SEMESTER HRS.
OFO 1313	**Intermediate Typewriting Skills	3
OFO 1343	Calculating Machines	3
OFO 1383	Machine Transcription	3
OFO 2303	Business Communications	3
OFO 2313	Advanced Typewriting Problems	3
OFO 2343	Office Accounting	3
OFO 2383	Office Procedures	3
BUA 1303	Business Mathematics	3
CSC 1603	Introduction to Computers	3
ENG 1303	Applied Communications I	3
	or	
ENG 1613	English Composition I	3
PSY 1611	*Orientation to College	1
		—
		31

*Required of all full-time day students during the first regular semester of their freshman year.

**Students will be placed in typewriting at a proficiency level detennined by high school courses and/or placement tests.

GENERAL STENOGRAPHIC (OFO)
(Northeast, Northwest and South Campuses)

Course descriptions begin on Page 164

Certificate of Completion Program

3-5825-9

The General Stenographic certificate will be awarded upon successful completion of a minimum of 31 semester hours with a 2.0 grade point average. Program requirements are as follows:

COURSE NO.	TITLE	SEMESTER HRS.
OFO 1313	**Intermediate Typewriting Skills	3
OFO 1323	**Principles of Shorthand	3
OFO 1333	Shorthand Speed Building	3
OFO 1383	Machine Transcription	3
OFO2303	Business Communications	3
OFO2313	Advanced Typewriting Problems	3
OFO2383	Office Procedures	3
BUA 1303	Business Mathematics	3
BUA 1613	Introduction to Business	3
ENG 1303	Applied Communications I	3
	or	
ENG 1613	English Composition I	3
PSY 1611	*Orientation to College	1
		—
		31

*Required of all full-time day students during the first regular semester of their freshman year.
 ••students will be placed in typewriting and shorthand at a proficiency level determined by high school course and/or proficiency tests.

GRAPHIC ARTS (GAR)
(Northeast Campus)

Course descriptions begin on Page 144

Certificate of Completion Program

3-6238-9

COURSE NO.	TITLE	SEMESTER HRS.
GAR 1303	Introduction to Graphic Processes	3
GAR 1313	Offset Operations	3
GAR 1323	Camera and Stripping	3
GAR1333	Copy Preparation	3
GAR 1343	Graphics Internship	3
GAR 1373	Principles of Typography and Phototypesetting	3
BUA 1303	Business Mathematics	3
ENG 1613	English Composition I; or ENG 1303	3
ENG2773	Technical Writing; or ENG 1313	3
OFO 1303	*Fundamentals of Typewriting	3
	**Technical Electives	6
		—
		36

*The requirement for typewriting may be waived if a student's proficiency level indicates no need for this course.
 ••All electives must have prior approval of the department chairperson. Suggested electives include: GAR 2133, GAR 2403, ART 1703, and CSC 1604.

HORTICULTURE (HAT)
(Northwest Campus)

Course descriptions begin on Page 149

Associate In Applied Science Degree Program

2-5026-4

SPECIALIZED COURSES (39 HOURS)

HRT 1612	Introduction to Horticulture
HRT 1623	Plant Diseases
HRT 2613	General Entomology
HRT 2624	Soil Science
HRT 2663	Plant Propagation
HRT 2673	Agricultural Compounds
	**Electives (21 hours)

GENERAL EDUCATION AND RELATED COURSES (27 HOURS)

BIO 2654	General Botany
BUA 1303	Business Mathematics
CHM 1604	Essentials of General and Biological Chemistry
ENG 1303	Applied Communications I; or ENG 1613
ENG 1313	Applied Communications II; or ENG 1623
GOV 2613	United States Government
PSY 1611	*Orientation to College
	***Electives (6 hours)

*Required of all full-time day students during the first regular semester of their freshman year.
 **Suggested electives include: HRT 1633, HRT 1643, HRT 1653, HRT 1663, HRT 1673, HRT 2623, HRT 2633, HRT2644, HRT2654, HRT2683, HRT2693, HRT2733, HRT2813.
 ***All electives must have prior approval of the department chairperson. Suggested electives include: CHM 1614, CSC 1604, AGR 2333, PSY 1643, SER 1324, SPE 1633.

Certificate of Completion Program

3-5026-9

COURSE NO.	TITLE	SEMESTER HRS.
HRT 1612	Introduction to Horticulture	2
HRT 1623	Plant Diseases	3
HRT 2613	General Entomology	3
HRT 2624	Soil Science	4
HRT 2663	Plant Propagation	3
HRT 2673	Agricultural Compounds	3
	*Electives	18
		—
		36

*Approved electives include: HRT 1633, HRT 1643, HRT 1653, HRT 1663, HRT 1673, HRT 2623, HRT 2633, HRT 2644, HRT 2654, HRT 2683, HRT 2693, HRT 2713, and HRT 2723.



INDUSTRIAL SUPERVISION (SUP) (South Campus)

Course descriptions begin on Page 150

Associate In Applied Science Degree Program 2-7821-0

SPECIALIZED COURSES (36 HOURS)

ELE 14)3	Computers for Industrial Applications
MEC 1523	Engineering Materials
MEC 1573	Manufacturing Processes
QUA 1433	Introduction to Quality Assurance
QUA 1593	Inspection Standards and Specifications
SUP 1303	Industrial Supervision
SUP 1313	Industrial Safety and Regulations
SUP2303	Personnel Aspects of Supervision
SUP2543	Productivity Analyses
SUP2713	Production and Inventory Control
SUP2723	Maintenance Management

*Electives (3 hours)

GENERAL EDUCATION AND RELATED COURSES (28 HOURS)

DRF 1383	Mechanical Drafting
ECO 2613	Principles of Economics I
ENG 1303	Applied Communications I; or ENG 1613
ENG 1313	Applied Communications II; or ENG 1623
GOV 2613	United States Government; or GOV 2623
MTH 1403	Introductory Mathematics
RDG 1613	College Reading Techniques I
SPE 1633	Business and Professional Communication
TEC 1301	Introduction to Technology
TEC 2333	Employee-Employer Relations

*Approved electives include CMT 1414, ELE 1323, MAS 1514, MEC 1533, NDE 1513 and WEL 1313.

INTERPRETING FOR THE DEAF (IFD) (Northwest Campus)

Course descriptions begin on Page 151

Associate In Applied Science Degree Program 2-8047-0

The Associate in Applied Science degree (A.A.S.) will be awarded after successful completion of the entire Interpreting for the Deaf program. After completion of the program, students will be eligible to apply for a provisional permit from the National Registry of Interpreters for the Deaf.

SPECIALIZED COURSES (38 HOURS)

IFD 1611	Nonverbal Communication/Mime
IFD 1613	Introduction to Deafness
IFD 1614	American Sign Language I
IFD 1621	Receptive Fingerspelling
IFD 1623	Psycho-Social Aspects of Deafness and Community Resources
IFD 1624	American Sign Language II
IFD 1633	Introduction to Interpreting
IFD 2613	American Sign Language III
IFD 2623	Expressive Interpreting/Translating
IFD 2633	Communications Theory and Language Development
IFD 2643	Communication Methods for the Deaf
IFD 2653	American Sign Language IV
IFD 2654	Interpreting Practicum

GENERAL EDUCATION AND RELATED COURSES (27 HOURS)

ENG 1303	Applied Communications I; or ENG 1613
ENG 1313	Applied Communications II; or ENG 1623
GOV 2623	Texas State and Local Government
HPE 1611	Health Concepts of Physical Activity
MTH 1613	Fundamentals of College Math I; or other approved math course
PSY 1611	*Orientation to College
PSY 1643	Human Relations
RDG	College Reading Techniques (3 hours)
SPE 1611	Speech Workshop
SPE 1613	Fundamentals of Speech Communication; or SPE 2613
	**Elective (3 hours)

*Required of all full-time day students during the first regular semester of their freshman year.

**One suggested elective is IFD 2661/62, Selected Topics in Interpreting for the Deaf.

**LEGAL ASSISTANT (LEA)
(Northeast Campus)**

Course descriptions begin on Page 153)

Associate In Applied Science Degree Program
2-5828-0

SPECIALIZED COURSES (33 HOURS)

- LEA 1313 Introduction to the Legal System
- LEA 1323 Legal Research
- LEA 1333 Legal Writing
- LEA 1343 Civil Litigation
- LEA 1353 Wills, Trusts and Probate
- LEA2313 Cooperative Internship
- LEA2323 Tort Litigation
- LEA2343 Family Law

*Electives (9 hours)

GENERAL EDUCATION AND RELATED COURSES (32 HOURS)

- ACC 1623 Principles of Accounting I
- BUA2663 Business Law I
- BUA2673 Business Law II
- CRJ 2333 Criminal Procedure and Evidence
- ENG 1613 English Composition I
- ENG 1623 English Composition II
- GOV2623 Texas State and Local Government
- HPE 1611 Health Concepts of Physical Activity
- PSY 1611 **Orientation to College
- PSY 1643 Human Relations

***Electives (6 hours)

*All electives must have prior approval of the department chairperson. Suggested electives include: ACC 1623, ACC 2633, BUA 2653, CSC 1603, LAS 2643, LEA 2353, LEA 2363, REA 2743, REA 2793, REA 2833, REA2843.

**Required of all full-time day students during the first regular semester of their freshman year.

***All electives must have prior approval of the department chairperson. Suggested electives include: PHI 2613, SOC 2613, SOC 2663, and SPE 1633.



**MACHINE SHOP TECHNOLOGY (MAS)
(South Campus)**

Course descriptions begin on Page 154

Associate In Applied Science Degree Program
2-6234-0

SPECIALIZED COURSES (47 HOURS)

- MAS 1514 Machine Shop I
- MAS 1564 Machine Shop II
- MAS 2554 Machine Shop III
- MAS 2744 Machine Shop IV
- MAS 2814 Machine Maintenance and Problems
- MEC 1523 Engineering Materials
- MEC 1533 Mechanisms
- MEC 1573 Manufacturing Processes
- QUA 1433 Introduction to Quality Assurance
- QUA 1443 Metrology I
- WEL 1313 Welding I
- SUP 2543 Productivity Analysis

*Electives (6 hours)

*Approved electives include: CMT 1414, ELE 1413, NDE 1513 and SUP 2723.

GENERAL EDUCATION AND RELATED COURSES (22 HOURS)

- DRF 1383 Metals Drafting
- ELE 1323 Basic Electricity
- ENG 1303 Applied Communications I; or ENG 1613
- GOV 2613 United States Government; or GOV 2623
- MTH 1323 Technical Algebra and Trigonometry I
- MTH 1333 Technical Algebra and Trigonometry II
- TEC 1301 Introduction to Technology
- TEC 2333 Employee-Employer Relations

Block-Time, Certificate Program
3-6234-9

These courses may be scheduled in a semester block format. Students must allow approximately four to six hours per day for intensive, skill-building courses. Contact program coordinator for further information.

COURSE NO.	TITLE	SEMESTER HRS.
DRF 1383	Metals Drafting	3
MAS 1514	Machine Shop I	4
MAS 1564	Machine Shop II	4
MAS 2554	Machine Shop III	4
MAS 2744	Machine Shop IV	4
MAS 2814	Machine Maintenance and Problems	4
MTH 1403	Introductory Mathematics	3
		26

MARKETING (BUA)
(Northeast, Northwest and South Campuses)

Course descriptions begin on Page 154

Associate In Applied Science Degree Program
2-5426-0

SPECIALIZED COURSES (36 HOURS)

ACC 1623	Principles of Accounting I
ACC 1633	Principles of Accounting II
BUA 1613	Introduction to Business
BUA2733	Principles of Management
MKT2673	Principles of Marketing
MKT2683	Principles of Advertising
MKT2693	Principles of Retailing
MKT2723	Salesmanship
MKT2883	Marketing Strategies
	**Electives (9 hours)

GENERAL EDUCATION AND RELATED COURSES (29 HOURS)

BUA 1303	Business Mathematics
CSC 1603	Introduction to Computers
ECO2613	Principles of Economics I
ECO2623	Principles of Economics II
ENG 1303	Applied Communications I; or ENG 1613
ENG 1313	Applied Communications II; or ENG 1623
GOV2613	United States Government; or GOV 2623
HPE 1611	Health Concepts of Physical Activity
PSY 1611	*Orientation to College
PSY 1613	Introduction to Psychology; or SOC 1613
SPE 1633	Business and Professional Communications

*Required of all full-time day students during the first regular semester of their freshman year.

•• All electives must have prior approval of the department chairperson. Suggested electives include: ACC 2663, BUA 2673, BUA 2763, OFO 1343, and PSY 2653.

MEDIA TECHNOLOGY (MET)
(Northeast Campus)

Course descriptions begin on Page 156

Associate In Applied Science Degree Program

All Media Technology Program options have the same general education and related course requirements, and common specialty courses. Areas of specialty are determined through the selection of the Instructional Media, Media/Graphic Arts, Media/Advertising Art or Media/Communication Arts option. Students must complete the general education and related courses, the specialty courses and courses required for one of the options to qualify for the Associate in Applied Science degree.

SPECIALIZED COURSES (30 HOURS)

ART 1703	Photography I
MET1604	Basic Media Equipment
MET 1614	Basic Media Production
MET2614	Advanced Media Production
MET2624	Audio and Video Techniques
MET2638	Media Technician Internship
MET2653	Media Technician Seminar

INSTRUCTIONAL MEDIA (24 HOURS)
2-9425-1

CSC 1604	Fundamentals of Programming
PSY 1613	Introduction to Psychology
PSY 1623	Child Growth and Development
PSY 1643	Human Relations
SOC 1613	Introduction to Sociology
	*Electives (9 hours)

*All electives must have prior approval of the department chairperson. Suggested electives include: ART 1633, ART 1643, ART 1673, ART 1683, ART 1713, MET 1634 and MET 2634.

MEDIA/GRAPHIC ARTS (24 HOURS)
2-9425-2

ART 1713	Photography II
BUA 1303	Business Mathematics
GAR 1303	Introduction to Graphic Processes
GAR 1313	Offset Operations
GAR 1323	Camera and Stripping
GAR 1333	Copy Preparation
GAR 1373	Principles of Typography and Phototypesetting
OFO 1303	Fundamentals of Typewriting

MEDIA/ADVERTISING ART (24 HOURS)
2-9425-3

ART 1633	Design I
ART 1643	Design II
ART 1653	Drawing I
ART 1663	Drawing II
ART 1713	Photography II
ART 2643	Advertising Art I
ART 2753	Advertising Art II
GAR 1373	Principles of Typography and Phototypesetting

MEDIA/COMMUNICATION ARTS (24 HOURS)
2-9425-4

ART 1713	Photography II
DRM 1633	Stagecraft
DRM 1643	Introduction to Lighting and Set Design
ENG 2763B	Studies in Cinema
ENG 2783	Creative Writing; or DRM 1653
SPE 1613	Fundamentals of Speech Communication;
	SPE 1623; or SPE 1633
SPE 2613	Voice and Diction
SPE 2623	Oral Interpretation

GENERAL EDUCATION AND RELATED COURSES (15 HOURS)

ENG 1303	Applied Communications I; or ENG 1613
ENG 1313	Applied Communications II; or ENG 1623
GOV 2613	United States Government; or GOV 2623
HPE 1611	Health Concepts of Physical Activity
HPE	Physical Education Activity (1 hour)
RN 1613	Introduction to Mass Communications
SY 1611	*Orientation to College

*Required of all full-time day students during the first regular semester of their freshman year.

**MEDICAL LABORATORY TECHNOLOGY (MLT)#
(Northeast Campus)**

Course descriptions begin on Page 156

**Associate In Applied Science Degree Program
280280**

SPECIALIZED COURSES (35 HOURS)

MED 1432	Medical Terminology
MLT 1404	Urinalysis
MLT 1405	Hematology
MLT 1481	Seminar
MLT 1491	*Clinical Practice
MLT 1494	Clinical Practice
MLT1496	Clinical Practice
MLT2404	Immunology
MLT2414	Clinical Chemistry
MLT2424	Medical Microbiology

GENERAL EDUCATION AND RELATED COURSES (40 HOURS)

BIO 1314	Microbiology
BIO 1324	Anatomy and Physiology I
BIO 1334	Anatomy and Physiology II
CHM 1634	General Chemistry I
CHM 1644	General Chemistry II
CHM2644.	Quantitative Analysis
ENG 1613	English Composition I
GOV2613	United States Government; or GOV 2623
MIH 1323	Technical Algebra and Trigonometry or approved mathematics course
PSY 1643	Human Relations; or PSY 1613
PSY 1611	**Orientation to College Elective (3 hours)

After successful completion of the above curriculum, the student is eligible to take any of appropriate national certification agency examinations to become a general medical laboratory technician or clinical laboratory technician. Two recognized certification agencies are the American Society of Clinical Pathologists and the National Certification Agency for Medical Laboratory Personnel.

#Specialized admission requirements. Students must complete and earn a minimum grade of C in each specialized course.

*conducted during a period prior to the spring semester (first year).

**Required. of all full-time day students during the first regular semester of their freshman year.

**MEDICAL RECORD TECHNOLOGY (MRT)#
(Northeast Campus)**

Course descriptions begin on Page 157

**Associate In Applied Science Degree Program
2-5827-0**

SPECIALIZED COURSES (36 HOURS)

MRT 1403	Medical Record Science I
MRT 1404	Medical Record Science II
MRT 1411	Medical Transcription Laboratory
MRT 1423	Advanced Medical Terminology
MRT 1433	Record-Management Techniques
MRT 1491	Clinical Practice

MRT 1492	Clinical Practice
MRT 1492	Clinical Practice
MRT 2404	Medical Record Science III
MRT 2412	Medical Ethics and Jurisprudence
MRT 2414	Medical Record Science IV
MED 1432	Medical Terminology
MED 2402	Medical and Surgical Diseases
MED 2463	Management in Health Care; or BUA 2733

GENERAL EDUCATION AND RELATED COURSES (30 HOURS)

BIO 1324	Anatomy and Physiology I
BIO 1334	Anatomy and Physiology II
CSC 1603	Introduction to Computers
ENG 1613	English Composition I
GOV 2613	United States Government; or GOV 2623
MTH	Mathematics elective (3 hours)
OFO 1313	Intermediate 'fypewriting Skills; or approved elective
PSY 1611	*Orientation to College
PSY 1643	Human Relations; or PSY 1613
	Electives (3 hours)

After successful completion of the above curriculum, students are eligible to take the examination for accredited record technicians given by the American Medical Record Association.

#Specialized admission requirements. Students must complete and earn a minimum grade of C in each specialized course.

*Required of all full-time day students during the first regular semester of their freshman year.

**MEDICAL TRANSCRIPTION (MRT)#
(Northeast Campus)**

Course descriptions begin on Page 157

**Certificate of Completion Program
3-5826-9**

COURSE NO.	TITLE	SEMESTER	HRS.
MRT 1103	Medical Record Science I		3
MRT 1411	Medical Transcription Laboratory		1
MRT 1411	**Medical Transcription Laboratory		1
MRT 1423	Advanced Medical Terminology		3
MRT 1433	Record Management Techniques		3
MRT 1482	Clinical Practice		2
BIO 1323	Anatomy and Physiology I		3
ENG 1613	English Composition I		3
MED 1432	Medical Terminology		2
OFO 1313	Intermediate 'fypewriting Skills; or approved elective		3
PSY 1611	*Orientation to College		1
PSY 1643	Human Relations; or PSY 1613		3
	Elective		3
			31

#Specialized admission requirements. Students must complete and earn a minimum grade of C in each specialized course.

*Required of all full-time day students during the first regular semester of their freshman year.

**The student must be able to transcribe at least 6,000 words per day in order to complete this program.

MENTAL HEALTH-MENTAL RETARDATION (MHR)
(Northeast Campus)

Course descriptions begin on Page 157

Associate In Applied Science Degree Program
2

SPECIALIZED COURSES (36 HOURS)

CDP 1416	The Special Child
MHR 1603	Laws and Standards Affecting Mental Health
MHR 1606	Introduction to Mental Health
MHR 1613	Assessment and Counseling Techniques
MHR 1623	Special Therapies I
MHR2428	Mental Health/Mental Retardation Internship
MHR2603	Special Therapies II
MHR2614	Medical Aspects of Mental Health/Mental Retardation

GENERAL EDUCATION AND RELATED COURSES (29 HOURS)

ENG 1303	Applied Communications I; or ENG 1613
ENG 1313	Applied Communications II; or ENG 1623
GOV2613	United States Government; or GOV 2623
HPE 1611	Health Concepts of Physical Activity
PSY 1611	*Orientation to College
PSY 1613	Introduction to Psychology
PSY 1623	Child Growth and Development
PSY 1643	Human Relations
	**Electives (9 hours)

*Required of all full-time day students during the first regular semester of their freshman year.
**All electives must have prior approval of the department chairperson. Suggested electives include CRJ 2613, MHR 2633, PSY 2623, and SOC 2613.

MID-MANAGEMENT (MID)#
(Northeast, Northwest and South Campuses)

Course descriptions begin on Page 158

Associate In Applied Science Degree Program
2-5621-(-)

SPECIALIZED COURSES (20 HOURS)

MID 1312	Management Training I
MID 1313	Motivation Seminar
MID 1332	Management Training II
MID 1333	Essentials of Management
MID 2312	Management Training III
MID2313	Personnel Management
MID2332	Management Training IV
MID2333	Management Seminar

GENERAL EDUCATION AND RELATED COURSES (45 HOURS)

BUA 1303	Business Mathematics
BUA 1613	Introduction to Business
ACC 1623	Principles of Accounting I
ACC 1633	Principles of Accounting II; or BUA 2663
CSC 1603	Introduction to Computers
ECO 2613	Principles of Economics I
ENG 1613	English Composition I; or ENG 1303
ENG 1623	English Composition II; or ENG 1313

GOV 2613	United States Government
GOV 2623	Texas State and Local Government
HPE 1611	Health Concepts of Physical Activity
HPE	Physical Education Activity
PSY 1611	*Orientation to College
PSY 1613	Introduction to Psychology
	**Electives (9 hours)

#Specialized admission requirements.

*Required of all full-time day students during the first regular semester of their freshman year.

**All electives must have prior approval of the department chairperson. Suggested electives include: CSC 1614, ECO 2623, MKT 2673 and SPE 1633.

Certificate of Completion Program

3-5621-9

COURSE NO.	TITLE	SEMESTER HRS.
MID 1312	Management Training I	
MID 1313	Motivation Seminar	2
MID 1332	Management Training II	3
MID 1333	Essentials of Management	2
BUA 1303	Business Mathematics	3
BUA 1613	Introduction to Business	3
ENG 1613	English Composition I	3
ENG 1623	English Composition II	3
PSY 1611	**Orientation to College	3
	*Electives	1
		9
		—
		32

*All electives must have prior approval of the department chairperson. Suggested electives include: CSC 1614, ECO 2623, MKT 2673 and SPE 1633.

**Required of all full-time day students during the first regular semester of their freshman year.

MOTORCYCLE SERVICE TECHNICIAN (MST)
(Northwest Campus)

Course descriptions begin on Page 159

Block-time, Certificate Program

3-6299-9

These courses are scheduled in a semester block format. Students must allow a proximately four to five hours per day for intensive, skill-building courses. Contact program coordinator for further information.

COURSE NO.	TITLE	SEMESTER HRS.
MST 1307	Basic Motorcycle Service	
MST 1327	Motorcycle Chassis Service	7
MST 1347	Motorcycle Electricity and Electrical Systems	7
MST 1367	Motorcycle Engine Service	7
MST 1387	Advanced Motorcycle Service	7
		—
		35

Students enrolled in the Motorcycle Service Technician Program are required to furnish their own hand tools for use in laboratory classes.

NONDESTRUCTIVE EVALUATION TECHNOLOGY (NOE)
(South Campus)

Course descriptions begin on Page 162

Associate In Applied Science Degree Program
2-8428-0

SPECIALIZED COURSES (44 HOURS)

MEC 1523	Engineering Materials
MEC 1533	Mechanisms
MEC 1573	Manufacturing Processes
MEC2523	Mechanics and Strengths of Materials
NDE 1513	Introduction to Nondestructive Testing
NDE 1543	Penetrant and Magnetic Particle Testing
NDE2623	Origin of Material Defects
NDE2724	Ultrasonic Testing
NDE2754	Radiographic Testing
NDE2783	Eddy Current Testing
NDE2793	Problems in Nondestructive Testing
QUA 1433	Introduction to Quality Assurance
QUA 1593	Inspection Standards and Specifications
WEL 1313	Welding I

GENERAL EDUCATION AND RELATED COURSES (26 HOURS)

DRF 1383	Mechanical Drafting
ELE 1323	Basic Electricity
ENG 1303	Applied Communications I; or ENG 1613
GOV2613	United States Government; or GOV 2623
MTH1323	Technical Algebra and Trigonometry I
MTH 1333	Technical Algebra and Trigonometry II
PHY 1634	Technical Physics II
TEC 1301	Introduction to Technology
TEC2333	Employee-Employer Relations

NURSING (NUR) #

(South Campus)

Course descriptions begin on Page 163

Associate In Applied Science Degree Program
2-8021-0

SPECIALIZED COURSES (34 HOURS)

NUR 1313	Fundamentals of Nursing
NUR 1323	Practicum
NUR 1324	Medical-Surgical Nursing I
NUR 1334	Practicum
NUR2402	Psychiatric Nursing
NUR2412	Practicum
NUR2414	Medical-Surgical Nursing II
NUR2424	Practicum
NUR2434	Maternal and Child Health Nursing
NUR2444	Practicum

GENERAL EDUCATION AND RELATED COURSES (36 HOURS)

BIO 1314	Microbiology
BIO 1324	Anatomy and Physiology I
BIO 1334	Anatomy and Physiology II
CHM 1604	Essentials of General and Biological Chemistry
ENG 1613	English Composition I
ENG 1623	English Composition II
GOV 2613	United States Government; or GOV 2623
HPE 1611	Health Concepts of Physical Activity
HPE	Physical Education Activity (1 hour)
PSY 1613	Introduction to Psychology
PSY 1623	Child Growth and Development
SOC 1613	Introduction to Sociology

After successful completion of the above curriculum, the student is qualified to make application to take the State Board Test Pool Examination for licensure as a registered nurse.

#Specialized admission requirements. Students must complete and earn a minimum grade of C in each specialized course.

OFFICE CAREERS (OFO)

(Northeast, Northwest and South Campuses)

Course descriptions begin on Page 164

Associate In Applied Science Degree Program

The Associate in Applied Science degree will be awarded upon the successful completion of the Office Careers Program. The Office Careers Program includes the following options: Educational Office (66 hours), General Office (66 hours), Legal Office (66 hours) and Medical Office (66 hours). All Office Careers Program options have the same general education and related course requirements. ARIS of specialty are determined through the selection of an Office Careers option. Students must complete the general education and related courses, the specialized courses and courses required for one of the options to receive an Associate in Applied Science degree.

SPECIALIZED COURSES (33 HOURS)

OFO 1313	Intermediate Typewriting Skills
OFO 1343	Calculating Machines
OFO 1383	Machine Transcription
OFO 2303	Business Communications
OFO 2313	Advanced Typewriting Problems; or OFO 2463
OFO 2343	Office Accounting I
OFO 2383	Office Procedures
OFO 2453	Office Accounting II
	*Electives (9 hours)

*Fifteen hours required for General Office majors. All electives must have prior approval of the department chairperson. Suggested electives include: BUA 1613, BUA 2653, ECO 2613, OFO 1393, OFO 2393, OFO 2473, OFO 2503, OFO 2511, OFO 2523, and OFO 2531.

EDUCATIONAL OFFICE OPTION
2-5824-1

(15 HOURS FROM THE FOLLOWING)

HPE 1653	First Aid and Safety
MET 1604	Basic Media
MET 1613	Instructional Resources
MET 1614	Media Production
PSY 1613	Introduction to Psychology
PSY 1623	Child Growth and Development
PSY 1643	Human Relations
SOC 1613	Introduction to Sociology
SOC 1633	Introduction to Anthropology

GENERAL OFFICE OPTION (9 HOURS)
2-5824-2

Courses may be chosen from the Educational, Legal, and/or Medical options.

LEGAL OFFICE OPTION
2-5824-3

(15 HOURS FROM THE FOLLOWING)

BUA2663	Business Law I
BUA2673	Business Law II
CRJ 1303	Introduction to Criminal Justice
CRJ2303	Legal Aspects of Law Enforcement
CRJ2333	Criminal Procedures and Evidence
OFO2423	*Legal Terminology and Procedures
PSY 1643	Human Relations
SOC 1613	Introduction to Sociology

*Required of all Legal Office majors.

MEDICAL OFFICE OPTION
2-5824-4

(15 HOURS FROM THE FOLLOWING)

BIO 1614	Biological Principles
MRT2412	Medical Ethics and Jurisprudence
OFO2373	*Medical Terminology
PSY 1613	Introduction to Psychology
PSY 1643	Human Relations
SOC 1613	Introduction to Sociology

*Required of all Medical Office majors.

GENERAL EDUCATION AND RELATED COURSES (18 HOURS)

BUA 1303	Business Mathematics
ENG 1303	Applied Communications I; or ENG 1613
ENG 1313	Applied Communications II; or ENG 1623
GOV2613	United States Government
GOV2623	Texas State and Local Government
HPE 1611	Health Concepts of Physical Activity
HPE 1641	Activity for Men and Women; or HPE 1741
PSY 1611	*Orientation to College

*Required of all full-time day students during the first regular semester of their freshman year.



PHYSICAL THERAPIST ASSISTANT (PTA)#
(Northeast Campus)

Course descriptions begin on Page 166

Associate In Applied Science Degree Program
2-8032-0

SPECIALIZED COURSES (47 HOURS)

EMT 1403	Emergency Care; or EMT 1414
MED 1432	Medical Terminology
MED 2402	Medical and Surgical Diseases
MED 2442	Basic Pharmacology
MED 2463	Management in Health Care
PTA 1403	Pathophysiological Conditions
PTA 1404	Physical Therapy Assisting I
PTA 1413	Applied Anatomy
PTA 1414	Physical Therapy Assisting II
PTA 1481	Seminar
PTA 1491	Clinical Practice
PTA 1493	Clinical Practice
PTA 1494	Clinical Practice
PTA 2404	Physical Therapy Assisting III
PTA 2414	Physical Therapy Assisting IV
PTA 2424	Physical Therapy Assisting V

GENERAL EDUCATION AND RELATED COURSES (24 HOURS)

BIO 1324	Anatomy and Physiology I
BIO 1334	Anatomy and Physiology II
ENG 1613	English Composition I; or SPE 1633
GOV 2613	United States Government; or GOV 2623
MTH 1403	Introductory Mathematics
SY 1611	*Orientation to College
SY 1623	Child Growth and Development
SY 1643	Human Relations; or PSY 1613

After successful completion of the above curriculum, the student is eligible to take the state examination to become a licensed physical therapist assistant.

Specialized admission requirement. Students must complete and earn a minimum grade of C in each specialized course.

*Required of all full-time day students during the first regular semester of their freshman year.

**POSTAL SERVICE ADMINISTRATION (PSA)
(Northwest Campus)**

Course descriptions begin on Page 166

**Associate In Applied Science Degree Program
2-98240**

SPECIALIZED COURSES (21 HOURS)

PSA 1303	Survey of the Postal Service System
PSA 1313	Mail Processing
PSA 1323	Customer Services
PSA2303	Postal Economics and Finance
PSA2313	Labor Relations
PSA2323	Employee Services
PSA2333	Postal Problems Analysis

GENERAL EDUCATION AND RELATED COURSES (44 HOURS)

ACC 1623	Principles of Accounting I
BUA 1303	Business Mathematics
BUA 1613	Introduction to Business
CSC 1604	Fundamentals of Programming
ENG 1613	English Composition I; or ENG 1303
ENG 1623	English Composition II; or ENG 1313
GOV26.13	United States Government
GOV2623	Texas State and Local Government
HPE 1611	Health Concepts of Physical Activity
MID 1313	Motivation Seminar
MID 1333	Essentials of Management
MID2313	Personnel Management
MID2333	Management Seminar
PSY 1611	*Orientation to College
SPE 1613	Fundamentals of Speech Communication
	Electives (3 hours)

*Required of all full-time day students during the first regular semester of their freshman year.

**PROPERTY TAX APPRAISAL (PRA)
(Northeast Campus)**

Course descriptions begin on Page 167

**Associate In Applied Science Degree Program
2-56300**

SPECIALIZED COURSES (33 HOURS)

PRA 1613	Texas Ad Valorem Tax Law
PRA2613	Advanced Real Estate Appraisal
PRA2623	Assessment Administration and Procedures
PRA2633	Personal Property Appraisal
PRA2643	Mass Appraisal Techniques
PRA2653	Tax Collection Procedures
PRA2663	Problems in Taxation
PRA2676	Cooperative Internship
REA2743	Principles of Real Estate
REA2783	Real Estate Appraisal

GENERAL EDUCATION AND RELATED COURSES (32 HOURS)

ARC 1573	Construction Processes
BUA 1303	Business Mathematics
BUA 2653	Office Management
CSC 1603	Introduction to Computers
ENG 1613	English Composition I
ENG 1623	English Composition II
HPE 1611	Health Concepts of Physical Activity
PSY 1611	*Orientation to College
	**Electives (12 Hours)

*Required of all -time day students during the first regular semester of their freshman year.

**Suggested electives: ACC 1623, CIV 2483, DRF 1302, ECO 2613, GOV 2623, PSY 1643, REA 2793 and SPE 1633.



**QUALITY TECHNOLOGY (QUA)
(South Campus)**

Course descriptions begin on Page 168

**Associate In Applied Science Degree Program
2-8437-0**

SPECIALIZED COURSES (42 HOURS)

- DRF2303 Machine Drawing and Design
- MEC 1523 Engineering Materials
- MEC 1573 Manufacturing Processes
- NOE 1513 Introduction to Nondestructive Testing
- QUA 1433 Introduction to Quality Assurance
- QUA 1443 Metrology I
- QUA 1453 Metrology II
- QUA 1593 Inspection Standards and Specifications
- QUA2513 Quality Planning and Analysis
- QUA2523 Quality Statistical Applications
- QUA2533 Quality Problems
- SUP 1303 Industrial Supervision

*Electives (6 hours)

GENERAL EDUCATION AND RELATED COURSES (25 HOURS)

- DRF 1383 Mechanical Drafting
- ELE 1323 Basic Electricity
- ENG 1303 Applied Communications I; or ENG 1613
- GOV2613 United States Government; or GOV 2623
- MTH 1323 Technical Algebra and Trigonometry I
- MTH 1333 Technical Algebra and Trigonometry II
- MTH 1673 Elementary Statistics
- TEC 1301 Introduction to Technology
- TEC2333 Employee-Employer Relations

*Approved electives include: ELE 1314, ELE 1324, ELE 1413, NDE 1543, NDE2623, NDE2724, NDE2733, and SUP 2303.

**RADIO AND TELEVISION REPAIR (RTV)
(South Campus)**

Course descriptions begin on Page 169

**Block-Time, Certificate Program
3-6241-9**

These courses may be scheduled in a semester block format. Students must allow approximately four to eight hours per day for intensive, skill-building courses. Contact program coordinator for further information.

COURSE NO.	TITLE	SEMESTER HOURS
RTV 1306	TV-Radio Maintenance I	6
RTV 1316	TV-Radio Maintenance II	6
RTV2306	TV-Radio Maintenance III	6
RTV2316	TV-Radio Maintenance IV	6
		24

**RADIOLOGIC TECHNOLOGY (RAD)#
(Northeast Campus)**

Course descriptions begin on Page 169

**Associate In Applied Science Degree Program
2-8033-G**

SPECIALIZED COURSES (45 HOURS)

- MED 1432 Medical Terminology
- MED 2402 Medical and Surgical Diseases
- MED 2463 Management in Health Care
- RAD 1402 Introduction to Radiologic Technology
- RAD 1403 Radiologic Techniques I
- RAD 1412 Radiologic Positioning
- RAD 1412 Radiologic Positioning
- RAD 1413 Radiologic Positioning
- RAD 1413 Radiologic Techniques II
- RAD 1481 Seminar
- RAD 1491 Clinical Practice
- RAD 1492 Clinical Practice
- RAD 1492 Clinical Practice
- RAD 1493 Clinical Practice
- RAD 1493 Clinical Practice
- RAD 1494 Clinical Practice
- RAD 2403 Radiologic Physics
- RAD 2413 Radiologic Techniques III
- RAD 2423 Radiologic Techniques IV

GENERAL EDUCATION AND RELATED COURSES (26 HOURS)

- BIO 1324 Anatomy and Physiology I
- BIO 1334 Anatomy and Physiology II
- BIO 2602 Seminar Topics in Biology (Radiation Biology)
- ENG 1613 English Composition I
- GOV 2613 United States Government; or GOV 2623
- MTH 1323 Technical Algebra and Trigonometry I
- PSY 1611 *Orientation to College
- PSY 1643 Human Relations; or PSY 1613

After satisfactory completion of the above curriculum and additional clinical hours, the student is eligible to take the registry examination for certification as a registered radiologic technologist by the American Registry of Radiologic Technologists.

Specialized admission requirements. Students must complete and earn a minimum grade of C in each specialized course. Required of all full-time day students during the first regular semester of their freshman year.

**REAL ESTATE (REA)
(Northeast, Northwest and South Campuses)**

Course descriptions begin on Page 170

**Associate In Applied Science Degree Program
2-5423-0**

SPECIALIZED COURSES (36 HOURS)

BUA2733	Principles of Management
MKT2723	Salesmanship
REA2743	Principles of Real Estate
REA2773	Real Estate Finance
REA2783	Real Estate Appraisal
REA2793	Real Estate Law
REA2833	Title, Abstract, Escrow and Closing Procedures
REA2843	Tax Aspects of Real Estate
REA2853	Property Management
REA2863	Real Estate Investments
	*Electives (6 hours)

GENERAL EDUCATION AND RELATED COURSES (29 HOURS)

ACC 1623	Principles of Accounting I
BUA 1303	Business Mathematics
BUA 1613	Introduction to Business
BUA2663	Business Law I
ECO2613	Principles of Economics I
ENG 1613	English Composition I
GOV2613	United States Government
GOV2623	Texas State and Local Government
HPE 1611	Health Concepts of Physical Activity
PSY 1611	**Orientation to College
SPE 1633	Business and Professional Communication

*All electives must have prior approval of the department chairperson. Suggested electives include: CSC 1613, OFO 1303 and PSY 1613.

**Required of all full-time day students during the first regular semester of their freshman year.

**Certificate of Completion Program
3-5423-9**

COURSE NO.	TITLE	SEMESTER HOURS
BUA 1303	Business Mathematics	3
BUA 1613	Introduction to Business	3
BUA2663	Business Law I	3
REA2743	Principles of Real Estate	3
REA2773	Real Estate Finance	3
REA2783	Real Estate Appraisal	3
REA2793	Real Estate Law	3
ECO2613	Principles of Economics I	3
ENG 1613	English Composition I	3
PSY 1611	*Orientation to College	1
SPE 1633	Business and Professional Communication	3

*Required of all full-time day students during the first regular semester of their freshman year.

**RESPIRATORY THERAPY (RES)#
(Northeast Campus)**

Course descriptions begin on Page 171

**Associate In Applied Science Degree Program
2-8025-0**

SPECIALIZED COURSES (45 HOURS)

MED 1432	Medical Terminology
MED 2402	Medical and Surgical Diseases
MED 2442	Basic Pharmacology
MED 2463	Management in Health Care
RES 1401	Pre-Clinical Laboratory
RES 1404	Respiratory Procedures I
RES 1414	Respiratory Procedures II
RES 1481	Seminar
RES 1481	Seminar
RES 1491	Clinical Practice
RES 1492	Clinical Practice
RES 1492	Clinical Practice
RES 1492	Clinical Practice
RES 1492	Clinical Practice
RES 2402	Cardiopulmonary/Renal Anatomy and Physiology
RES 2404	Respiratory Procedures III
RES 2412	Pulmonary Pathophysiology
RES 2414	Respiratory Procedures IV
RES 2424	Respiratory Procedures V

GENERAL EDUCATION AND RELATED COURSES (32 HOURS)

BIO 1314	Microbiology
BIO 1324	Anatomy and Physiology I
BIO 1334	Anatomy and Physiology II
CHM 1604	Essentials of General and Biological Chemistry
ENG 1613	English Composition I
GOV 2613	United States Government; or GOV 2623
MTH 1323	Technical Algebra and Trigonometry I; or approved Mathematics
PHY 1613	Fundamentals of Physics; or PHY 1614; or PHY 1623
PSY 1611	*Orientation to College
PSY 1643	Human Relations; or PSY 1613

After successful completion of the above curriculum, the student is eligible to take the necessary examinations to become a registered respiratory therapist through the National Board for Respiratory Therapy.

#Specialized admission requirements. Students must complete and earn a minimum grade of "C" in each specialized area.

*Required of all full-time day students during the first regular semester of their freshman year.

SECRETARIAL CAREERS (OFO)
(Northeast, Northwest and South Campuses)
Course descriptions begin on Page 164

Associate In Applied Science Degree Program

The Associate in Applied Science degree will be awarded after the successful completion of the Secretarial Careers Program. The Secretarial Careers Program includes the following options: Educational Secretarial (66 hours), General Secretarial (66 hours), Legal Secretarial (66 hours) and Medical Secretarial (66 hours). All Secretarial Careers Program options have the same general education and related course requirements. Areas of specialty are determined through the selection of a Secretarial Careers option. Students must complete the general education and related courses, the specialized courses, and courses required for one of the options to receive an Associate in Applied Science degree.

SPECIALIZED COURSES (42 HOURS)

OFO 1313	Intermediate Typewriting Skills
OFO 1323	Principles of Shorthand
OFO 1333	Shorthand Speed Building
OFO 1343	Calculating Machines
OFO 1383	Machine Transcription
OFO2303	Business Communications
OFO2313	Advanced Typewriting Problems; or OFO 2463
OFO2323	Advanced Shorthand Dictation and Transcription
OFO2343	Office Accounting I
OFO2383	Office Procedures
OFO2393	Secretarial Procedures
	*Electives (9 hours)

*All electives must have prior approval of the department chairperson. Suggested electives include: BUA 1613, BUA 2653, ECO 2613, OFO 2453, OFO 2473, OFO 2503, OFO 2511, OFO 2523, and OFO 2531.

EDUCATIONAL SECRETARIAL OPTION
2-5825-1

(6 HOURS FROM THE FOLLOWING)

HPE 1653	First Aid and Safety
MET 1604	Basic Media
MET 1613	Instructional Resources
MET 1614	Media Production
PSY 1613	Introduction to Psychology
PSY 1623	Child Growth and Development
PSY 1643	Human Relations
SOC 1613	Introduction to Sociology
SOC 1633	Introduction to Anthropology

GENERAL SECRETARIAL OPTION (6 HOURS)
2-5825-2

Courses may be chosen from the Educational, Legal and/or Medical options.

LEGAL SECRETARIAL OPTION
2-5825-3

(6 HOURS FROM THE FOLLOWING)

BUA2663	Business Law I
BUA2673	Business Law II
CRJ 1303	Introduction to Criminal Justice
CRJ2303	Legal Aspects of Law Enforcement

CRJ 2333	Criminal Procedure and Evidence
OFO 2423	*Legal Terminology and Procedures
PSY 1643	Human Relations
SOC 1613	Introduction to Sociology

*Required of all Legal Secretarial majors.

MEDICAL SECRETARIAL OPTION
2-5825-4

(6 HOURS FROM THE FOLLOWING)

BIO 1614	Biological Principles
MRT 2412	Medical Ethics and Jurisprudence
OFO 2373	*Medical Terminology
PSY 1613	Introduction to Psychology
PSY 1643	Human Relations
SOC 1613	Introduction to Sociology

*Required of all Medical Secretarial majors.

GENERAL EDUCATION AND RELATED COURSES (18 HOURS)

BUA 1303	Business Mathematics
ENG 1303	Applied Communications I; or ENG 1613
ENG 1313	Applied Communications II; or ENG 1623
GOV 2613	United States Government
GOV 2623	Texas State and Local Government
HPE 1611	Health Concepts of Physical Activity
HPE 1641	Activity for Men and Women; or HPE 1741
PSY 1611	*Orientation to College

*Required of all full-time day students during the first regular semester of their freshman year.



**SMALL BUSINESS MANAGEMENT (SBM)
(Northwest Campus)**

Course descriptions begin on Page 171

Associate In Applied Science Degree Program
2-5639-0

SPECIALIZED COURSES (36 HOURS)

ACC 1623	Principles of Accounting I
ACC 1633	Principles of Accounting II
BUA 1303	Business Mathematics
BUA 1613	Introduction to Business
BUA2663	Business Law I
BUA2733	Principles of Management
BUA2763	Consumer Finance
MKT2673	Principles of Marketing
MKT2723	Salesmanship
SBM2603	Small Business Management
SBM2613	Small Business Planning, Control and Financing
SBM2623	Small Business Practicum

GENERAL EDUCATION AND RELATED COURSES (30 HOURS)

CSC 1603	Introduction to Computers
ECO2613	Principles of Economics I
ENG 1303	Applied Communications I; or ENG 1613
ENG 1313	Applied Communications II; or ENG 1623
GOV2613	United States Government
GOV2623	Texas State and Local Government
HPE 1611	Health Concepts of Physical Activity
HPE 1641	Activity for Men and Women; or HPE 1741
PSY 1611	*Orientation to College
PSY 1643	Human Relations

**Electives (6 hours)

*Required of all full-time day students during the first regular semester of their freshman year.

**All electives must have prior approval of the department chairperson. Suggested electives include: ACC 2633, ACC2643, ACC2753, BUA2673, CSC2694, ECO2623, MKT2683 and MKT2693.

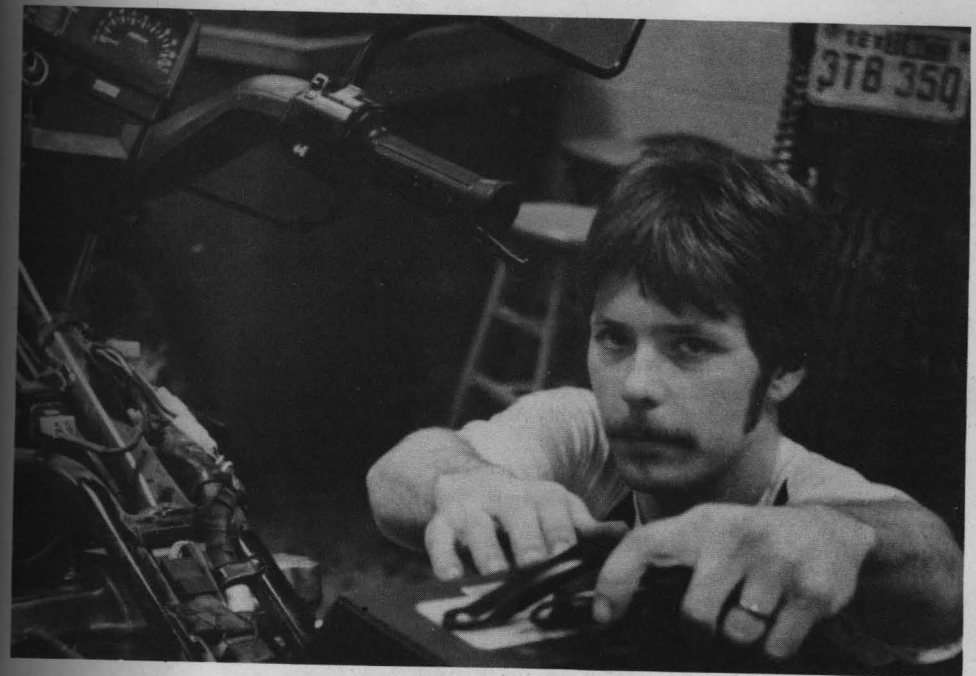
**SMALL GASOLINE ENGINE REPAIR (SER)
(Northwest Campus)**

Course descriptions begin on Page 172

Certificate of Completion Program
3-6255-9

COURSE NO.	TITLE	SEMESTER HRS.
SER 1306	Basic Engine Service Principles	6
SER 1314	Motorcycle Power Unit	4
SER 1324	Lawn, Garden and Construction Equipment	4
SER 1334	Motorcycle Systems	4
SER 1344	Outboard Engine Systems	4
AUT 1303	Related Automotive Electricity	3
AUT2343	Automotive Service Management	3
MTH 1403	Introductory Mathematics	3
	Approved Elective	3
		—
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Students enrolled in Small Gasoline Engine Repair Program are required to furnish their own hand tools for use in laboratory classes.



**SURGICAL TECHNOLOGY (SUR)#
(Northeast Campus)**

Course descriptions begin on Page 174

Certificate of Completion Program
3-8031-8

COURSE NO.	TITLE	SEMESTER HRS.
SUR 1401	Surgical Laboratory	1
SUR 1406	Surgical Techniques	6
SUR 1415	Surgical Procedures	5
SUR 1481	Seminar	1
SUR 1491	Clinical Practice	1
SUR 1492	Clinical Practice	2
SUR 1492	Clinical Practice	2
BIO 1314	Microbiology	2
BIO 1324	Anatomy and Physiology I	4
BIO 1334	Anatomy and Physiology II	3
MED 1432	Medical Terminology	3
MED 2442	Basic Pharmacology	2
PSY 1611	*Orientation to College	1
PSY 1643	Human Relations or PSY 1613	3
		—
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After successful completion of the above curriculum, the student is eligible to take the certification examination to become a certified surgical technologist through the Association of Surgical Technologists.

#Specialized admission requirements. Students must complete and earn a minimum grade of C in each specialized course.

*Required of all full-time day students during the first regular semester of their freshman year.

**WELDING TECHNOLOGY (WEL)
(South Campus)**

Course descriptions begin on Page 175

**Associate In Applied Science Degree Program
241250**

SPECIALIZED COURSES (47 HOURS)

MAS 1514	Machine Shop I
MEC 1523	Engineering Materials
MEC 1573	Manufacturing Processes
MEC2523	Mechanics and Strengths of Materials
NOE 1513	Introduction to Nondestructive Testing
NDE 1543	Penetrant and Magnetic Particle Testing
NDE2754	Radiographic Testing
QUA 1433	Introduction to Quality Assurance
WEL 1313	*Welding I
WEL 1323	*Welding II
WEL 1413	Welding ID
WEL 1423	Welding Design and Layout
WEL2513	Advanced Welding I
WEL2613	**Advanced Welding II
WEL2623	**Advanced Welding ID

GENERAL EDUCATION AND RELATED COURSES (23 HOURS)

DRF 1383	Mechanical Drafting
ENG 1303	Applied Communications I; or ENG 1613
GOV2613	United States Government; or GOV 2623
MTH 1323	Technical I Algebra and Trigonometry I
MTH 1333	Technical Algebra and Trigonometry II
PHY 1634	Technical Physics II
TEC 1301	Introduction to Technology
TEC2333	Employee-Employer Relations

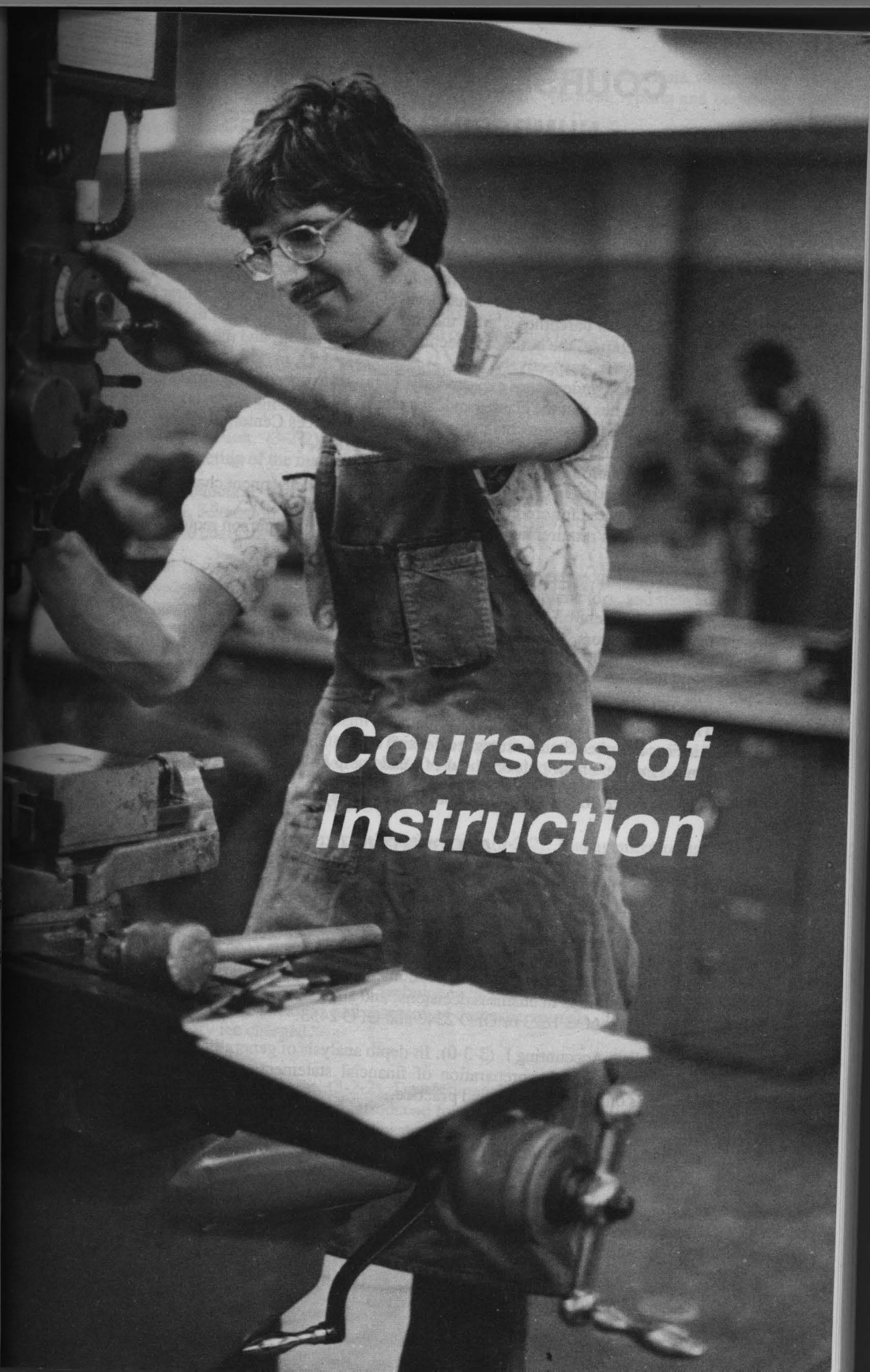
*WEL 1313 and WEL 1323 should be taken concurrently.

**WEL 2613 and WEL 2623 should be taken concurrently.

**Block-Time, Certificate Program
36259**

These courses may be scheduled in a semester block format. Students must allow approximately four to five hours per day for intensive, skill-building courses. Contact program coordinator for further information.

COURSE NO.	TITLE	SEMESTER HRS
DRF 1383	Metals Drafting	3
MEC 1523	Engineering Materials	3
MTH 1403	Introductory Mathematics	3
WEL 1313	Welding I	3
WEL 1323	Welding U	3
WEL 1413	Welding ID	3
WEL 1423	Welding Design and Layout	3
WEL2513	Advanced Welding I	3
WEL2613	Advanced Welding II	3
		—
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***Courses of
Instruction***

COURSES OF INSTRUCTION

NUMBERING OF COURSES

A course is designated by a four-digit number. The first digit indicates the level at which the course is taught, as follows:

- 1: Freshman
- 2: Sophomore

The second and third digits indicate the distinguishing number of the course.

The fourth digit indicates the semester hour credit value of the course.

For example, English 1613 is a freshman level (1), three semester hour course (3).

The three figures in parentheses after the title of each course indicate the number of semester hours credit for the course, the number of lecture hours each week, and the number of laboratory or activity hours each week, respectively.

As a general rule, students are expected and required to spend more time on campus than the minimal scheduled times that the classes and labs meet. This additional time is necessary so students may complete homework assignments in the Learning Resources Center, the Programmed Learning Center and/or special use laboratories.

The following notations are used throughout this section:

*Waiver may be authorized in certain instances by consent of department chairperson.

+Course may be repeated for credit when topic varies.

#Specialized admission requirements; consent of department chairperson required for enrollment.

AEROSPACE STUDIES/AFROTC (AES)

1102. The Development of Air Power. (2-1-1). Traces concepts of employment of air power and focuses on factors which have prompted research and technological change. One class hour plus one hour of Leadership Laboratory per week.
1112. The Development of Air Power. (2-1-1). A continuation of AES 1102.
2102. The Air Force Today. (2-1-1). The doctrine, mission, and organization of the United States Air Force; United States strategic offensive and defensive forces and their missions and functions. One class hour plus one hour of Leadership Laboratory per week.
2112. The Air Force Today. (2-1-1). A continuation of AES 2102.

ACCOUNTING (ACC)

1623. Principles of Accounting I. (3-3-0). Accumulation and use of accounting data in business; fundamental procedures and records; income measurement, operating cycle and preparation of financial statements.
1633. Principles of Accounting II. (3-3-0). Continuation of ACC 1623. Accounting procedures and practices in partnerships and corporations; cost data, budgetary controls, and cost-volume-profit relationships in business decisions; and analysis of financial reports.
Prerequisite: ACC 1623 or OFO 2343 and OFO 2453.*
2613. Intermediate Accounting I. (3-3-0). In-depth analysis of generally accepted accounting principles underlying the preparation of financial statements of publicly held corporations. Emphasis on current theory and practice.
Prerequisite: ACC 1633.*
2623. Intermediate Accounting II. (3-3-0). Continuation of ACC 2613.
Prerequisite: ACC 2613.*
2633. Income Tax Accounting. (3-3-0). History, purposes, and application of the Federal Income Tax Law; emphasis on individual taxation problems and determination.
Prerequisite: ACC 1633.*

2643. Coat Accounting. (3-3-0). Principles and methods of accounting for materials, direct labor and the distribution of overhead expenses. Cost records, operating reports and budgetary control.
Prerequisite: ACC 1633.*
2753. Managerial Accounting. (3-3-0). Accounting concepts and practices used to provide information for business management. Use of financial statements, budgets, cost analysis, and other accounting information in management planning and control.
Prerequisite: ACC 1633.*

AGRIBUSINESS (AGR)

1312. Introduction to Agribusiness. (2-2). Relation of agribusiness to the agriculture industry, including trends and changes in agriculture and opportunities for careers.
1323. Agricultural Marketing. (3-3-0). Principles, practices and problems in marketing of agricultural products, including cyclical and seasonal price variations, integration, future trading, and domestic and foreign trade.
1333. Livestock Production. (3-2-2). Principles and practices of selection, breeding, feeding, health and marketing of the major classes of domestic animals. Laboratory fee charged.
2313. Field Crop Production. (3-2-2). Production and management of farm crops, including varieties, rotation, adaptation, pest and weed control, seed analysis, cost analysis and marketing. Laboratory fee charged.
2333. Agricultural Economics. (3-3-0). The role of agriculture in our economy. Basic economic concepts and problems of agriculture, price making, production factors, and state and federal farm programs affecting the farmer's economic position.
2343. Agricultural Credit and Finance. (3-3-0). Financial management and recordkeeping with emphasis on investment decisions, financial controls and cash-flow budgeting in the agricultural industry.
Prerequisite: AGR 2333.*
2353. Agricultural Feeds and Feeding. (3-2-2). Fundamentals of basic and applied animal nutrition. Identification and uses of feeds and feedstuffs, ration formulation and feeding practices. Laboratory fee charged.
Prerequisite: AGR 1333 and CHM 1604.*
2363. Management Principles of Agricultural Engineering. (3-2-2). Management of agricultural equipment, including procurement, use, maintenance and financial aspects as related to agriculture.
2371. A Business Seminar. (1-1-1). Students investigate current research and development in their fields of interest and become acquainted with the proper procedures for obtaining employment. Recommended to be taken during final semester.
2373. Livestock Pests and Diseases. (3-2-2). Techniques in treatment, control and prevention of economically important parasites and diseases of domestic animals. Total herd health programs. Laboratory fee charged.
Prerequisite: AGR 1333.*
2383. Pasture and Range Management. (3-2-2). Development, fertilization, weed and insect control. Proper utilization of native and introduced forage species of established and rangeland pastures of Texas and the Southwest. Laboratory fee charged.
Prerequisite: AGR 2313.*

*Waiver may be authorized in certain instances by consent of department chairperson.

AIR CONDITIONING AND REFRIGERATION TECHNOLOGY (ACR)

- 1301/02. Special Topics. (1-1--0)/(2-2--0). Study in specialized areas of air conditioning and refrigeration. Topics may be in areas where basic skill deficiencies exist or for upgrading skills. May be taken four times for credit. +
1303. Electrical Fundamentals for Air Conditioning and Refrigeration. (3-2-2). Principles of electricity, electron theory, sources of EMF, electrical circuits, magnetism, Ohm's Law, conductors and insulators, principles of power transformation, electric motor theory, AC generation, and use of electric meters and test equipment. Laboratory fee charged.
1306. Basic Air Conditioning and Refrigeration. (6-4-5). Fundamentals of refrigeration compression, refrigeration cycle, compressors, evaporators, condensers, metering devices, welding, brazing and soldering. Refrigerants and oils, servicing practices, procedures and safety. Laboratory fee charged.
1316. Air Conditioning and Refrigeration Systems. (6-4-5). Knowledge and skills necessary to service and install split air conditioning systems, room air conditioners, household refrigerators and freezers. Includes compressors and compressor systems, condensers, evaporators, metering device, fans, motors, motor controls, electrical circuits, defrosting systems and devices. Laboratory fee charged.
Prerequisite: ACR 1303 and ACR 1306.*
1326. Air Conditioning (Heating). (6-4-5). Knowledge and skills necessary to install and service air conditioning (heating) systems. Introduction to heating systems, fuel sources and types, combustion, proper venting, gas heating systems, electric heating systems, electric heat pump systems, electrical circuits, heating systems controls, humidification, and humidifiers. Laboratory fee charged.
Prerequisite: ACR 1303.*
2306. Commercial Refrigeration Systems. (6-4-5). Knowledge and skills necessary to install and service commercial refrigeration systems. Introduction to commercial refrigeration systems, commercial compressors, condensers, receivers, water valves, refrigerant controls, thermostatic expansion valves, evaporators, suction and liquid line sizing, manifolds, constant pressure valves, solenoid valves, defrost systems, motors and fans, electrical systems, electrical circuits, heat loads, and system capacity. Laboratory fee charged.
Prerequisite: ACR 1316.*
2313. Air Conditioning and Refrigeration Controls. (3-2-2). A continuation of related electricity with emphasis on application in the refrigeration and air conditioning field. Studies will include generation of three-phase power, distribution and application. Theory of operation, application and servicing of three-phase motors, relays, solenoids, line starters, time-delay controls, capacitors, pressure switches, thermal relays, sequencing controls, pneumatic controls, motorized operators, low-voltage controls, humidity controls, and electronic controls. Laboratory fee charged.
Prerequisite: ACR 1316.*
2323. Psychrometrics, Load Calculations and Duct Sizing. (3-2-2). Introduction to psychrometrics, properties of air, heatload calculations, air distribution, and duct sizing. Laboratory fee charged.
Prerequisite: ACR 1303 and ACR 1306.*
2333. Air Conditioning Systems Troubleshooting. (3-2-3). Knowledge and skills necessary to service residential air conditioning systems, air filtering systems, electrical circuits, control systems and systematic troubleshooting techniques. Laboratory fee charged.
Prerequisite: ACR 2313 and ACR 1326.*
2343. Heat Pump Systems. (3-3--0). Introduction to Heat Pump Systems. System economics, heating, cooling and defrost cycles, electrical circuits, trouble shooting, air distribution, and installation procedures.
Prerequisite: ACR 2113 and ACR 1326.*

APPLIANCE SERVICE AND REPAIR (APP)

1312. Laundry and Dishwasher Appliances. (12-6-12). Basic principles of electricity, sources of EMF, AC generation, Ohm's Law, electrical loads and circuits, motor theory and use, and test instruments used in the repair of major appliances. Instruction also includes knowledge and procedures necessary for installing and servicing clothes washing and drying machines and dishwashers. Tools required. Laboratory fee charged.
1322. Kitchen Appliances. (12-6-12). Practices and procedures used in the installation and service repair of domestic gas and electric ranges, water heaters, microwave cookers, and trash compactors. Includes fuels, types of burners, theories of operation, and repair methods. Tools required. Laboratory fee charged.
1324. Basic Appliances Refrigeration. (4-2-4). Fundamentals of refrigeration compression, refrigeration cycle, compressors, evaporators, condensers, and metering devices. Refrigerants, refrigerant oils, soldering, and silver brazing. Tools required. Laboratory fee charged.
1334. Domestic Refrigeration and Air Conditioning Installation. (4-2-4). Knowledge and skills necessary to install and service domestic refrigerators, freezers, and window units. Tools required. Laboratory fee charged.

ARCHITECTURAL TECHNOLOGY (ARC)

1403. Equipment of Buildings. (3-2-4). Layout, selection and installation of mechanical and electrical equipment for various types of construction, as well as the specifications and codes related to such activity. Laboratory fee charged.
1413. Architectural Drafting I. (3--4). Architectural drafting procedures, practices, and symbols; preparation of detailed working drawings for residential and light commercial construction. Laboratory fee charged.
Prerequisite: ENR 1613.*
1573. Construction Processes. (3-2-4). Construction practices and techniques utilized in erecting buildings, and other projects. Laboratory fee charged.
2403. Problem Solving. (3-2-4). Additional study in an area of architecturally related specialization to meet the interests and needs of students. Problems assigned individually or in groups. Laboratory fee charged. May be taken four times for credit.
Prerequisite: Consent of department chairperson.
2413. Architectural Drafting II. (3-2-4). Preparation of working drawings and details for architectural structures; emphasis on commercial buildings. Architectural office procedures duplicated where possible, and the preparation of complete working drawings. Laboratory fee charged.
Prerequisite: ARC 1413.*
2423. Architectural Drafting III. (3-2-4). Advanced architectural problems in detailing mechanical, electrical, and structural systems of buildings. Emphasizes team approach to professional office practice. Laboratory fee charged.
Prerequisite: ARC 2413.*
2443. Professional Office Practices. (3-3--0). Construction codes, specifications, contracts, ethics and field inspection relating to total office operations.

*Waiver may be authorized in certain instances by consent of department chairperson.
+Course may be repeated for credit when topic varies.

ART(ART)**

1613. Art Appreciation. (3-3-0). General education course open to all; design principles from the layman's point of view. Critical evaluation of selected works of painting, sculpture, architecture and industrial design related to everyday life.
1633. Design I. (3-2-4). Emphasis on two-dimensional design; fundamentals of line, color, form, texture, shape, space and arrangement. FRESHMAN STUDIO CORE. Laboratory fee charged.
1643. Design II. (3-2-4). Continuation of ART 1633 with emphasis on three-dimensional concept. FRESHMAN STUDIO CORE. Laboratory fee charged.
Prerequisite: ART 1633.*
1653. Drawing I. (3-2-4). Variety of media, techniques and subjects, exploring perceptual and descriptive possibilities with consideration of drawing as a developmental process, as well as an end in itself. FRESHMAN STUDIO CORE. Laboratory fee charged.
1663. Drawing II. (3-2-4). Expansion of ART 1653 stressing the expressive and conceptual aspects of drawing, including the human figure within a spatial environment. FRESHMAN STUDIO CORE. Laboratory fee charged.
Prerequisite: ART 1653.*
1673. Basic Art for Classroom Teachers. (3-2-4). Materials and techniques directed toward prospective elementary and intermediate public school teachers, as well as "in-service" classroom teachers who have had little formal training in art education. Art appreciation, elements of art, philosophy of art education, creative expression in design, painting and crafts. Laboratory fee charged.
1703. Photography I. (3-2-4). Basic photographic processes and techniques used as an art medium. (Credit may not be earned for both ART 1703 and JRN 1703.) Laboratory fee charged.
Prerequisite: Freshman studio core courses.* (Prerequisite applies to art majors only.)
1713. Photography II. (3-2-4). Continuation of ART 1703. Advanced study of photography as an art medium. (Credit may not be earned for both ART 1713 and JRN 1713.) Laboratory fee charged.
Prerequisite: ART 1703.*
1723. Selected Topics in Photography or Art. (3-2-4). Course offering various technical and theoretical topics. Laboratory fee charged. May be taken four times for credit.+
2613. Drawing III. (3-2-4). Life drawing course emphasizing structure and action of the human figure. Laboratory fee charged.
Prerequisite: Freshman studio core courses.*
2623. Painting I. (3-2-4). Painting media with emphasis on color and composition. Laboratory fee charged.
Prerequisite: Freshman studio core courses.*
2643. Advertising Art I. (3-2-4). Basic processes and techniques of advertising art. Laboratory fee charged.
Prerequisite: Freshman studio core courses.*
2653. Printmaking I. (3-2-4). Basic printmaking processes, including planographic, intaglio, stencil, and relief. Laboratory fee charged.
Prerequisite: Freshman studio core courses.*
2663. Painting II. (3-2-4). Continuation of ART 2623 with emphasis on individual expression. Laboratory fee charged.
Prerequisite: ART 2623.*

2673. Sculpture I. (3-2-4). Basic sculpture approaches in a variety of media, including additive and subtractive techniques. Laboratory fee charged.
Prerequisite: Freshman studio core courses.*
2683. Sculpture II. (3-2-4). Continuation of ART 2673 with emphasis on individual expression. Laboratory fee charged.
Prerequisite: ART 2673.*
2693. Ceramics I. (3-2-4). Basic ceramic processes. Laboratory fee charged.
Prerequisite: Freshman studio core courses.*
2703. Art History Survey I. (3-3-0). Painting, sculpture, architecture, and the minor arts from prehistoric times to 1000 A.D.
2713. Art History Survey II. (3-3-0). Survey of painting, sculpture, architecture, and the minor arts from 1000 A.D. to the present.
2723. Ceramics II. (3-2-4). Continuation of ART 2693 with opportunities for specialization in ceramic processes. Laboratory fee charged.
Prerequisite: ART 2693.*
2733. Art Metals I. (3-2-4). Basic techniques in working with non-ferrous metals. Laboratory fee charged.
Prerequisite: Freshman studio core courses.*
2753. Advertising Art II. (3-2-4). Continuation of ART 2643. Advanced study of advertising art and production. Laboratory fee charged.
Prerequisite: ART 2643.*

AUTO BODY REPAIR (ABR)

1313. Introduction to Auto Body Construction and Repair. (3-2-2). Working relationships of auto body components, vocabulary, trade practices, hand tools, paint and primer applications initiated. Shop safety practices using hand and power tools. Laboratory fee charged.
1316. Principles of Auto Body Repair. (6-4-5). Methods of applying force for metal reactions and welding practices: Fiber glass and non-metal repair procedures. Bending, curing, shrinking, straightening, filling, filing, and sanding techniques. Laboratory fee charged.
1326. Auto Body Panel Repair. (6-3-6). Roughing out, straightening, removing, and replacement of damaged auto body panels. Welding, brazing, bumping, filing, dinging, peening, and other related skills. Laboratory fee charged.
Prerequisite: ABR 1313 and ABR 1316.*
1334. Auto Body Refinishing. (4-2-4). Paint application and refinishing techniques used in industry. Surface preparation, use and application of undercoats, sealers, thinners, reducers, hardeners, top coats, and problems encountered in refinishing process. Laboratory fee charged.
Prerequisite: ABR 1313 and ABR 1316.*
2316. Frame Repair and Realigning. (6-3-6). Restoration of frame and body distortion using power equipment. Laboratory fee charged.
Prerequisite: ABR 1313 and ABR 1316.*
2324. Major Vehicle Damage Repair. (4-2-4). Emphasis on development of skills and techniques used to repair extensive vehicle damages. Laboratory fee charged.
Prerequisite: ABR 1326 and ABR 1334.*

*Waiver may be authorized in certain instances by consent of department chairperson.

**Freshman studio core courses (ART 1633, ART 1643, ART 1653 and ART 1663) are required of art majors prior to enrollment in sophomore level courses.

+ Courses may be repeated for credit when topic varies.

2343. Auto Body Shop Management. (3-3-0). Procedures and practices for operation of an auto body shop. Includes cost estimates, equipment selection, supplies, government ordinances, employee safety, and health, facility utilization and trade practices.
Prerequisite: ABR 1313 and ABR 1316.*
2344. Related Problems. (4-2-4). Improvement of skills in areas of weakness and/or specialization. Laboratory fee charged.
Prerequisite: ABR 2316 and ABR 2324.*
2354. Auto Body Repair Practicum. (4-2-6). Students assigned jobs in repair shops to extend trade competencies. Recommend students enroll in practicum during final semester of degree program. Laboratory fee charged.
Prerequisite: ABR 2316 and ABR 2324.*

AUTOMOTIVE SERVICE TECHNOLOGY (AUT)

- 1301/02. Special Topics. (1-1-0)/(2-2-0). Studies in specialized areas of automotive service technology. Topics may be in areas where basic skill deficiencies exist or for upgrading of existing skills. May be taken four times for credit.+
1303. Related Automotive Electricity. (3-2-2). Principles of electricity including electron theory, EMF, magnetism, Ohm's Law, conductors, inductors, circuits, power generation, rectification (AC to DC), batteries, test equipment, and safety. Laboratory fee charged.
1306. Basic Automotive Principles. (6-4-5). Physical principles relating to the engine, chassis, and power train operation. Safety, shop equipment, hand tools, fasteners, precision measurement, and welding. Laboratory fee charged.
1313. Automobile Power Unit. (3-2-2). Theory of operation and repair of the automobile engine concentrating on the valve train. Laboratory fee charged.
Prerequisite: AUT 1303 and AUT 1306.*
1316. Automotive Electrical and Fuel Systems. (6-4-5). Operational theory and repair of starting, charging, ignition, fuel, and emission control systems. Includes diagnostic procedures and equipment. Laboratory fee charged.
Prerequisite: AUT 1303 and AUT 1306.*
2316. Automobile Suspension, Steering and Brakes. (6-4-4). Theory and repair of the chassis, including alignment, wheels, tires, frame, suspension, steering, and brake applications. Laboratory fee charged.
Prerequisite: AUT 1306.*
2326. Automobile Air Conditioning. (6-4-4). Theory and principles of refrigeration and air conditioning as related to automotive systems. Training in servicing techniques with emphasis on diagnosis of automotive air conditioning problems. Laboratory fee charged.
Prerequisite: AUT 1303 and AUT 1306.*
2343. Automotive Service Management. (3-3-0). Employee-employer relations, employee supervision, and personnel management as related to the automotive service industry. Automotive service organization practices, customer relations, selection of service equipment, facilities planning, and design.
2344. Related Problems. (4-2-4). Additional and/or advanced study in various areas of specialization, including fuel and electrical, power units, suspension and brakes, and air conditioning. Learning activities in the laboratory, under actual field conditions or a combination of both. Laboratory fee charged.
Prerequisite: Consent of department chairperson.
2346. Automotive Power Train. (6-4-5). Principles and theory of operation of automobile drive trains. Repair of clutch, manually selective gear transmissions, propeller shafts, differentials, axles, and transaxles. Repair of fully automatic transmissions, including torque con-

verters, hydraulic systems, control systems, and planetary gear and clutches. Laboratory fee charged.

Prerequisite: AUT 1306.*

2353. Introduction to Automotive Diesel: (3-2-2). Theory and Principles of the diesel engine. Training in servicing techniques with emphasis on diagnosis and repair of the automotive diesel fuel injection system. Laboratory fee charged.
Prerequisite: AUT 1313 and AUT 1316*

AUTOMOTIVE TECHNOLOGY APPRENTICESHIP (ATA)#

1303. Automotive Electrical Systems I. (3-3-0). Topics include shop safety, tools and fasteners, basic electrical and battery theory, charging systems, and starters. Use of schematic diagrams and shop manuals stressed.
1313. Automotive Electrical Systems II. (3-3-0). Continuation of ATA 1303 emphasizing chassis electrical systems, and testing, and diagnosis of batteries, starters, and charging systems. Additional topics include fundamental design of ignition and emission control systems. Prepares students for NIASE Electrical Systems Examination.
Prerequisite: ATA 1303.*
1323. Heating and Air Conditioning Theory. (3-3-0). Theory of automotive-air conditioning and heating systems. Emphasizes basic refrigeration cycle and diagnosis of system malfunctions. Prepares students for NIASE Heating and Air Conditioning Examination.
1333. Automotive Tuneup and Diagnosis. (3-3-0). Automotive fuel systems, including carburetion and fuel injection. Engine performance testing and diagnosis; purpose and use of available diagnostic test equipment, including oscilloscopes, exhaust analyzers, and chassis dynamometers. Prepares students for NIASE Engine Tuneup Examination.
Prerequisite: ATA 1313.*
1343. Automotive Brake Systems. (3-3-0). Theory and principles relating to design, operation, and servicing of automotive brake systems. Includes drum and disc brakes, hydraulic systems, power assist, diagnosis, and reconditioning procedures. Prepares students for NIASE Brake System Examination.
1354. Automotive Service and Parts Department Practices. (4-4-0). Principles and practices of automotive service and parts department organization, operation, and management. Service department segment includes customer relations, personnel management and supervision, job pricing and cost control, and warranty procedures. Parts department segment includes catalog interpretation, stocking, inventory control, and distribution, including shop, retail, and wholesale.
1503. Automotive Internship I. (3-1-14). Supervised on-the-job training, concurrent with classroom activities.
1513. Automotive Internship II. (3-1-14). Continuation of AUT 1503.
1523. Automotive Internship III. (3-1-14). Continuation of AUT 1513.
1533. Automotive Internship IV. (3-1-14). Continuation of AUT 1523.
1543. Automotive Internship V. (3-1-14). Continuation of AUT 1533.
1553. Automotive Internship VI. (3-1-14). Continuation of AUT 1543.
2303. Automotive Steering and Suspension Systems. (3-3-0). Concepts of automotive steering systems (both power and manual), suspension systems, wheel alignment, and wheel balancing. Design, operation, diagnosis and repair stressed. Prepares students for NIASE Front End Examination.

*Waiver may be authorized in certain instances by consent of department chairperson.

+Course may be repeated for credit when topic varies.

#Specialized admission requirements; consent of department chairperson required for enrollment.

2313. Automotive Engine Repair. (3-3-0). Theoretical and working knowledge of engines and cooling systems, diagnosis and repair. Includes disassembly, inspection and reassembly techniques, use of precision measuring instruments, and interpretation of tolerances. Prepares students for NIASE Engine Repair Examination.
2323. Automotive Transmissions and Drive Systems. (3-3-0). Working knowledge of automatic and standard transmissions, clutches, drive lines, and differential carrier assemblies. Diagnosis, adjustment, repair, and/or replacement techniques stressed. Prepares students for NIASE Automatic and Standard Transmission Examination (2).

AVIATION MAINTENANCE TECHNICIAN (AER)

1313. Background for Aircraft Science. (3-2-2). Mathematics, physics, and aircraft drawings to meet Federal Aviation Administration requirements for airframe and powerplant mechanics.
1323. Advanced Aircraft Science. (3-2-3). Use and understanding of FAA and aircraft manufacturers' publications, forms and records, mechanics' privileges and limitations. Aircraft weight, balance computation, and calculation.
1333. Assembly and Rigging. (3-2-3). Theory of flight and aircraft hardware; installation, inspection and rigging of flight control surfaces, bell cranks, push rods and cables. Laboratory fee charged.
1335. Sheet Metal Structures. (5-2-7). Inspection and repair of honeycomb and laminated structures, sheet metal structures, doors, windows, and interior furnishings. Forming, layout and bending sheet metal; identification, selection, and installation of both conventional and special rivets and fasteners. Laboratory fee charged.
1344. Ground Operation and Servicing. (4-2-4). Fuels, servicing methods and procedures, aircraft movement, securing and ground operations of engines, external power equipment, and cleaning and corrosion control. Laboratory fee charged.
1356. Airframe Electrical Systems. (6-4-5). Installing, removing, disassembly and repair of aircraft electrical components and related wiring. Aircraft instrument systems, including installations, removal, and storing procedures. Identification, operation of communications, navigation equipment, power requirements, and antenna installation. Laboratory fee charged.
1364. Materials and Processes. (4-3-3). Aircraft hardware and materials. Precision measurements, standards and codes, and heat treating processes. Fabrication and installation of fluid lines and fittings, chemical etchings, and magnetic particle inspection. Inspection of welds and selection of appropriate nondestructive testing methods. Laboratory fee charged.
1372. Aircraft Landing Gear Systems. (2-2-3). Retractable landing gear systems. Laboratory fee charged.
1374. Hydraulic, Pneumatic and Fuel Systems. (4-3-4). Servicing, inspecting, disassembly and repair of component parts of hydraulic, pneumatic and fuel systems. Laboratory fee charged.
1383. Basic Electricity. (3-3-2). Voltage, current, and resistance as related to aircraft electrical systems. Servicing and maintenance of aircraft batteries, generators, alternators, motors, and rectifiers. Laboratory fee charged.
1392. Aircraft Covering and Finishing. (2-1-2). Various covering materials, finishes, and approved methods and procedures for application. Laboratory fee charged.
1402. Welding. (2-1-2). Repair procedures used in selection and application of appropriate methods of welding, brazing, and soldering with gas and arc welding on steel, stainless steel, magnesium, brass, copper, and aluminum. Laboratory fee charged.

1403. Utility Systems. (3-2-3). Operation, inspection, and repair of landing gear position and warning systems, cabin atmospheric control, ice and rain control, aircraft and engine fire detection and protection systems. Laboratory fee charged.
1412. Airframe Inspection and Review. (2-2-1). Methods and procedures for completing a 100-hour inspection. Review of all general and airframe courses.
2412. Turbine Engines. (2-2-1). Theory of construction and operation of the turbine engine. Laboratory fee charged.
2425. Powerplant Fuel Systems. (5-5-5). Types of fuel systems used on reciprocating and turbine engines. Fuel metering systems, carburetors, fuel pumps, water injection systems, induction systems, heat exchangers, superchargers, engine cooling and exhaust systems. Theory of reciprocating engine construction and operation. Laboratory fee charged.
2434. Propellers. (4-3-3). Theory of construction. Inspection, servicing and repairing of fixed-pitch, constant-speed, feathering propellers and governing systems. Laboratory fee charged.
2442. Powerplant Lubrication Systems. (2-2-2). Theory and maintenance practices of lubrication characteristics, engine internal lubrication, external units, filters, dilution and oil temperature controls. Laboratory fee charged.
2456. Reciprocating Engines Overhaul. (6-5-8). Overhaul, inspection and testing of component parts of aircraft engines. Laboratory fee charged.
2465. Powerplant Electrical Systems. (5-5-5). Theory of construction, control, operation and maintenance of electrical systems. Servicing of powerplant magnetos, ignitions, starters, generators, engine instrumentation and engine fire protection systems. Laboratory fee charged.
2472. Powerplant Inspection and Review. (2-2-1). Methods and procedures for completing airworthiness inspection. Review of all general and powerplant courses.
2481. Related Problems. (1-1-1). Preparation for Federal Aviation Administration (FAA) oral and practical examinations in general, airframe, and powerplant courses leading to mechanic licensure. Laboratory fee charged. May be taken four times for credit. Prerequisite: Consent of department chairperson.

BANKING AND FINANCE (BAN)#

1603. Principles of Bank Operations. (3-3-0). Fundamentals of bank functions in a broad and operational perspective. Topics include banks and the monetary system, negotiable instruments, the relationship of the commercial bank to its depositors, types of bank accounts, the deposit function, the payments function, bank loans and investments, other banking services (trust, international and safe deposit), bank accounting and marketing, external and internal controls, and the public service obligations of banks.
1613. Analyzing Financial Statements. (3-3-0). Characteristics of financial statements and financial statement analysis. Review of basic accounting principles necessary for analysis of financial statements.
1623. Business Financial Management. (3-3-0). Principles of finance as applied to the operations of a profit-seeking (non-bank) firm. Active participation in the process of financial administration and decision making; use of tools and techniques necessary for the efficient financial management of a modern business enterprise. Activities of the modern business financial manager.

#Specialized admission requirements; consent of department chairperson required for enrollment.
+Course may be repeated for credit when topic varies.

1633. Fundamentals of Bank Data Processing. (3-3-0). Broadly based and non-technical explanation of electronic data processing as applied to banks. Fundamental principles, concepts and functions of automation. General briefing on bank data processing. Equipment and techniques applied to the automation of banking systems.
1643. Law and Banking. (3-3-0). Rules of law which undergird banking. Jurisprudence, the court system and civil procedure, contracts, quasi-contracts, property, torts and crimes, agencies, partnerships, corporations, sales of personal property, commercial paper, bank deposits and collections, documents of title, and secured transactions. Emphasis on the uniform commercial code.
1653. Introduction to Commercial Lending. (3-3-0). Provides an overview of the commercial lending function. Topics include the commercial loan customer, types of commercial loans, the loan decision process (information gathering, analysis), cost analysis, control and profitability, and the regulatory and legal environment.
1703. Written Communications for Bankers. (3-3-0). Letter forms and fundamental principles of modern correspondence, emphasizing bank letters. Designed for bank officers, supervisors and employees who dictate or review correspondence.
1713. Conference Planning and Leadership. (3-3-0). Dynamics of human interaction in groups convened to solve problems and make decisions. Essentials of parliamentary procedure, presenting an effective technique for achieving consensus, and formalizing and recording the decision making process.
2303. Money and Banking. (3-3-0). Practical aspects of money and banking; basic theory. Problems of economic stabilization, types of spending, the role of gold, limitations of central bank control, government fiscal policy, balance of payments and foreign reserves, and the structuring of portfolios.
2313. Bank Marketing. (3-3-0). Concepts and philosophies of marketing; marketing information, research and target; marketing mix (product strategy, distribution strategy, advertising and sales promotion, personal selling and price strategy), and methods of marketing planning.
2323. Agricultural Finance. (3-3-0). General principles of agricultural finance and the use of capital in agricultural credit.
2333. Bank Investments. (3-3-0). Primary and secondary reserve needs of commercial banks, sources of reserves and their random and cyclical fluctuations, showing the influence of these factors on investment policy. Yield changes as they affect a bank's long-term holdings.
2343. Credit Administration. (3-3-0). Factors influencing and determining loan policy. Methods of credit investigation and analysis, credit techniques, specific credit problems, and types of loans.
2353. Federal Reserve System. (3-3-0). Operations and policies of the Federal Reserve System. International monetary affairs and economic developments affecting the American fiscal system.
2363. Real Estate Finance. (3-3-0). Mortgage market, acquisition of a mortgage portfolio, mortgage plans and procedures, mortgage loan processing and servicing, and obligations of the mortgage loan officer in overall portfolio management.
2373. Installment Credit. (3-3-0). Techniques of installment lending. Establishing credit, obtaining and checking information, servicing loans, and collecting amounts due. Inventory financing, special loans programs, business development and advertising, and the public relations aspect of installment lending.
2383. International Banking. (3-3-0). Basic framework and fundamentals of international banking; international fund transfer procedures; trade financing; international banking agencies and their relationships to commercial banks, and currency exchanges.
2393. Savings and Time Deposit Banking. (3-3-0). Savings institutions and the savings process. Economics of the savings process. Types of financial savings. System of financial flows of income to capital investment.
2403. Bank Management. (3-3-0). Trends in the philosophy and practice of bank management. Objectives, planning, structure, control, and the interrelationship of various bank departments. Case studies utilized.
2413. Supervision and Personnel Administration. (3-3-0). Principles, procedures, and organizational techniques in the management of personnel.
2423. Trust Functions and Services. (3-3-0). Services and duties involved in trust operations. Business and legal aspects of trust functions.
2433. Management of Commercial Bank Funds. (3-3-0). Principles of funds management. Practices in large banks and smaller institutions differentiated. Planning and execution of management functions. Funds management in areas of loans, deposits, investments and capital.
2443. Bank Cards. (3-3-0). Overview of bank card industry, including types of credit cards and their functions; cardholder profiles, attitudes, and behavior; and credit card marketing, authorization, customer service, cost control, collections, security, and fraud.
2453. Systems Analysis. (3-3-0). A pragmatic methodology for problem solving through practical implementation of systems analysis for mid-management personnel.
2463. Trust Management. (3-3-0). Continuation of BAN 2423, Trust Functions and Services. Topics are the board of directors, department of accounting, trust investments, tax administration, trust automation, employee benefit trusts, corporate trust administration, business development, and trust profitability.
2663. Special Topics. (3-3-0). Selected topics in banking and finance. May be taken four times for credit.+

BASIC STUDIES (BAS)

1603. Communications I. (3-3-0). Fundamentals of English as a communications tool. Emphasizes functional writing for completion of writing assignments throughout the basic studies program, and oral communication in conversation and group discussion.
1613. Communications II. (3-3-0). Continuation of BAS 1603. Writing and research skills emphasizing reading, understanding and critically analyzing selections from modern literature.

BIOLOGY (BIO)

1314. Microbiology. (4-3-4). Microorganisms - their morphological, physiological, and biochemical characteristics; response to environment; and influence on their surroundings. Their relationship to the oral and intestinal cavities, aspects of parasitism, infection, body defenses, and methods of prevention and controlling infection. Effects and control of microorganisms in food, water, milk, and sanitation. Laboratory fee charged. Prerequisite: BIO 1324.*
1324. Anatomy and Physiology I. (4-3-2). Functional anatomy with emphasis on basic principles and physiological activities of different systems of the body. Laboratory experiments in vertebrate physiology and the dissection of a mammal. Laboratory fee charged.
1334. Anatomy and Physiology II. (4-3-2). Continuation of BIO 1324. Laboratory fee charged. Prerequisite: BIO 1324.*

*Waiver may be authorized in certain instances by consent of department chairperson.
+Course may be repeated for credit when topic varies.

1614. Biological Principles. (4-3-2). Life sciences relating to plants and animals. For non-science majors. Laboratory fee charged.
1624. Biological Concepts. (4-3-2). Plant and animal structures and function; interrelationships among plants and animals, including life styles and cycles. For non-science majors. Laboratory fee charged.
1654. General Biology I. (4-3-3). Scientific method and thought. Concepts of life chemistry, cell concept, and survey of the animal kingdom from a taxonomic, physiological, and morphological standpoint. Laboratory fee charged.
1664. General Biology II. (4-3-3). Plant kingdom from a taxonomic, physiological, and morphological standpoint. Classical and modern genetics, eugenics, and the ecosystem concept. Applied ecology and evolutionary concepts. Laboratory fee charged. Prerequisite: BIO 1654.*
2601. Special Problems in Biological Sciences. (1-0-3). Selected problems in biology, including research or field problems of limited scope, intended to promote independent study. Laboratory fee charged. May be taken four times for credit. + Prerequisite: Consent of department chairperson.
2602. Seminar Topics in Biology. (2-2-0). Topics of special interest to students to be presented in a lecture-recitation format. Course includes topics of current interest, classical biology, radiation biology, and science history. Course may be taken four times for credit. + Prerequisite: Consent of department chairperson.
2603. Selected Topics in Biological Science. (3-2-3). Selected topics in genetics, microbiology, ecology, radiation biology, marine biology and others. Laboratory fee charged. Course may be taken four times for credit. + Prerequisite: Consent of department chairperson.
2604. Genetics and Society. (4-3-2). Physical bases of inheritance and the laws of heredity. Variations with emphasis on human genetics and societal implications. Laboratory fee charged. Prerequisite: One year of biology.*
2614. Invertebrate Zoology. (4-3-4). Anatomy, physiology, ecology and evolution of representatives of the major phyla of invertebrate animals. Laboratory fee charged. Prerequisite: BIO 1664.*
2624. Comparative Vertebrate Anatomy. (4-3-3). Organ systems of protochordates and vertebrates with emphasis on phylogeny. Laboratory includes detailed dissections of representative specimens. Laboratory fee charged. Prerequisite: BIO 1664.*
2644. Environmental Biology. (4-3-4). Basic ecological principles and techniques. Aquatic and terrestrial communities studied with emphasis on biotic interrelationships. Laboratory fee charged. Prerequisite: BIO 1664.*
2654. General Botany. (4-3-3). Taxonomy, anatomy, morphology, physiology, genetics, ecology and evolution as related to plants. Laboratory fee charged. Prerequisite: BIO 1664.*
2664. General Microbiology. (4-3-4). Microscopic and chemical basis of microbial life; the macromolecules, enzymes, bioenergetics, and nutrition requirements of bacteria. Survey of the eucaryotes, procaryotes, viruses, and ten orders of bacteria. Principles of disinfection, sterilization, antibiotics, infection, immunology, and serology. Laboratory fee charged. Prerequisite: One year of biology.*

BUSINESS (BUA)

1303. Business Mathematics. (3-3-0) Application of arithmetic processes to business problems, taxes and their application, interest, insurance, and accounting procedures.
1613. Introduction to Business. (3-3-0). General survey of business. Includes modified capitalism, role of business within the economic system, inflation, production, marketing, accounting, finance, and data processing.
2653. Office Management. (3-3-0). Principles involved in managing an office; office practices and procedures; and human relations in the managerial task. Prerequisite: BUS 101. Semester hours credit in business administration.*
2663. Business Law I. (3-3-0). Nature and source of law, courts and court procedures, law of contracts, agency and negotiable instruments. Prerequisite: BUS 101. Semester hours credit in business administration.*
2673. Business Law II. (3-3-0). Continuation of BUA 2663. Law of sales, real, and personal property, securities transactions; business organization and bankruptcy. Prerequisite: BUA 2663.*
2733. Principles of Management. (3-3-0) Principles of management; use of these principles to improve managerial action; organizational effectiveness.
2763. Personal Money Management (3-3-0) Guide to purchasing such as homes, automobiles, clothing and food. Coverage of: insurance, investments, taxes, budgeting, and estate planning.

CAST METALS TECHNOLOGY (CMT)

1414. Basic Metals Casting. (4-2-4). Processes and methods of casting, including patternmaking, molding, core making, melting and pouring, fettling and finishing, and inspection. Laboratory fee charged.
1422. Sands and ores. (2-1-2). Processing of sands used in the cast metals industry; tests for strength, moisture and clay content; grain distribution; permeability; compactibility; and volatile matter. Core binding mixing for core making stressed. Laboratory fee charged. Prerequisite: CMT 1414.*
2424. Cast Design and Patternmaking. (4-2-4) Drawings related to castings and patterns, layout, dimensioning, design, pattern fabrication, pouring of castings, and design evaluation. Laboratory fee charged. Prerequisite: CMT 1414.*
2434. Core Making and Molding. (4-2-4). Metals control; melting; molding practices; chemical, physical, and mechanical properties of castings; selection of best molding method. Includes mechanical testing and inspection of cast specimens. Laboratory fee charged. Prerequisite: CMT 1414.*
2444. Foundry Practice. (4-2-4). Foundry problems including metallurgy of castings, casting design, molding, coring, gating, riser design, and inspection. Special assignments will involve the student, instructor and industry. Prerequisite: CMT 1422, CMT 2424. Laboratory fee charged.

*Waiver may be authorized.
+Course may be repeated; credit varies by consent of department chairperson.

CHEMISTRY (CHM)

1604. Essentials of General and Biological Chemistry. (4-3-3). Importance of chemical concepts to living organisms - including humans. Laboratory fee charged.
1614. Fundamentals of Chemistry I. (4-3-3). Basic chemistry involving physical and biological aspects of matter and the cultural role of chemistry. For non-science majors. Laboratory fee charged.
1624. Fundamentals of Chemistry II. (4-3-3). Organic, biological and radiation chemistry and application to environmental problems. Laboratory fee charged.
Prerequisite: CHM 1614, CHM 1633 or CHM 1634.*
1633. Introductory Chemistry. (3-2-2). For students planning to major in a science or science related field who do not have previous experience in chemistry. Laboratory fee charged.
1634. General Chemistry I. (4-3-4). Inorganic chemistry necessary for further work in science-related subjects. Atomic structure, chemical bonding, molecular structure, and chemical and physical properties of matter. Laboratory fee charged.
1644. General Chemistry II. (4-3-4). Additional study of inorganic chemistry, including qualitative analysis. Laboratory fee charged.
Prerequisite: CHM 1634.*
2614. Organic Chemistry I. (4-3-4). Chemistry of carbon compounds. Integration of aromatic and aliphatic compounds, treating the principal classes of each. Emphasis on molecular structure theory, stereochemistry, structure and reactivity, and reaction mechanisms. Laboratory fee charged.
Prerequisite: CHM 1644.*
2624. Organic Chemistry II. (4-3-4). Continuation of CHM 2614. Emphasis on the classes of aliphatic and aromatic compounds not previously discussed; spectroscopy; the use of instrumentation in organic chemistry; and introduction to the chemistry of carbohydrates, amino acids, proteins, and natural products. Qualitative analysis will be included in the laboratory work. Laboratory fee charged.
Prerequisite: CHM 2614.*
2644. Quantitative Analysis. (4-2-6). Modern methods of chemical analysis, including optics, electronics, and instrumental methods of analysis. Laboratory fee charged.
Prerequisite: CHM 1644.*

CHILD DEVELOPMENT (CDP)

1406. Survey of Child Care. (6-4-4). History, philosophy and ethics of child care; types of child-caring facilities; and laws and standards governing agency management. Roles of team members within the agency. Responsibilities, personality, and involvement of child care workers. Field visits to a variety of child-caring facilities.
1413. Infant and Toddler Care. (3-3-0). Needs of the infant and toddler. Attention given to role of day care and the day-care worker to meet these needs.
1416. The Special Child. (6-4-4). Difference and disturbances of some children in child-caring facilities, special methods of care of such children, and a study of specific cases based on actual records. Communications, reports, and agency records on the child. Observations in child-caring facilities.
2413. Child Health and Nutrition. (3-3-0). Feeding and health conditions as they contribute to and affect child growth, development, and learning. Planning, selecting, and serving of food to meet the child's development needs. Health supervision of the child during infancy, preschool, and school years.

2416. Seminar in Child Care. (6-2-8). Conceptual and recreational, creative activities, arts, crafts, children's music and dance, children's literature and storytelling, and homemaking practices applicable to daily living family group are. Supervised participation in children's activities several child-caring facilities.
Prerequisite: CDP 1406.*
2426. Child Development Internship (6-2-8) N JDIJagement. Actual child work in day care and the areas of group play, etc.; -caring facilities.
Prerequisite: Consent of department chairperson.
2433. Child Development Seminar. (3-3-0). Current topics in the area of child development are explored. May be taken four times for credit.

CIVIL CONSTRUCTION TECHNOLOGY (CIV)

1403. Surveying. (3-2-4). Plane surveying, including basic measuring procedures, traverse, triangulation, earthwork computation, and transit-tape surveys. Laboratory fee charged.
Prerequisite: MTH 1323.*
2403. Selected Problems. (3-2-4). Civil and construction related specialization to meet the interests and needs of students. Problems assigned in individual or in groups. Laboratory fee charged.
Prerequisite: Consent of department chairperson.
2413. Soils and Foundations (3-2-4) Load bearing qualities of soils and methods of analyzing subsoil conditions, bearing capacity, and types of foundation, design, and behavior characteristics studied. Laboratory fee charged.
Prerequisite: MTH 1323.*
2433. Properties of Concrete and Asphalt (3-2-4) Concrete and asphalt, including analysis of materials, mix design, methods of job placement, and specifications. Laboratory fee charged.
Prerequisite: MTH 1323.*
2443. Advanced Surveying. (3-2-4). Reconnaissance preliminary location, and construction surveys. Field work in curves, earthwork drainage, and topographic mapping. Laboratory fee charged.
Prerequisite: CIV 1403.*
2453. Structural Analysis and Detailing (3-2-4) Design, assembly techniques in steel and concrete construction; includes use of A.I.S.C. manuals and standards in the preparation of detail drawings of steel and concrete structural systems. Laboratory fee charged.
Prerequisite: MTH 1323 and MEC 2523.*
2463. Applied Mechanics of Fluids. (3-2-4) Fluid statics, hydrodynamics, subterranean flow, runoff, pump characteristics, and wave motion. Laboratory fee charged.
Prerequisite: MTH 1323.*
2483. Construction Estimating. (3-2-2). Procedures used in construction cost analysis. Practice in preparing cost analysis and scheduling methods of material and labor from drawings and specifications. Laboratory fee charged.
Prerequisite: Consent of department chairperson.
2513. Land Surveying. (3-2-4). Brief history of Texas land surveying in early Texas and the public lands of the nation. Advanced mensuration, trigonometry, and computation used in land surveying in Texas. Laboratory fee charged.
Prerequisite: CIV 1403.*

*Waiver may be authorized in certain instances by consent of department chairperson.
+Course may be repeated for credit when topic varies.

2523. Topographic Surveying. (3-2-4). Stadia, grids, maps, and statistical plane coordinates used in making topographic surveys. Field astronomy, traversing, radiation, meridian corrections, and resectioning will be used to collect data. Laboratory fee charged.
Prerequisite: CIV 1403. *
2533. Legal Principles of Boundary Locations. (3-3-0). Systems used to describe property, ownership, and locating sequence. Transfer of real property, simultaneous conveyances, reversions rights, and surveyor's responsibilities to Texas land and the court.
Prerequisite: CIV 2513. *
2553. Route Surveying. (3-2-4). Transportation systems using office plans and data collected from field work and aerial photographs, computations for horizontal and vertical curves; and grades, cross-sections, plan profile, and earth work requirements. Laboratory fee charged.
Prerequisite: CIV 1403. *

COMMERCIAL TRANSPORTATION (TPD)

1302. Transportation Training I. (2-0-20). Supervised employment in the transportation field. Includes and requires cooperation between the instructor, student and employer in planning and execution of an on-the-job training plan. Concurrent with COM 1303.
1303. Introduction to Transportation. (3-3-0). Basic understanding of the structure of the transportation industry. Attention to the development of the industry, services provided by the industry, rate and classification procedures, state and federal regulations, patterns of traffic flow, and the complementary and unique characteristics of the motor, rail, air, water, and pipeline services.
1333. Physical Distribution and Traffic Management. (3-3-0). Study of specific services provided by the carrier industry and the related roles of traffic management and physical distribution management in today's business environment. In-depth attention given to study of traffic functions, physical distribution concepts, freight claims, and movement of hazardous materials.
Prerequisite: TPD 1303. *
1343. Air Transportation. (3-3-0). Survey of industry with emphasis on movement of freight. Development of the industry, regulatory bodies and procedures, economics of air transportation tariffs and rate-making procedures, and hazardous materials handling. Aircraft types and configurations, types of air carriers, air terminal operations, coordination of intermodal arrangements, export/import procedures, passenger reservations, and routing techniques.
1353. Export/Import Traffic Management. (3-3-0). Peculiarities of export/import freight movements via surface carriers. Ocean freight forwarding, shipping, rates, terminal charges, export documentation, marine insurance, claims, letters of credit, customs procedures, intermodalism, and government regulations. Skills necessary to arrange for export/import freight movements.
Prerequisite: COM 1303. *
2303. Transportation Regulation (ICA) I. (3-3-0). Origin and development of Federal Regulation of surface transportation in the United States. Interstate Commerce Act (ICA) studied as it pertains to regulation of railroads, motor carriers, domestic water carriers, and freight forwarders.
Prerequisite: COM 1303. *
2312. Transportation Training II. (2-0-20). Continuation of supervised employment in student's training position. Provides knowledge base, skills and experience of higher order than required in student's present position. Concurrent with COM 2313.
2313. Classification Procedures and Rate Computation I. (3-3-0). Basic rate making, cargo classification, responsibilities of the National Classification Board, services of specific rate bureaus and the territories, tariff circulars, and the construction and filing of tariffs. Laboratory fee charged.
Prerequisite: COM 1303. *

2322. Transportation Training III. (2-0-20). Continuation of supervised employment in transportation with progression to training of greater depth and complexity. Concurrent with COM 2323.
2323. Classification Procedures and Rate Computation II. (3-3-0). Freight rates and tariffs, including rail, motor, freight forwarders, water and air, transit privileges, and routing embargoes. Laboratory fee charged.
Prerequisite: COM 2313. *
2333. Transportation Regulation (ICA) II. (3-3-0). Continuation of COM 2303. Interstate Commerce Act continued; administration of act by Interstate Commerce Commission (ICC) studied; rules of practice before ICC introduced and administrative and court decisions relative to application of ICA studied. Other laws and court cases involving regulation of interstate transportation introduced and evaluated.
Prerequisite: COM 2303. *
2343. Economics of Transportation. (3-3-0). Economic, social, and political importance of transportation and how these characteristics influence regulation and public policy.
Prerequisite: COM 1303. *

COMPUTER SCIENCE (CSC)

1603. Introduction to Computers. (-3-0). Basic concepts common to computers and the evolution of data processing and industrial systems from manual to computers. Functions of computers and peripheral equipment, flow charting, storage media, programming techniques (BASIC and/or COBOL languages), and system analysis and design. Impact of computers on society.
1604. Fundamentals of Programming. (4-3-2). Basic concepts and terminology of digital computers. Development of flow charting and other planning techniques. Selected computer language will be utilized for applications. Designed as the beginning course for computer science and related majors. Laboratory fee charged.
1613. Data Entry. (3-2-2). Fundamental skills and techniques of keyboard, key-to-disk, CRT, and other data entry devices; card design and preparation of program cards, and key-to-disk program formats. Laboratory fee charged.
Prerequisite: OFO 1303. *
1614. Programming Utilizing BASIC Language. (4-3-2). Programming using BASIC language in an on-line and/or micro computer environment. Development of programming techniques through problem definition, flow charting, coding, and debugging. Core relational programming. Laboratory fee charged.
Prerequisite: CSC 1604. *
1623. Microcomputers and Minicomputers. (3-3-0). Architecture, peripheral equipment, software, programming, economics, types and file structures of micro/minicomputer systems.
1624. Assembly Language I. (4-3-2). Programming utilizing assembly language. Development of operating system principles and problem solving techniques with flow charting, coding, debugging, and execution. Laboratory fee charged.
Prerequisite: CSC 1604. *

*Waiver may be authorized in certain instances by consent of department chairperson.

1634. COBOL Programming I. (4-3-2). Development of programming techniques through problem definition and solutions using structured top-down approach, flow charting and/or other planning techniques, coding, debugging, documentation, and execution. Laboratory fee charged.
Prerequisite: CSC 1604.*
1644. RPG II Programming. (4-3-2). Report Program Generator II language. Processing logic, problem definition, input/output specifications, calculations, and other programming techniques; flow charting, coding, compiling and testing of problem-oriented programs. Laboratory fee charged.
Prerequisite: CSC 1604.*
1654. Assembly Language for Micro/Mini Computers. (4-3-2). Programming in micro/mini computer systems assembly language including the operating system, assembler, assembly language, computer organization, peripheral device control, debugging, and problem solving through definition and solution. Laboratory fee charged.
Prerequisite: CSC 1604 or CSC 1614.*
1664. FORTRAN Programming. (4-3-2). Computing techniques utilizing FORTRAN. Programming logic stressed through various applications. Laboratory fee charged.
Prerequisite: CSC 1604, and MTH 1633 or MTH 1603.*
2604. Assembly Language II. (4-3-2). Advanced programming techniques and proficiencies using assembly language. Programming of practical problems using cards, magnetic tape, and disk. Laboratory fee charged.
Prerequisite: CSC 1624.*
2614. COBOL Programming II. (4-3-2). Advanced concepts, techniques and proficiencies using COBOL. Computer language structured programming of commercial problems utilizing tapes and disks. Laboratory fee charged.
Prerequisite: CSC 1634.*
2623. Systems Development Design. (3-3-0). Systems approach: tech ques, problem identification and definition, feasibility study, data collection and evaluation, development of solutions, and communications.
Prerequisite: CSC 1624, and CSC 1634, CSC 1664, or CSC 2654.*
2633. Computer Related Applications. (3-2-2). Refining problem solving. Programming techniques and skills in actual or simulated situations. Group or individual projects. Laboratory fee charged.
Prerequisite: CSC 1624, and CSC 1664, CSC 2614, or CSC 2654.*
2634. Operations Management. (4-3-2). Functions of computer operations, job control language and other related software packages, and computer center management. Laboratory fee charged.
Prerequisite: CSC 1624.*
2644. Advanced RPG II Programming. (4-3-2). Advanced Report Program Generator II language. Development of advanced programming techniques including the use of array and indexed files, demand processing, and the use of subroutines. Laboratory fee charged.
Prerequisite: CSC 1644.*
2654. PL/1 Programming. (4-3-2). Introduction to programming techniques in the PL/1 language. Numeric and non-numeric applications. Laboratory fee charged.
Prerequisite: CSC 1604.*
2664. Applications for Micro-Computers. (4-3-)- Programming actual or simulated problems to develop an applications systems. Emphasis on file processing. BASIC or other micro-computer language used. Laboratory fee charged.
Prerequisite: CSC 1614.*

2694. ~~EXICO~~ Topics in Computer Applications. (4-3-2). Individualized applications and supervised, but non-directed, approach will be emphasized. Student will design and/or write and implement programs for actual or simulated problem situations. Topics include DOS/JCL, OS/JCL, accounting on the computer, microcomputers, numerical control, selected languages and others. Laboratory fee charged. May be taken two times for credit.
Prerequisite: Consent of department chairperson.
2744. Cooperative Computer Training I. (4-1-20). Supervised employment in a data processing job. Practical work experience in the student's chosen career field.
Prerequisite: Consent of department chairperson.
2754. Cooperative Computer Training II. (4-1-20). Continuation of CSC 2744. Broadens the base of knowledge and experience, and sharpens the technical skills needed for professional employment in data processing.
Prerequisite: Consent of department chairperson.

CRIMINAL JUSTICE (CRJ)

1303. Introduction to Criminal Justice. (3-3-0). History, development and philosophy of criminal justice in a democratic society. Introduction to agencies involved in the administration of criminal justice, and career orientation.
1323. FBI Administration. (3-3-0). Organization and function of police patrols, including responsibilities, techniques, problems - and methods of operations and supervision.
1333. Police Role in Crime and Delinquency. (3-3-0). Deviant behavior and current criminological theories, emphasizing police applications, crime prevention and phenomena of crime as related to juveniles.
1343. Criminal Justice Internship. (3-1-8). Supervised experiences designed to apply academic training to practical situations in a criminal justice or related agency.
Prerequisite: Consent of department chairperson.
1383. Vice and Drug Control. (3-3-0): History and causal factors of vice-type crimes, including administrative structure and policy formations that influence the detection, repression, and control of vice and drug violations. Role of organized crime in the types of offenses and the criminal laws necessary to effectively control activities of organized crime groups.
2303. Legal Aspects of Law Enforcement. (3-3-0). History and philosophy of modern criminal law, including structure, definition and application of statutes and leading case law; elements of crime and penalties; and general provisions of the penal code.
2313. Criminal Investigation. (-3-0). Fundamentals of criminal investigation, including theory and history; conduct of crime scenes; collection and preservation of evidence.
2323. Traffic Planning and Management. (3-3-0). Police responsibilities in traffic planning and investigation. Police and procedures in education, engineering and enforcement responsibilities. Analysis of special traffic problems, motor vehicle laws, and accident investigation techniques.
2333. Criminal Procedure and Evidence. (3-3-0). Rules governing the admissibility of evidence and types of evidence. Criminal procedure in various courts, review of the Texas Code of Criminal Procedure (including laws of arrest, search, and seizure), and leading case law on each topic.

*Warrior may be authorized in certain instances by consent of department chairperson.

2343. Police-Community Relations. (3-3-0). Role of individual officer in achieving and maintaining positive public response; intergroup relationships and public information.
2353. Criminal Justice Organization and Administration. (3-3-0). Principles of organization and management as applied to law enforcement agencies; introduction to concepts of organizational behavior.
2423. Penology. (3-3-0). Basic concepts of penology as they apply to today's criminal justice official. Overview of penal institutions and rationale for their existence.
2433. Probation, Parole and Community Corrections. (3-3-0). Overview of methods of probation and parole, including investigation processes, and role of repeat offender in parole or probation. Provides basic understanding of the evolution of community corrections.
2513. Selected Topics in Criminal Justice. (3-3-0). Exploration and analysis of contemporary special problems in the broad spectrum of criminal justice. May be taken four times for credit. +

DANCE(DAN)

1713. Dance I. (3 3-0). Theory and technique of creative movement.
1723. Dance II. (3-3-0). Continuation of DAN 1713.
Prerequisite: DAN 1713.*

DENTAL ASSISTANT (DAS)#

1403. Dental Anatomy. (3-3-0). Embryonic development and microscopic anatomy of human body systems with major emphasis on oral structures and tooth morphology.
1404. Dental Sciences. (4-3-2). Medication, anesthetics, microbiology, and pathology as related to dentistry with practical application for the dental assistant. Laboratory fee charged.
1413. Dental Assisting I. (3-2-3). Basic procedures of dental assisting with applications emphasized in the laboratory. Laboratory fee charged.
1423. Dental Assisting II. (3-2-3). Services and function of the dental assistant with emphasis on various dental specialties.
1443. Dental Assisting III. (3-2-3). Nutrition and preventive dentistry with emphasis on oral health instruction and dietary counseling. Laboratory fee charged.
1481. Seminar. (1-1-0). Additional study in dental assisting to meet the needs of the students and their program. May be taken two times for credit. +
- 1491/92. Clinical Dental Assisting. (1-0-8)/(2-0-16). Applications of dental assisting with direct experience in the dental office. Laboratory fee charged. Courses may be taken two/zero times for credit. +

DENTAL HYGIENE (DHY)#

1402. Introduction to Dental Hygiene. (2-2-0). Dental terminology, dental charting, identification of oral structures and basic oral physiotherapy.
1411. Dental Radiology Laboratory. (1-0-3). Techniques of dental radiology in laboratory experiences. Laboratory fee charged. May be taken three times for credit. +
1412. Oral Embryology and Histology. (2-2-0). Embryonic development and microscopic anatomy of human body systems with emphasis on oral structures.
1422. Biochemical Nutrition. (2-2-0). Nutrition, biochemical action of food within the human organism and principles of adequate diet.
1432. Dental Radiology. (-2-0). Roentgenology related to dentistry.

1433. Dental Materials. (3-2-3). Dental materials with applications emphasized in the laboratory. Laboratory fee charged.
1442. Head and Neck Anatomy. (2-2-0). Anatomy of the head and neck.
1443. Oral Pathology. (3-3-0). Common diseases and systemic diseases with oral manifestations.
1452. Tooth Morphology. (2-1-2). Structure and form of teeth. Laboratory fee charged.
- 1491/92. Clinical Dental Hygiene. (1-0-9)/(2-0-13). Application of dental hygiene in the clinical setting. Laboratory fee charged. May be taken zero/two times for credit. +
1502. Pre-Clinical Dental Hygiene. (2-2-0). Principles and procedures for performing a comprehensive oral prophylaxis.
1512. Pre-Clinical Laboratory. (2-0-6). Clinical applications of procedures for performing an oral prophylaxis. Laboratory fee charged.
1522. Dental Hygiene I. (2-2-0). Preventive dentistry and communication skills.
2402. Dental Specialties. (2-1-3). Dental specialties and care of patients with special needs. Field trips and special projects utilized. Laboratory fee charged.
2412. Dental Pharmacology. (2-2-0). Therapeutic drugs and anesthetics used in dentistry along with emergency procedures that may arise in the dental office.
2422. Periodontics. (2-2-0). Disease processes and treatment involving the periodontium.
2423. Dental Health Education. (3-2-3). Private and community dental health services with emphasis on the specific role of the dental hygienist. Methods and materials used in teaching dental health in the dental office, school and community, including lectures and field trips in which students present dental health projects in public schools. Laboratory fee charged.
2432. Dental Hygiene II. (2-2-0). Procedures required to provide comprehensive care for patients with special needs.
2442. Dental Hygiene III. (2-2-0). Dental ethics and jurisprudence. Special projects related to current topics in dentistry and advanced clinical techniques.

*Waiver may be authorized in certain instances by consent of department chairperson.

+Course may be repeated for credit when topic varies.

#Specialized admissions requirements; consent of department chairperson required for enrollment.



ECONOMICS (ECO)

2613. Principles of Economics I. (3-3-0). Emphasis on U.S. economy and macroeconomics; the economizing problem, demand-supply theory, national income accounting, business fluctuations, fiscal policy, and monetary policy. Required for business and economics majors.
2623. Principles of Economics II. (3-3-0). Continuation of ECO 2613. Microeconomics; economics of the firm, market models, pricing and allocation of resources, and current economic problems. Required for business and economics majors.
Prerequisite: ECO 2613. *
2633. Selected Topics in Economics. (3-3-0). Topics in economic history, modern industry, current economic problems and others. May be taken two times for credit.†

ELECTRONICS (ELE)

1304. Direct Current Circuits. (4-3-3). Fundamental concepts of electricity, including basic electric circuits, current, voltage, resistance, conductance, Ohm's Law for series, parallel and series-parallel circuits, energy and power, magnetism, introduction to AC, inductance, transformers, and capacitance. Tools required. Laboratory fee charged.
Prerequisite: MTH 1323. *
1313. Electronics Assembly. (3-3-0). Construction and packaging techniques, providing hands-on experience in printed circuit board manufacture.
1314. Alternating Current Circuits. (4-3-3). Continuation of ELE 1304 with emphasis on R-L, R-C and R-L-C circuits (series, parallel and resonant) and analysis theorems. Laboratory fee charged.
Prerequisite: ELE 1304 and MTH 1333. *
1323. Basic Electricity. (3-2-3). Basics of voltage, current, resistors, capacitors, inductors, series and parallel circuits, magnetism, use of meters, basic motors and generators, and fundamentals of AC. Provides students with background essential for further study in a vocational-technical field. Laboratory fee charged.
1324. Introduction to Electron Devices. (4-3-3). Active devices used in electronic circuitry. Laboratory fee charged.
Prerequisite: ELE 1304. *
1334. Digital Electronics Fundamentals. (4-3-3). A study of TTL and MOS integrated circuits, including gates, flip-flops, counters, registers, memories, and arithmetic circuits. Laboratory fee charged.
1413. Computers for Industrial Application. (3-2-3). An introduction to dedicated computers, their structure and operation, and their roles as elements in computer-aided manufacturing systems. Laboratory emphasizes the operation and programming of the computer subsystem. Laboratory fee charged.
2302. Special Problems. (2-1-2). Designed to permit students to gain additional knowledge and skill in specialized fields of electronics. Course may be taken four times for credit.
Prerequisite: Permission of department chairperson. *
2304. Introduction to Electronic Circuits. (4-3-3). Circuit analysis, basic design techniques, and basic troubleshooting of power supplies, amplifiers, voltage regulators, oscillators, and special circuits. Emphasis on solid state and integrated circuits. Laboratory fee charged.
Prerequisite: ELE 1324. *

2314. Electronic Communication Systems. (4-3-3). Radio transmitters, receivers, AM and FM systems, single-sideband, and troubleshooting semiconductor and vacuum tube systems. Laboratory fee charged.
Prerequisite: ELE 1314 and ELE 2304. *
2324. Instruments and Measurements. (4-3-3). Analysis of function, calibration and application of test and measurement equipment, including a study of measurement techniques. Laboratory fee charged.
Prerequisite: ELE 2304. *
2332. National Electrical Code. (2-2-0). Electrical code development, interpretation and enforcement.
Prerequisite: ELE 1314. *
2334. Digital Systems. (4-3-3). Principles of digital devices and circuits and an introduction to digital circuit design. Laboratory fee charged.
Prerequisite: ELE 1304. *
2343. Circuit Analysis. (3-3-0). Complex transformations; applications of Kirchhoff's Laws; Thevenin's, Norton's and the superposition theorems, and mesh and nodal methods.
Prerequisite: ELE 1314. *
2344. Motors and Generators. (4-3-3). Construction and operation of common types of DC and AC single-phase and polyphase motors, generators, and transformers. Laboratory fee charged.
Prerequisite: ELE 1314. *
2345. FCC License Preparation. (5-5-0). Review of communications theory for advanced students, designed to prepare students to pass FCC license examinations.
Prerequisite: ELE 2314 and ELE 2324. *
2354. Pulse Techniques. (4-3-3). Analysis of non-sinusoidal waveforms and design of circuits used to generate such waveforms. Laboratory fee charged.
Prerequisite: ELE 2324. *
2364. Microprocessor Hardware-Software Design. (4-3-3). Techniques applicable to state-of-the-art digital circuitry implemented with integrated circuits. Laboratory fee charged.
Prerequisite: ELE 2334 and CSC 1654. *
2374. Computer Interfacing. (4-3-3). Principles of operation of digital systems for computation, communication and process control. Laboratory fee charged.
Prerequisite: ELE 2364. *
2403. Power Distribution Systems. (3-3-0). Commercial generation, transmission, distribution and protection systems.
Prerequisite: ELE 2343. *
2443. Industrial Controls. (3-2-3). The application of solid-state electronic and electromechanical devices in the control of AC and DC rotating equipment and industrial processes. Laboratory fee charged.

*Waiver may be authorized in certain instances by consent of department chairperson.

†Course may be repeated for credit when topic varies.

EMERGENCY MEDICAL TECHNOLOGY (EMT)#

1403. Emergency Care. (3-2-3). Emergency medical techniques applicable to the related health professions. CPR, medical aids to breathing, bandaging, splinting, traction, lifting and moving, and vital signs. Laboratory fee charged.
1405. Emergency Medical Procedures I. (5-3-5). Basic procedures and development of skills in Emergency Medical Care in classroom and clinical sessions. Students will also be required to make a minimum number of ambulance runs. Laboratory fee charged.
1491. Clinical Practice. (1-0-6). Laboratory experience in emergency medical settings under the general supervision of a Program Coordinator. May be taken three times for credit.+
2405. Emergency Medical Procedures II. (5-4-3). Advanced emergency skills, shock and cardiology. Laboratory fee charged.
2415. Emergency Medical Procedures III. (5-4-3). Advanced pulmonary, medical and traumatic emergencies, including extrication.
2472. Advanced Field Experience. (2-0-12). Field applications for advanced emergency medical technician (para-med) students.

ENGINEERING (ENR)

1601. Introduction to Engineering. (1-1-0). Profession of engineering and its relation to energy, resources, analysis and design; ethical and moral responsibilities of the engineer; description of the various engineering disciplines and their educational requirements.
1613. Engineering Graphics I. (3-2-4). Engineering drawing techniques and equipment, including geometrical construction, and the basic principles and practices of pictorial and multiview projection utilized for conveying shape and size descriptions in engineering design and industrial communication. Laboratory fee charged.
1623. Engineering Graphics II. (3-2-4). Descriptive geometry solutions to problems involving space relationships of points, lines and planes as applied to engineering design and industrial communication. Laboratory fee charged.
Prerequisite: ENR 1613.*
2603. Mechanics I (Statics). (3-3-0). Composition and resolution of forces, friction, centroids, moment of inertia and forces acting on structures and machines.
Prerequisite: MTH 1725.*
2613. Mechanics II (Dynamics). (3-3-0). Relation between forces acting on particles, systems of particles and rigid bodies, and the changes in motion produced.
Prerequisite: ENR 2603.*
2633. Mechanics of Solids. (3-3-0). Determination of stress and strain in elastic and inelastic bodies, subject to various conditions of loading.
Prerequisite: ENR 2603.*
2643. Circuit Analysis. (3-3-0). Basic E-M principles as related to circuit concepts of R, L, and C. Kirchhoff's laws, power flow, resistive network analysis, loop and node equations, wye-delta conversions, topology, basic network theorems. Magnetic circuits. Computer-assisted solution of large-scale problems. Elementary transient analysis of R-L, R-C, and L-C circuits.
Prerequisites: MTH 1734.

ENGLISH (ENG)

1203. Developmental English. (3-3-0). Principles of grammar and elementary composition in writing. Placement made after classes begin and remains flexible throughout semester. Transcript denotes portion for which credit is given: 'a' - usage and mechanics, 'b' - sentences, or 'c' - paragraphs and essays. May be taken three times for credit.+
1303. Applied Communications I. (3-3-0). Language study involving grammar, punctuation, and spelling skills with exercises in the development of accurate and precise sentences and paragraphs. Emphasis on composition in area of practical application.
1313. Applied Communications II. (3-3-0). Composition slanted toward writing technical reports, brochures, promotional materials, surveys, and similar projects. Attention given to preparation and delivery of speeches pertaining to technical or business interest.
Prerequisite: ENG 1303.*
1613. English Composition I. (3-3-0). Principles of grammar and composition, oral and written. Emphasis on language study and mechanics of writing.
Prerequisite: Grade of C or better in ENG 1203c or satisfactory score on placement test.*
1623. English Composition II. (3-3-0). Continuation of ENG 1613 with emphasis on analysis of literary readings, expository writing and research methods.
Prerequisite: ENG 1613.*
2713. British Literature I. (3-3-0). English Literature from Anglo-Saxon times through Eighteenth Century. Recommended for English majors.
Prerequisite: ENG 1623.*
2723. British Literature II. (3-3-0). English Literature from the beginning of Romanticism to present. Recommended for English majors.
Prerequisite: ENG 2713.*
2733. American Literature I. (3-3-0). A survey of American Literature from early 1700's through the Romantic period.
Prerequisite: ENG 1623.*
2743. American Literature II. (3-3-0). A survey of American Literature from the early 1900s to the present.
Prerequisite: ENG 2733.*
2753. Masterpieces of Literature I. (3-3-0). Consists of the following options from selected works of literature. May be repeated three semesters for elective credit only.+
Prerequisite: ENG 1623.*
- A. World Literature I.
Readings, lectures and discussions on selected novels and short stories written by authors of international prominence.
- B. Classical Literature.
Exploration of the epics of Homer and Virgil, the dramas of ancient Greece, and poetry of both Greece and Rome.
- C. Philosophical Concepts in Literature.
Readings, lectures and discussions on selected works of philosophical literature.
- D. Shakespeare I.
Selected offerings from Shakespeare's poetry, comedies, and historical plays.
- E. General Literature I.
Readings, lectures, and discussions of specialized areas of literature.

*Waiver may be authorized in certain instances by consent of department chairperson.

+Course may be repeated for credit when topic varies.

!Specialized admission requirements; consent of department chairperson required for enrollment.

2763. Masterpieces of Literature II. (3-3-0). Consists of the following options from selected works of literature. May be repeated three semesters for elective credit only.+
Prerequisite: ENG 1623.*
- A. World Literature II.
Readings, lectures and discussions of drama and poetry written by authors of international prominence.
 - B. Cinema.
Survey of international contributions to film literature.
 - C. Science Fiction.
Review of writers of fiction who have linked imaginatively the disciplines of science and literature.
 - D. Shakespeare II.
Readings of selected Shakespeare tragedies.
 - E. General Literature II.
Readings, lectures and discussions of specialized areas of literature.
 - F. Wilderness Literature.
Exploration of literature of the American wilderness reflecting American tradition, culture, and heritage.
2773. Technical Writing. (3-3-0). Investigation of effective communication in business and industry, with focus on report writing.
Prerequisite: ENG 1623.*
2783. Creative Writing. (3-3-0). Writing laboratory of literature genres. Includes lectures on recognition and use of literary devices.

ENGLISH FOR SPEAKERS OF OTHER LANGUAGES (ESL)

1214. English for Speakers of Other Languages I. (4-3-2). Fundamental English for students whose native language is not English. Begins at elementary level and includes exercises in phonics, listening, speaking and reading comprehension, as well as basic sentence structure.
1224. English for Speakers of Other Languages II. (4-3-2). Continuation of ESL 1214, with progressive practice in grammar and the four skill areas.
1233. English for Speakers of Other Languages III. (3-3-0). Intermediate level of English for students whose native language is not English. More advanced grammar, with readings and discussions; vocabulary and paragraph development.
1243. English for Speakers of Other Languages IV. (3-3-0). Continuation of ESL 1233 focusing on reading and composition skills.
1251. English Grammar. (1-0-2). Studies in English grammar for speakers of other language. May be taken four times for credit as topic varies.
1261. Conversation in English. (1-0-2). Practice in comprehension and production of the spoken language for students who wish to improve their skills in comprehension, pronunciation, and oral expression. Designed for speakers of other languages. May be taken four times for credit as topic varies.
1271. Listening Comprehension. (1-0-2). Practice in comprehension of the spoken language. Designed for speakers of other languages. May be taken four times for credit as topic varies.

1281. Introduction to Reading. (1-0-2). Introduction to and practice in reading simple English prose. Designed for speakers of other languages. May be taken four times for credit as topic varies.
1291. Introduction to Composition. (1-0-2). Study of lexical and formal conventions for writing English. Designed for speakers of other languages. May be taken four times for credit as topic varies.
2201. Language Practicum. (1-0-2). Provides students with extensive language practice in order to increase listening, speaking, and writing fluency. Emphasis will be on the practical application of English. Course content will vary each semester from the functional to the technical and academic aspects of the language. May be taken four times for credit.+

FASHION MERCHANDISING (FAS)#

1352. Fashion Training I. (2-0-20). Supervised employment and practical work experience for students preparing for careers in fashion merchandising. Concurrent with FAS 1353.
1353. Introduction to Fashion Merchandising. (3-3-0). Careers in the fashion industry and related fashion fields. Stresses men's, women's and/or children's fashion apparel merchandising. Includes one-hour seminar of job-oriented discussion.
Prerequisite: Consent of department chairperson.
1362. Fashion Training II. (2-0-20). Continuation of FAS 1352, with increased supervisory responsibility for students preparing for careers in fashion merchandising. Concurrent with FAS 1363.
1363. Fashion Marketing. (3-3-0). Overview of the fashion industry, principles and procedures. Production, distribution, and consumption of fashion apparel analyzed. Consumer characteristics and their influence and changing demand for fashion goods related to fashion marketing activities. Lectures by guests from the industry and field trips to fashion markets supplement class lectures. Includes one-hour weekly seminar of job-oriented discussion.
Prerequisite: Consent of department chairperson.
- 2301/02. Special Problems in Fashion Merchandising. (1-1-0)/(2-2-0). Development of practical fashion industry knowledge and skills in wholesale, manufacturing, sales promotion, visual display, or marketing under general supervision of a program coordinator. May be taken four times for credit.+
2333. Fashion Product Technology I. (3-3-0). Materials and manufacturing techniques used in the production of apparel, from a retailing standpoint. Identification and characteristics of textiles, their use, care and manufacture. Machinery and methods of apparel construction. Emphasis on evaluating apparel for retail buying and selling.
Prerequisite: FAS 1363.*
2343. Fashion Product Technology II. (3-3-0). Continuation of FAS 2333. Introduces design and selection of apparel and accessories, including evaluation of the elements of design, fabrication, trims, findings and closures. Develops knowledge of the relationships between retailers, manufacturers and/or showroom agents. Emphasis on evaluating design quality and apparel/accessories selection for an identified retail market.
Prerequisite: FAS 2333.*
2352. Retail Management Training I. (2-0-20). Continuation of coordinated employment in a retail oriented setting. Emphasis is placed on activities and experiences which will develop skills and abilities required for retail management. Concurrent with FAS 2353.

*Waiver may be authorized in certain instances by consent of department chairperson.

+Course may be repeated for credit when topic varies.

#Specialized admission requirements; consent of department chairperson required for enrollment.

2353. Retail Sales Promotion. (3-3-0). General procedures and objectives of sales promotion to stimulate creative approaches to promotion of retail merchandise. Sales promotion activities, retail advertisements, media, display, and preparation of sales promotion presentation as term projects. Includes one-hour weekly seminar of job-oriented discussions. Concurrent with MET 1601.
Prerequisite: FAS 1363 and MKT 2683.*
2362. Retail Management Training II. (2-0-20). Continuation of FAS 2352, with increased managerial responsibility. Concurrent with FAS 2363.
2363. Retail Buying and Merchandising. (3-3-0). Methods of inventory, elements of profit, pricing, markup, reductions, terms of sale, and objectives of planning, control and turnover of retail merchandise, and responsibilities of buyers. Includes one-hour weekly seminar of job-oriented discussion.
Prerequisite: FAS 1353, FAS 1363, and BUA 1303.*

FINE ARTS APPRECIATION {FIN}

1613. Fine Arts Appreciation I. (3-3-0). Study of line, shape, color, texture, space and time. Unity and interest through movement, continuity, repetition, variety, harmony and rhythm.
1623. Fine Arts Appreciation II. (3-3-0). Composition and function of art, architecture, dance, drama and music. Historical overview of art products of individuals. Emphasis on comparison of basic forms and style periods.

FIRE TECHNOLOGY {FIR}

1323. Fire Protection Systems. (3-2-2). Study of required standard for water supply; special hazards protection systems; automatic sprinklers and special extinguishing systems; automatic signaling and detection systems; rating organizations; and underwriting agencies.
1334. Fire Fighting Tactics and Strategy. (4-4-0). Analysis of the nature of fire; efficient and effective utilization of manpower, equipment, and apparatus. Emphasis on pre-planning, study of conflagration problems, fire ground organization problem solving (related to fire ground decision making) and attack tactics, strategy, use of mutual aid, and large-scale command problems.
Prerequisite: 24 hours of fire technology.
1353. Fire and Arson Investigation. (3-2-2). Detection of arson, investigation techniques, case histories, gathering and preserving of evidence; preparing court cases; selected discussion of laws, decisions, and opinions; kinds of arsonists, interrogation procedures, cooperation and coordination between fire fighters and arson investigators, and other related topics.
1363. Fire Protection Hydraulics. (3-2-2). Evaluation of water supply, pumping operations, stream flow requirements of appliances, standpipes, and sprinklers. Review of volumetrics relative to conflagrations among topics considered.
1383. Building Codes and Construction. (3-3-0). Emphasis on fire resistance of building materials and assemblies, exposures and related data on fire protection concerns; review of related statutory, and suggested guidelines (both local and national in scope). Review of model building codes and life safety code.
1393. Inspection Practices. (3-2-2). Concentrated information on specific hazards in various classes of occupancies for fire inspectors. Electrical circuits and appliances, heating and cooling units, blueprint and plans related to fire protection systems, utilities and egress. Life safety codes and specific state laws governing safety standards in health care centers, nursing homes, hospitals and nurseries. Additional data related to interior finishes, chemical hazards and ratings of building materials.

1403. Sprinkler Systems. (3-2-2). Installation standards, hazards requiring installation of sprinkler systems, and design and distribution of systems. Installation and operational aspects of wet, dry, deluge, and foam systems; testing of sprinkler systems, and analysis of local water supply, with supplemental system recommendations.
Prerequisite: FIR 1363, FIR 1413 and FIR 1423.*
1413. Fire Prevention I. (3-2-2). Objectives and views of inspections, fundamental principles, methods, techniques, and procedures of fire prevention administration. Fire prevention organization; public cooperation and image; recognition of fire hazards; urban problems and legal aspects; development and implementation of systematic and deliberate inspection program. Survey of local, state, and national codes pertaining to fire prevention and related technology. Relationship between building inspection agencies and fire prevention organizations. Engineering as a solution to fire hazards.
1423. Fire Prevention II. (3-2-2). Elements of building construction. Classes of occupancies, types of construction definitions of building components discussed in class and observed in the field. Blueprint interpretation, basic architectural drafting, planning for buildings and related hazards with emphasis on access and water supply factors. Field work includes actual rating of building based on type and protection desired according to use and risk.
Prerequisite: FIR 1413.*
1433. Fundamentals of Fire Protection. (3-3-0). History and philosophy of fire protection; review of statistics of loss of life and property by fire; introduction to agencies involved in fire protection, and current legislative developments. Career orientation; recruitment and training for fire departments; position classification and pay plans; employee organizations; discussion of current related problems, and review of expanding future fire protection problems.
1443. Fire Science Chemistry. (3-2-2). Introduction to science of matter, energy, atoms, and basic chemical behavior related to electronic bonding. Metals, non-metals, acids, bases, and salts studied in the laboratory. Heat, conservation of matter and energy, force velocity, pressure, and other physical behavior considered.
2303. Fire Administration I. (3-3-0). Organization and management related to fire departments, including budgeting, maintenance of records and reports, and management of fire department officers. Personnel administration, distribution of equipment and personnel, and other related topics, including relation of various government agencies to fire protection areas. Fire service leadership as viewed from the company officer's position.
2333. Fire Administration II. (3-3-0). Insurance rates and ratings, preparation of budgets, administration and organization of training in fire departments. City water requirements, fire alarm and communication system; public relations, report writing and record keeping. Measurements of results use of records to improve procedures, and other related topics. Legal aspects relating to fire prevention and fire protection, stressing municipal and state agencies. Design and construction of fire department buildings.
2343. Supervision and Organization Principles. (3-3-0). Leadership and decision making. Methods of organization, social organization, communication, and assessment of personnel.
2363. Hazardous Materials I. (3-2-2). Chemical characteristics and behavior of various materials that burn or react violently during storage, transportation, and handling. Examples include flammable liquids, combustible solids and gases. Emphases on emergency situations, methods of handling fire fighting and control.
Prerequisite: FIR 1443.*

*Waiver may be authorized in certain instances by consent of department chairperson.

2373. Hazardous Materials II. (3-2-2). Hazardous materials covering storage, handling, laws, standards, and fire fighting techniques related to chemicals, gases, flammable liquids, corrosives, poisons, explosives, rocket propellants, exotic fuel, and radioactive materials. Formation of toxic fumes and health hazards. Ignition and combustion characteristics of gases, liquids, and solids related to free-burning fire and explosion. Familiarization with radiological instruments, human exposure to radiation, decontamination and operational procedures, and uses of radio-active materials.
Prerequisite: FIR 2363.*
2383. Industrial Fire Protection I. (3-2-2). Concerns and safeguards related to business and industrial organizations. Study of industrial fire brigade organization and development, plant layout, fire prevention programs, extinguishing factors and techniques, hazardous situations, and prevention methods. Importance of cooperation between public and private fire department organizations. Review of elementary industrial fire hazards in manufacturing plants.
Prerequisite: FIR 1323 and FIR 1443.*
2393. Industrial Fire Protection II. (3-2-2). Development of fire and safety organizations in industry; relationship between private and public fire protection organizations; current trends, deficiencies, and possible solutions for industrial fire problems. Role of insurance and other special organizations. Specific industrial processes, equipment, facilities, and work practices to understand potential hazards, and techniques to detect and control such hazards. Field trips to plants and demonstrations of new techniques, equipment and innovations.
Prerequisite: FIR 2383.*
2423. Fire Safety Education. (3-3-0). Survey of physical, chemical, and electrical hazards, and their relationship to loss of property and/or life. Study of codes, laws, problems, and cases. Examination of physical and psychological variables related to the occurrence of casualties. Safe storage, transportation and handling techniques to eliminate or control potential risks.
2443. Techniques of Fire Investigation. (3-2-2). Concentrates specifically on the elements of fire cause related to structural and outdoor fires. Physical determination of fire origin regarding fire remains, fire patterns, field tests and analytical procedures used to determine cause in actual field on-sight training. Included in the course are elements of background information, interview-interrogation techniques, and intelligence factors.
Prerequisite: FIR 1353.
2453. Fire Insurance Fundamentals. (3-3-0). The relationship between fire defenses, fire losses and insurance rates are studied. Basic insurance principles, fire loss experience, loss ratios, state regulations of fire insurance, key rate system, applying the I. S. O. grading schedule and other topics are stressed. Relationship of insurance to modern business; principles of property and casualty insurance contracts, corporate structure of insurance companies.

FRENCH (FRN)

1601. Studies in French Culture. (1-0-2). Study in French history, ideas, and cultural values, presented in a series of topics. May be taken four times for credit as topic varies.
1611. French Grammar. (1-0-2). Studies in French grammar. May be taken four times for credit as topic varies.
1614. Elementary French I. (4-3-2). Fundamentals of French. Audio-lingual presentation of dialogues, conversations, vocabulary building, grammar, and culture, with extensive laboratory practice. Laboratory fee charged.
1624. Elementary French II. (4-3-2). Continuation of FRN 1614 with emphasis on conversation. Laboratory practice. Laboratory fee charged.
Prerequisite: FRN 1614.*

2601. Conversation in French. (1-0-2). Practice in comprehension and production of the spoken language for students who wish to improve their skills in comprehension, pronunciation, and oral expression. May be taken four times for credit as topic varies.
2611. Language Practicum. (1-0-2). Practice in maintaining and increasing aural-oral fluency and building systematically a larger French vocabulary. May be taken four times for credit.
Prerequisite: FRN 1624.*
2613. Intermediate French I. (3-3-0). Finer points of French grammar. Audio-lingual practice based on selected readings and dialogues. Directed composition. Class conducted largely in French.
Prerequisite: FRN 1624.*
2621. Listening Comprehension. (1-0-2). Practice in comprehension of the spoken language. May be taken four times for credit as topic varies.
2623. Intermediate French II. (3-3-0). Continuation of FRN 2613.
Prerequisite: FRN 2613.*
2631. Reading in French. (1-0-2). Introduction to and practice in reading French prose. May be taken four times for credit as topic varies.
2633. French History and Civilization I. (3-3-0). French history, civilization, literature, art, and music from Middle Ages through eighteenth century. Conducted in French.
Prerequisite: FRN 2623.*
2643. French History and Civilization II. (3-3-0). French history, civilization, literature, art, and music of nineteenth and twentieth centuries. Conducted in French.
Prerequisite: FRN 2633.*

GEOGRAPHY (GEG)

1613. Elements of Natural Geography. (3-3-0). Basic physical elements of geography, maps, weather, and climate, landforms and natural resources.
1623. World Geography. (3-3-0). Human geography of the world with emphasis on use of natural and human resources in selected regions and countries of the world.

GEOLOGY (GEL)

1614. General Geology I. (4-3-3). Minerals, rocks, geological processes, and structural geology. Laboratory fee charged.
1624. General Geology II. (4-3-3). Geological history of the earth with emphasis on fossils, origin, and character of selected formations. Laboratory fee charged.
Prerequisite: GEL 1614.*
2614. Mineralogy. (4-3-3). Properties of minerals and crystal systems; identification and classification of selected minerals; rock associations and mode of occurrence of minerals. Laboratory fee charged.
Prerequisite: GEL 1624 and CHM 1614.*
2624. Petrology. (4-3-3). Origin, occurrence and classification of common rocks. Laboratory fee charged.
Prerequisite: GEL 2614.*
2633. Geomorphology. (3-3-2). Interpretation of the development, history and significance of landforms. Laboratory work in map interpretation and field study. Laboratory fee charged.

*Waiver may be authorized in certain instances by consent of department chairperson.

GERMAN (GRM)

1601. Studies in German Culture. (1-0-2). Study in German history, ideas, and cultural values, presented in a series of topics. May be taken four times for credit as topic varies.
1611. German Grammar. (1-0-2). Studies in German grammar. May be taken four times for credit as topic varies.
1614. Elementary German I. (4-3-2). Fundamentals of German. Audio-lingual presentation of dialogues, conversations, vocabulary building, grammar, and culture with extensive laboratory practice. Laboratory fee charged.
1624. Elementary German II. (4-3-2). Continuation of GRM 1614 with emphasis on conversation. Laboratory fee charged.
Prerequisite: GRM 1614.*
2601. Conversation in German. (1-0-2). Practice in comprehension and production of the spoken language for students who wish to improve their skills in comprehension, pronunciation, and oral expression. May be taken four times for credit as topic varies.
2611. Language Practicum. (1-0-2). Practice in maintaining and increasing aural-oral fluency and building systematically a larger German vocabulary. May be taken four times for credit.
Prerequisite: GRM 1624.*
2613. Intermediate German I. (3-3-0). Finer points of German grammar. Audio-lingual practice based on selected readings and dialogues. Directed composition. Class conducted largely in German.
Prerequisite: GRM 1624.*
2621. Listening Comprehension. (1-0-2). Practice in comprehension of the spoken language. May be taken four times for credit as topic varies.
2623. Intermediate German II. (3-3-0). Continuation of GRM 2613.
Prerequisite: GRM 2613.*
2631. Reading in German. (1-0-2). Introduction to and practice in reading German prose. May be taken four times for credit as topic varies.

GOVERNMENT (GOV)

2613. United States Government. (3-3-0). United States constitutional and governmental systems.
2623. Texas State and Local Government. (3-3-0). United States and Texas constitutions, the organization and functions of state and local government within the context of the federal system. Satisfies state requirement for teacher certification.

GRAPHIC ARTS (GAR)

1303. Introduction to Graphic Processes. (3-3-0). Overview of the graphic industries, including composition and layout, platemaking reproduction, and finishing.
1313. Offset Operations. (3-1-4). Operation of small offset presses, their related platemaking and finishing operations. Concurrent with GAR 1303. Laboratory fee charged.
1323. Camera and Stripping. (3-2-3). Techniques of the process camera with emphasis on line and halftone photography, negative stripping, and platemaking. Laboratory fee charged.
Prerequisite: GAR 1303.*
1333. Copy Preparation. (3-2-3). Paste-up, composition techniques, typography, and photo composition with emphasis on production of various types of copy. Concurrent with MET 1623. Laboratory fee charged.
Prerequisite: GAR 1303.*

1343. Graphics Internship. (3-1-12). Coordinated employment of students to obtain industrial experience in the graphics industry.#
1373. Principles of Typography and Phototypesetting. (3-2-3). Basic rules of traditional typography are reviewed through familiarization with basic technology, classification, and type style and faces. Included is the study of the use, operation, and application of modern phototypesetting equipment. Laboratory fee charged.
Prerequisite: Proficiency in typing.
2303. Printing Production Control. (3-3-0). Production control as it relates to equipment and material. Included are production scheduling, production forecasting, plant organization and layout, flow charts, and the use of standard forms.
2313. Estimating. (3-3-0). Current estimating practices, the development of hourly cost and production rates standards. Design and use of estimating form, pricing for a profit margin, and preparing the quotation will be covered.
2403. Special Topics in Graphic Arts. (3-3-0). Presentation and investigation of topics which normally are not covered in the regular curriculum. May be taken four times for credit.+#

*Waiver may be authorized in certain instances by consent of department chairperson.

+Course may be repeated for credit when topic varies.

#Specialized admission requirements; consent of department chairperson required for enrollment.



HEALTH, PHYSICAL EDUCATION, AND RECREATION (HPE)

1611. Health Concepts of Physical Activity. (1-1-2). Contemporary health fitness concepts as they pertain to the individual student.
1. Scientific information concerning values and preventive medical benefits of exercise.
 2. Individual (personal) evaluations and experiments to determine present health fitness status.
 3. Development of a personal exercise program based on student's needs.
- Laboratory fee charged.
1613. Foundation of Health, Physical Education and Recreation. (3-3-0). Exploration of health, physical education, and recreation as a professional career. Knowledge from the fields of philosophy, history, biology, sociology, and psychology as related to HPER; aims, objectives, duties, qualifications, salaries, professional preparation, and professional organizations in HPER.
1621. Activity for Men.** (1-0-3). Several distinctly different activities for men. Laboratory fee charged. May be taken four times for credit.+
1623. Personal and Community Health. (3-3-0). Scientific facts, basic principles and desirable practices in relation to personal and community health. Emphasis on the development of functional attitudes and meaningful concepts for healthful living.
1631. Activity for Women.** (1-0-3). Several distinctly different activities for women. Laboratory fee charged. May be taken four times for credit.+
1633. Sports Officiating I. (3-3-0). For persons seeking training in football and basketball officiating for an avocation and/or to increase knowledge and appreciation of sports.
1641. Activity for Men and Women.** (1-0-3). Several distinctly different coeducational activities. Laboratory fee charged. May be taken four times for credit.+
1642. Lifesaving First Aid. (2-1-2). Includes standard American Red Cross advanced lifesaving and water safety instructor courses. Students who successfully complete this course may be certified as advanced lifesavers and water safety instructors through the Tarrant County Chapter of the American Red Cross. Laboratory fee charged.
1653. First Aid and Safety. (3-3-0). Designed to enable students to recognize and avoid hazards within their environment, to render intelligent assistance in case of accident or illness and to develop skills necessary for the immediate and temporary care of the victim. Successful completion of the course may enable the student to receive the American Red Cross First Aid and Personal Safety Card.
1741. Activity for Men and Women. (1-0-3). Two distinctly different coeducational activities. Activities selected may be bowling or scuba diving. Laboratory fee charged: \$16.00. May be taken two times for credit.+

HISTORY (HIS)

1613. Pre-Columbian Civilization to 1660. (3-3-0). Development of ancient, medieval and early modern civilizations.
1623. Western Civilization Since 1660. (3-3-0). Development of modern Western civilization.
1633. History of Selected Minority Cultures in the United States. (3-3-0). Roles of selected minority culture in the development of American nation from colonial times to present. May be taken two times for credit.+
2613. United States History to 1876. (3-3-0). American nation from Pre-Columbian times to the close of Reconstruction.

2623. United States History Since 1876. (3-3-0). American nation from the end of Reconstruction Era to present.
2643. History of Texas. (3-3-0). Political, economic, social and intellectual development of Texas from the period of Spanish discovery to present.

HOME ECONOMICS (HEC)

1613. Clothing Construction. (3-2-4). Use of the sewing machine; design becoming to individual fabrics; fabric and pattern coordination; pattern selection, fit and adjustment; and basic construction techniques applicable to selected projects. Laboratory fee charged.
1623. Art in Fashion Design. (3-3-0). Clothing selection concerning materials from which wearing apparel is constructed, emphasizing fashions, figures, and fabrics.
1633. Food Selection and Preparation. (3-2-4). Application of nutritional knowledge and basic scientific principles to the selection and preparation of food. Laboratory fee charged.
1643. Nutrition I. (3-3-0). Nutrients essential for adequate diets of various age groups. Menu planning, development of food habits, related normal physiology, consumerism, and use of dietary guides included.
1653. Introduction to Interior Design. (3-3-0). Overview of the major interior design elements, materials and activities. Includes discussion of line, form, texture, color, and designing spaces for today's interiors.
1663. Residential Interior Design. (3-2-4). Fundamentals of designing residential interiors. Application of design principles to solving functional and aesthetic problems, emphasizing the use of floor plans, textures, colors and finishes.
1673. Management I. (3-3-0). Basic food service management functions. Principles of planning and evaluating menus, use and maintenance of quantity equipment, sanitation and safety procedures necessary for successful food service operations.
1683. Dietetic Orientation. (3-2-4). Overview of the development of the dietetics and food service management professions, and the functions of dietary departments. Emphasis on qualifications, responsibilities, tools and standards appropriate for the paraprofessional.
1703. Dietetic Chemistry. (3-3-0). Survey of the general principles and laws of inorganic, organic and biochemistry. Practical application appropriate for the dietetic paraprofessional.
1792. Nutrition II Experience. (2-0-6). Supervised work experiences in dietary departments. Concurrent with HEC 1843.

+Course may be repeated for credit when topic varies.

"The following are activities which can be offered for credit:

Adaptive Physical Education	Fencing	Self-Defense
Archery	Form and Figure Control	Advanced Lifesaving
Badminton	Golf	Skin and Scuba Diving
Bicycling	Gymnastics	Swimming, Advanced
Bowling	Handball	Swimming, Beginning
Camping	Horsemanship	Swimming, Intermediate
Canoeing	Jujitsu	Tennis
Casting	Karate	Trampoline
Conditioning	Majors Activity	Tumbling
Co-Recreational Activities	Paddleball, Beginning	Volleyball
Dance, Aerobic	Racquetball	Water Safety Instructor (WSI)
Dance, Black	Recreational Sports	Weight Training
Dance, Modern	Roller Skating	Wrestling
	Sailing	

HORTICULTURE (HRT)

1843. Nutrition II. (3-3-0). Therapeutic aspects of feeding people, emphasizing dietary evaluation and client education methods. Includes dietary adaptations appropriate for clients with obesity, diabetes, acute and chronic heart disease, fevers and infections, and protein deficiencies. Prerequisite: HEC 1643. •
1873. Management II. (3-3-0). Principles of quantity food production and service for institutions. Food preparation techniques, equipment use and care, recipe standardization, merchandising techniques and work simplification units included. Prerequisite: HBC 1633 and HEC 1673. *
1992. Management II Experience. (2-0-6). Supervised work experiences in dietary departments. Concurrent with HEC 1873.
2343. Nutrition III. (3-3-0). Therapeutic applications of nutrition in the treatment of clients with diseases of the gastrointestinal tract and related organs, hyperlipidemia, and atherosclerosis. Related normal and abnormal physiology, dietary evaluation, routine diet writing, and client education techniques emphasized. Prerequisite: Second year standing.
2393. Nutrition III Experience. (3-0-8). Supervised work experiences in dietary departments. Concurrent with HBC 2343.
2543. Nutrition IV. (3-3-0). Therapeutic applications of nutrition in the treatment of clients requiring surgery or with inborn errors of metabolism, neurological disorders, renal diseases, anemias, allergic and skin disturbances, and childhood illnesses. Related normal and abnormal physiology, dietary evaluation, routine diet writing, and client education techniques emphasized. Prerequisite: Second year standing.
2594. Nutrition IV Experience. (4-0-12). Supervised work experiences in dietary departments. Concurrent with HEC 2543.
2613. Textiles. (3-3-2). Fibers, yarns, weaves, designs, and finishes with emphasis on information applicable to selection and performance of textiles used in apparel and home furnishings. Laboratory fee charged.
2633. Meal Management. (3-3-2). Planning, selection, preparation and service of food to meet the needs of family groups for all occasions. Emphasis on social skills necessary for successful family meals and group entertaining. Laboratory fee charged. Prerequisite: HBC 1633. •
2663. Personnel Management in Dietetics. (3-3-0). Organization and management of personnel in food service units. Principles, staffing, directing, controlling, training, and labor relations applicable to dietetics.
2673. Intermediate Clothing Construction. (3-2-4). Intermediate construction techniques applicable to selected projects; continuation of alteration and fitting problems; includes construction techniques for various types of fabrics. Laboratory fee charged. Prerequisite: HBC 1613.
2683. Community Nutrition. (3-3-0). Exploration of community structure and its relationship to the delivery of quality nutritional services through private, voluntary and government sectors. Nutrition education principles and techniques included.
2982. Selected Experiences in Dietetics. (2-0-6). Selected topics in dietetics, including research, field or clinical projects of limited scope.
2991. Dietetic Seminar. (1-1-0). Seminar focusing on current trends and issues in dietetics and food service management involving individual and group participation. Emphasis on selecting, reading and interpreting related literature.
1612. Introduction to Horticulture. (2-2-0). Survey of the biology, technology, and industry of horticulture as both a science and an art and its relationship to humanity.
1623. Plant Diseases. (3-2-2). Identification of major causes of diseases of ornamental crops, namely physiological disorders, fungi, bacteria, viruses, and nematodes. Emphasis on recognition of symptoms and application of recommended control measures. Laboratory fee charged. Prerequisite: HRT 1612 and CHM 1604. *
1633. Plant Materials I - Trees. (3-2-2). Identification, characteristics, adaptation, and use of ornamental, landscape and forest trees. Laboratory fee charged. Prerequisite: HRT 1612. *
1643. Plant Materials II - Shrubs, Vines, and Ground Covers. (3-2-2). Identification, characteristics, adaptation, and use of ornamental shrubs, vines, and ground covers. Laboratory fee charged. Prerequisite: HRT 1612. *
1653. Herbaceous and Exotic Plants. (3-2-2). Identification, characteristics, adaptation, and use of annual and perennial bedding plants and of tropical and exotic house plants. Laboratory fee charged. Prerequisite: HRT 1612. *
1663. Greenhouse Management. (3-2-2). Construction and operation of commercial greenhouses, emphasizing efficient environmental control, scheduling, post-harvest handling, marketing, and business management. Laboratory fee charged. Prerequisite: HRT 1612. *
1673. Principles of Arboriculture. (3-2-2). Application of scientific methods of culture, pruning, surgery, selection, and testing of woody shrubs and trees for the purpose of increasing their esthetic and functional value. Laboratory fee charged. Prerequisite: HRT 1612 and HRT 1633. *
2613. General Entomology. (3-2-2). Identification of destructive, predaceous, and parasitic species of insects, emphasizing morphology and biology relating to the application of recommended biological and chemical control measures. Laboratory fee charged.
2623. Pot Plant Crops. (3-2-2). Production of foliage and flowering pot plant crops emphasizing growing techniques, environmental control, rotation, scheduling, and preparation for sale. Laboratory fee charged. Prerequisite: HRT 1663. *
2624. Soil Science. (4-3-2). Soil development and classification; mineral and organic fractions and their relationships to the physical and chemical state. Water relationships; use of fertilizers and amendments; reclamation of saline/sodic soils; soil, plant tissue and water analyses. Laboratory fee charged. Prerequisite: CHM 1604. •
2633. Bedding Plants. (3-2-2). Production and scheduling of selected annual and perennial plants marketed for use in beds, borders, gardens, and containers. Includes vegetables as well as ornamentals. Laboratory fee charged. Prerequisite: HRT 1663. *

Waiver may be authorized in certain instances by consent of department chairperson.

2644. Landscape Planning. (4-3-3). Preparation of landscape plans for homes or small buildings using design elements in accordance with established principles; selection and use of plant and construction materials for enriching the esthetic and utilitarian value of a landscape; experience in use of level and rod for grading and terracing; estimating and cost analysis. Laboratory fee charged.
Prerequisite: HRT 1633 and HRT 1643.*
2654. Landscape Management. (4-3-3). Establishment and maintenance of landscaped areas including lawns; soil preparation, planting, fertilizing, irrigating, mowing, pruning, and weed and pest control. Laboratory fee charged.
Prerequisite: HRT 1623, HRT 2613, and HRT 2624.*
2663. Plant Propagation. (3-2-2). Comprehensive coverage of sexual and asexual propagation of plants - by seeds, selection, cuttings, grafting, budding, layering, division, and tissue culture, each considered from both theoretical and applied points of view. Laboratory fee charged.
Prerequisite: HRT 1612.*
2673. Agricultural Compounds. (3-3-0). Chemical composition, formulation, mode of action, and use of fertilizers, fungicides, insecticides, herbicides and growth regulants.
Prerequisite: HRT 1623, HRT 2613 and CHM 1604.*
2683. Floral Design. (3-2-2). Principles of floral art expressed by the use of flowers and other design materials; special and unusual designs are included. Laboratory fee charged.
Prerequisite: HRT 1612.*
2693. Nursery Operations. (3-2-3). Procedures for establishing wholesale and retail nurseries including site selection, installation of structures and irrigation systems, selection of stock, production practices, preparation for marketing, obtaining retail outlets, and employee management. Laboratory fee charged.
Prerequisite: HRT 1612.*
2713. Florist Management. (3-3-0). A study of the structure of the real florist industry, starting a floral shop, efficient management practices, marketing methods and preparation of floral art.
Prerequisite: HRT 2683.*
2733. Urban Silviculture. (3-2-2). Establishment of forested urban areas, including selection of hardy and tolerant species, proper spacing and cutting, thinning, soil adaptability, maintenance and pest control. Laboratory fee charged.
Prerequisite: HRT 1673. and HRT 1633*
2813. Practicum. (3-1-4). On-job-training for credit; the student will receive three (3) semester hours credit after satisfactory completion of specified work for a commercial establishment or municipal department in the area of his/her selected curriculum, for example, a florist shop, garden center, nursery, or city parks department. Recommended that students enroll in practicum during final semester of degree program.#

INDUSTRIAL SUPERVISION (SUP)

1303. Industrial Supervision. (3-3-0). Concepts of organization and management, including principles and techniques of interpersonal relations, planning and case studies.
1313. Industrial Safety and Regulations. (3-3-0). Occupational Safety and Health Act, EEO, OEO, environmental and other industrial regulations.
2303. Personnel Aspects of Supervision. (3-3-0). Use of human resources through application of behavioral science concepts of management, recruitment selection, placement, testing, orientation, job training, counseling, and performance appraisal.

2543. Productivity Analysis. (3-3-0). Analysis of productivity factors related to labor utilization, work environment, and profit. Includes methods engineering, work simplification, task measurements, and case studies.
2713. Production and Inventory Control. (3-3-0). Planning, scheduling, control, and evaluation of production and inventory operations. Includes case studies involving typical management decisions.
2723. Maintenance Management. (3-3-0). Managing the maintenance of physical plants, primarily in manufacturing industries. Includes organization and administration of a maintenance department, personnel motivation, work scheduling, cost control, equipment maintenance and repair, and preventive maintenance.

INTERPRETING FOR THE DEAF (IFD)

1611. Nonverbal Communication/Mime. (1-0-2). Nonverbal aspects of communication which form an integral base for communicating in American Sign Language. Emphasis on the use and understanding of facial expression, gesture, pantomime, and body language.
1613. Introduction to Deafness. (3-3-0). An overview of deafness and its causes, of basic audiology, and of the history and philosophy of deaf education.
1614. American Sign Language I. (4-3-2). American Sign Language (ASL) as used by American deafpeople. Study of linguistic principles of ASL, sign recognition, expressive signing and receptive skills, with laboratory practice. Laboratory fee charged. May be taken two times for credit.
1621. Receptive Fingerspelling. (1-0-2). Concentrated laboratory practice in the reading of fingerspelling. Emphasis on development of speed and accuracy.
Prerequisite: IFD 1614.*
1623. Psycho-Social Aspects of Deafness and Community Resources. (3-3-0). A study of the effects of deafness on psychological and emotional development, including the adaptation of the individual to deafness, and a survey of available community resources.
Prerequisite: IFD 1613.*
1624. American Sign Language II. (4-3-2). Emphasis on increasing vocabulary and speed of ASL usage. Development of greater fluency in expressive and receptive ASL, including fingerspelling and nonverbal communication. Laboratory fee charged.
Prerequisite: IFD 1614.#
1633. Introduction to Interpreting. (3-3-0). An introduction to the basic theories, principles, and practices of interpreting for deaf persons in various settings. Students are given an overview of the profession of interpreting. Role playing with emphasis on ethics and techniques.
Prerequisite: IFD 1613 and IFD 1614.*
2613. American Sign Language III. (3-2-2). Continuation of IFD 1624, with emphasis on receptive skills. Laboratory fee charged.
Prerequisite: IFD 1621 and IFD 1624.*
2623. Expressive Interpreting/Translating. (3-2-2). Continuation of IFD 1624 and IFD 1633! with emphasis on expressive skills. Students use timed audio tapes to refine expressive skills in interpreting/translating. Laboratory fee charged.
Prerequisite: IFD 1624 and IFD 1633.*
2633. Communications Theory and Language Development. (3-3-0). Study of methods of facilitating language development in deaf individuals from birth through adulthood, utilizing communication theory and learning theory.
Prerequisite: IFD 1623 and IFD 1624.*

-waiver may be authorized in certain instances by consent of department chairperson.
Specialized admission requirements; consent of department chairperson required for enrollment.

2643. Communication Methods for the Deaf. (3-3-0). Theories and techniques in methods of communication, including speech, speech-reading, audiotape, manual signs, fingerspelling, and gestures. Discussion and demonstration of code systems.
Prerequisite: 12 semester hours of IFD courses.*
2653. American Sign Language IV (Interpreting/Translating). (3-2-2). Continuation of IFD 2613 and IFD 2623, with intensive practice through the use of media to increase fluency in interpreting/translating. Laboratory fee charged.
Prerequisite: IFD 2613 and IFD 2623.*
2654. Interpreting Practicum. (4-1-6). Observation of the interpreting process in various settings and use of interpreting skills in practical applications with deaf persons under the supervision of experienced interpreters. Concurrent with IFD 2653.
- 2661/62. Selected Topics in Interpreting for the Deaf. (1-1-0)/(2-2-0). Elective course offering current topics in interpreting for the deaf. May be taken four times for credit.
Prerequisites: IFD 1623 and IFD 2653 (or concurrent with IFD 2653).

JOURNALISM (JRN)

1613. Introduction to Mass Communications. (3-3-0). Communication theory; history, operation, and structure of the American communication system; and interrelationship of the mass media and society.
1703. Photography I. (3-2-4). Basic photographic processes and techniques used as an art medium. (Students may not earn credit for both JRN 1703 and ART 1703.) Laboratory fee charged.
1713. Photography II. (3-2-4). Continuation of JRN 1703. Emphasizes one or more photographic areas, including commercial, architectural, industrial, fashion, portrait, sports, crime and news, and as an art medium. Exposing, processing, and printing color film. Laboratory fee charged. (Students may not earn credit for both JRN 1713 and ART 1713.)
Prerequisite: JRN 1703 or ART 1703.*
1723. Selected Topics in Photography or Art. (3-2-4). Course offering various technical and theoretical topics. Laboratory fee charged. May be taken four times for credit.
2613. Reporting I. (3-3-2). Skills, techniques and practices of newsgathering and news writing. Laboratory provides practical experience in reporting for student newspaper.
Prerequisite: Average typing ability.*
2623. Reporting II. (3-3-2). Continuation of JRN 2613.
Prerequisite: JRN 2613.*

LABOR STUDIES (LAS)

1633. Union Structure, Administration, and Leadership. (3-3-0). Local union administration; international union structures, regional and council substructure, and jurisdictional lines; basic leadership skills and duties of executive officers and boards.
2613. Collective Bargaining. (3-3-0). Union contracts; economic and political pressures; the bargaining process and strike procedures; fringe and non-fringe benefit areas of the contract, working conditions; grievance procedure and writing grievances; arbitration statutes and procedures; simulated bargaining and arbitration sessions.
2643. Labor Law. (3-3-0). Court decisions interpreting Constitution and laws affecting labor. Effect of law on collective bargaining process, working conditions, job opportunities, job security and fringe benefits. Lawmaking process, role of dissent, and effect of conditions.
2683. Selected Topics in Labor Studies. (3-3-0). Investigation of selected topics relating to organized labor in America. May be taken four times for credit.

LEGAL ASSISTANT (LEA)

1313. Introduction to the Legal System. (3-3-0). A general perspective of the legal system and the role of the legal assistant within that system, including ethical standards of conduct.
Prerequisite to other legal assistant courses.
1323. Legal Research. (3-3-0). Provides a working knowledge of the major techniques of legal research through the completion of assigned problems.
Prerequisite: LEA 1313.*
1333. Legal Writing. (3-3-0). The major techniques of legal writing, including the format of a legal memorandum, purpose of a legal memorandum, proper forms for legal citations and drafting of extensive intra-office memoranda and other legal documents.
Prerequisites: LEA 1313 and LEA 1323.*
1343. Civil Litigation. (3-3-0). The fundamental principles of the preparation of civil cases including drafting pleadings, motions, and other documents required in a civil action, and understanding trial and appellate procedures, utilizing the Texas rules of civil procedure.
Prerequisites: LEA 1313 and LEA 1323.*
1353. Wills, Trusts and Probate. (3-3-0). The basic legal concepts of the more common forms of wills and trusts as well as intestacy; the fundamental principles of law applicable to each; the organization and jurisdiction of the probate court; and an analysis of estate administration and fiduciary accounting.
Prerequisites: LEA 1333 and LEA 1343.*
2313. Cooperative Internship. (3-1-20). An opportunity to observe and gain practical work experience under the supervision of an attorney, legal assistant, or other legal personnel. Regular seminars with the instructor.
Prerequisite: Consent of department chairperson.
2323. Tort Litigation. (3-3-0). Preparation to assist attorneys in corporations in tort and insurance law. Includes the primary legal principles of tort litigation, applying the common law and state and federal statutes.
Prerequisites: LEA 1333 and LEA 1343.*
2343. Family Law. (3-3-0). Basic substantive law in the area traditionally known as family law: adoption, guardianships, non-support, uncontested and contested divorces, child custody, and paternity.
Prerequisites: LEA 1333 and LEA 1343.*
2353. Estate Planning and Taxation. (3-3-0). Legal concepts of estate planning with particular emphasis on the impact of taxation. Preparation to draft estate plans utilizing the Internal Revenue Code to obtain maximum maintenance of dependent's estate.
Prerequisites: LEA 1333 and LEA 1343.*
2363. Administrative Law. (3-3-0). An analysis of the function of various government agencies and the scope of their involvement with the legal field.
Prerequisites: LEA 1333 and LEA 1343.*

LIBRARY SERVICES (LIB)

1501. Use of Learning Resources. (1-1-0). Skills in the use of books, equipment and other learning materials.

*Waiver may be authorized in certain instances by consent of department chairperson.
+ Course may be repeated for credit when topic varies.

MACHINE SHOP TECHNOLOGY (MAS)

1514. Machine Shop I. (4-2-4). Introduction to basic machine tools, including lathes, drill presses, saws, pedestal grinders, precision measuring tools, and hand tools. Manufacturing of elementary parts on lathes and related equipment. Laboratory fee charged.
1564. Machine Shop II. (4-2-4). Advanced lathe operations and introduction to milling machines, surface grinders, and cylindrical grinders. Includes manufacture of tools and parts involving operations peculiar to these machines. Laboratory fee charged.
Prerequisite: DRF 1383, MAS 1514 and MTH 1323. *
2554. Machine Shop III. (4-2-4). Advanced milling, turning, and grinding operations. Emphasizes refinement of skills in the use of the universal tool grinder, rotary table, and indexing head. Includes cutting of internal and external threads, keyways, and tapers. Laboratory fee charged.
Prerequisite: MAS 1564. *
2744. Machine Shop IV. (4-2-4). Introduction to machine shop production practices. Principles of numerical control, production tooling, and special attachments for mass production. Laboratory fee charged.
Prerequisite: MAS 2554. *
2814. Machine Maintenance and Problems. (4-3-2). Preventive maintenance of machine shop equipment, including lathes, drill presses, saws, vertical and horizontal mills, surface grinders, and cylindrical grinders. Solution of advanced machine shop problems, with emphasis on material and tool analysis, time studies, and cost estimating. Laboratory fee charged.
Prerequisite: MAS 2744. *

MARKETING (MKT)

2683. Principles of Advertising. (3-3-0). Industrial and consumer advertising; consumer psychology and selection; advertising copy and graphics; and selection of advertising media.
2673. Principles of Marketing. (3-3-0). Marketing functions; identifying consumer wants and needs; developing products and services to meet consumer needs.
2693. Principles of Retailing. (3-3-0). Merchandise display, promotion, buying, and distribution at the retail level.
2723. Salesmanship. (3-3-0). Selling processes: prospecting, the approach, the presentation, handling objections, the close, and the follow-up. Methods, problems and duties of professional salespersons.
2883. Marketing Strategies. (3-3-0). Application of previous accounting, management, and marketing knowledge to a simulated business environment.
Prerequisite: ACC 1633, MKT 2673 and BUA 2733. *

MATHEMATICS (MTH)

1323. Technical Algebra and Trigonometry I. (3-3-0). Algebra and trigonometry applications for technical and industrial areas.
Prerequisite: MTH 1403a. *
1333. Technical Algebra and Trigonometry II. (3-3-0). Additional trigonometry and advanced algebra applications for technical and vocational areas.
Prerequisite: MTH 1323. *
1403. Introductory Mathematics. (3-3-0). Comprehensive study of basic arithmetic, and beginning and intermediate algebra. Placement made after classes begin and remains flexible throughout semester. Transcript denotes portion for which credit is given: "a" - arithmetic, "b" - elementary algebra, "c" - intermediate algebra. May be taken four times for credit. +

1603. College Algebra for the Social and Management Sciences. (3-3-0). Mathematical models; introduction to functions, equations and graphs of functions (linear, quadratic, exponential and logarithmic). Systems of linear equations and inequalities, linear programming and matrix algebra.
Prerequisite: MTH 1403c. *
1613. Fundamentals of College Mathematics I. (3-3-0). Sets, logic, systems of numeration, number systems, geometry, and historical development of mathematics.
Prerequisite: MTH 1403b. *
1623. Fundamentals of College Mathematics II. (3-3-0). Continuation of MTH 1613.
Prerequisite: MTH 1613. *
1633. Functional Approach to College Algebra. (3-3-0). Concept of functions is central. Includes definition of function and algebra of functions (polynomial, rational, exponential, and logarithmic). Functions of two variables, arithmetic and geometric series, combinations and the binomial theorem, and properties of the real number system.
Prerequisite: MTH 1403c. *
1643. Functional Approach to College Trigonometry. (3-3-0). Circular and trigonometric functions; trigonometric identities and equations; triangle trigonometry, vectors and complex numbers.
Prerequisite: MTH 1633. *
1663. Mathematics of Business Analysis. (3-3-0). Introduction to differential and integral calculus (with applications), probability, decision making, and simulation.
Prerequisite: MTH 1603. *
1673. Elementary Statistics. (3-3-0). Probability; population sampling; collection, tabulation, and graphing of data; frequency distributions; mean and standard deviation; normal distribution; correlation and regression, and tests for significance.
Prerequisite: One year of high school algebra. *
1725. Calculus with Analytic Geometry I. (5-5-0). Geometry of line and conic sections, limits, continuity differentiation, anti-differentiation, and integration of algebraic functions. Applications of differentiation and integration.
Prerequisite: MTH 1643. *
1734. Calculus with Analytic Geometry II. (4-4-0). Derivatives of trigonometric, inverse trigonometric, exponential, and logarithmic functions; integration of special forms (logarithmic, exponential, trigonometric, and inverse trigonometric functions), and techniques of integration.
Prerequisite: MTH 1725. *
2303. Advanced Technical Mathematics. (3-3-0). Analytic geometry, linear algebra and calculus (including graphical methods), differentiation and integration. Application course for technical and vocational students.
Prerequisite: MTH 1333. *
- 2601/02. Special Topics in Mathematical Sciences. (1-1-0)/(2-2-0). Selected topics in mathematics, including lecture and/or independent study. May be taken four times for credit. +
Prerequisite: Consent of department chairperson.
2653. Calculus with Analytic Geometry III. (3-3-0). Vectors, partial derivatives, multiple integrals and introduction to differential equations.
Prerequisite: MTH 1734. *
2663. Introduction to Differential Equations. (3-3-0). First-order and linear differential equations; series solutions, systems of equations and applications from science and engineering fields.
Prerequisite: MTH 2653. *

*Waiver may be authorized in certain instances by consent of department chairperson.

+Course may be repeated for credit when topic varies.

MEDIA TECHNOLOGY (MET)

1601. Media Workshop. (1-1-0). Relating to the design, production and utilization of special projects. Topics vary according to need and may cover art graphic, audio, and visual production techniques.
1604. Basic Media Equipment. (4-3-2). Classroom utilization techniques and practice in the operation and preventive maintenance of the following equipment: 16mm projector, 8mm projector, overhead projector, opaque projector, 35mm slide and filmstrip projector, record player, audio tape receiver, and public address system. Laboratory fee charged.
1614. Basic Media Production. (4-2-4). Practical approach to techniques in local production of basic graphic materials for classroom use. Practice in layout, lettering, mounting, laminating, thermal transparency processing, and duplicating methods (copying, spirit, and mimeo). Laboratory fee charged.
1634. Field Television Production. (4-2-4). Selection, operation, maintenance and mobility of portable video equipment. Discussions on planning and producing in remote and varied locations, followed by field production experiences and development of postproduction editing skills.
2614. Advanced Media Production. (4-2-4). Local production of projected materials by photographic processes and techniques, including 35mm slides, filmstrips, 8mm movies, diazo, and photomodifier. Laboratory fee charged.
Prerequisite: JRN 1703.*
2624. Audio and Video Techniques. (4-2-4). Practical selection, set-up, and operation of electronic devices for audio and/or video amplification, distribution, recording, playback, and duplication. Laboratory fee charged.
Prerequisite: MET 1604.*
2634. Audio Production. (4-2-4). Study of studio and location recording. Practical applications in mechanical and electronic editing, mixing, and tape duplication. Emphasis on the design, selections, and acquisitions of equipment for the small production studio.
2638. Media Technician Internship. (8-2-12). Experience in operational situations involving different aspects of media production, distribution, utilization and maintenance.
Prerequisite: Consent of department chairperson.
2653. Media Technician Seminar. (3-3-0). Research and production problems on an individual or group basis. May be taken two times for credit.+

MEDICAL LABORATORY TECHNOLOGY (MLT)#

1404. Urinalysis. (4-3-4). Quantitative and qualitative urinalysis, basic laboratory mathematics, and medical ethics, with laboratory applications in urinalysis and other body fluids. Laboratory fee charged.
1405. Hematology. (5-3-6). Clinical hematology with laboratory applications. Laboratory fee charged.
1481. Seminar. (1-1-0). Additional study in the medical laboratory to meet needs of students and their programs.
- 1491/94/96. Clinical Practice. (1-0-4)/(4-0-30)/(6-0-40). Practical clinical laboratory experience in the medical laboratory under general supervision of a program coordinator.
2404. Immunology. (4-3-4). Serology and blood banking with laboratory applications. Laboratory fee charged.
2414. Clinical Chemistry. (4-3-4). Chemistry related to the medical laboratory. Laboratory fee charged.
2424. Medical Microbiology. (4-3-4). Medical aspects of microbiology, including parasitology and mycology with laboratory applications. Laboratory fee charged.

MEDICAL OCCUPATIONS (MED)

1432. Medical Terminology. (2-2-0). Emphasis on terms pertaining to student's area of specialization.
2402. Medical and Surgical Diseases. (2-2-0). Major disease processes related to needs of technical personnel in allied health services.#
2442. Basic Pharmacology. (2-2-0). Pharmacology related to allied health services.#
2463. Management in Health Care. (3-3-0). Budgeting, organizing, decision making and leadership in the hospital.#

MEDICAL RECORD TECHNOLOGY (MRT)#

1403. Medical Record Science I. (3-2-4). The medical record field with emphasis on machine transcription and the use of medical terminology. Laboratory fee charged.
1404. Medical Record Science II. (4-3-3). Medical record department emphasizing method of obtaining, preserving and using medical records. Computation and use of hospital statistics. Laboratory fee charged.
1411. Medical Transcription Laboratory. (1-0-4). Laboratory experience for medical office personnel in utilizing medical transcription. Laboratory fee charged. May be taken two times for credit.+
1423. Advanced Medical Terminology. (3-3-0). Medical terminology with emphasis on correct spelling and usage.
1433. Record Management Techniques. (3-3-0). Medical and dental record management, correspondence, insurance reports, telephone functions and basic accounting.
1482. Clinical Practice. (2-0-16). Practical experience in medical transcription under general supervision of a program coordinator.
- 1491/92. Clinical Practice. (1-0-8)/(2-0-16). Practical clinical laboratory experience in medical records under general supervision of a program coordinator. May be taken zero/two times for credit.+
2404. Medical Record Science III. (4-3-3). Medical records with emphasis on coding, indexing, electronic data processing applications and trends in health care delivery systems. Laboratory fee charged.
2412. Medical Ethics and Jurisprudence. (2-2-0). Medical ethics with emphasis on the moral and legal responsibilities of health care personnel.
2414. Medical Record Science IV. (4-3-3). Medical records stressing utilization review and medical audit. Laboratory fee charged.

MENTAL HEALTH-MENTAL RETARDATION (MHR)

1603. Laws and Standards Affecting Mental Health. (3-3-0). Emphasis on authority and standards regulating treatment facilities, funding, relevant labor laws, and the effect on the treatment prescription.
1606. Introduction to Mental Health. (6-4-4). An introduction to mental health services and occupations. Emphasis on community agencies and organizations; will include supervised field experiences.

-waiver may be authorized in certain instances by consent of department chairperson.

+Course may be repeated for credit when topic varies.

*Specialized admission requirements; consent of department chairperson required for enrollment.

1613. Assessment and Counseling Techniques. (3-3-0). Basic information for mental health/mental retardation technicians about evaluation and testing procedures along with interviewing and general counseling procedures and techniques.
1623. Special Therapies I. (3-3-0). Includes the entire milieu of rational and behavioral therapy. Attention is given to skill development and understanding in psychological and emotional adjustment of clients encountered by the mental health/mental retardation technician.
2428. Mental Health/Mental Retardation Internship. (8-2-12). Experience in a mental health/mental retardation facility working under direct professional supervision.
Prerequisite: Consent of department chairperson.
2603. Special Therapies II. (3-3-0). Includes the entire milieu of psychoanalytic, ego, and self-theory therapies. Attention is given to skill development and understanding in psychological and emotional adjustment of clients encountered by the mental health/mental retardation technician.
2614. Medical Aspects of Mental Health/Mental Retardation. (4-3-2). Basic information concerning the medical model for mental health/mental retardation technicians along with an overview of medical and neurological testing, pharmacology, electro-convulsive therapy, and medical emergencies. Includes a supervised laboratory in first-aid and CPR training.
2633. Mental Health/Mental Retardation Seminar. (3-3-0). Selected topics for the Mental Health/Mental Retardation technician will be presented. May be taken four times for credit.†

MID-MANAGEMENT (MID)#

1312. Management Training I. (2-0-20). Coordinated employment in students' career fields. Practical work experience for students preparing for careers in management. Concurrent with MID 1313.
1313. Motivation Seminar. (3-3-0). Physiological, psychological, and sociological factors affecting human behavior. Emphasizes best methods of attaining individual and group motivation in business. Includes one-hour weekly seminar of job-oriented discussion.
1332. Management Training II. (2-0-20). Continuation of coordinated employment in students' training positions. Provides increased supervisory responsibility for students preparing for careers in management. Concurrent with MID 1333.
1333. Essentials of Management. (3-3-0). Planning, decision making, organizing, controlling, and leadership in business. Includes one-hour weekly seminar of job-oriented discussion.
2312. Management Training ID. (2-0-20). Continuation of coordinated employment with increased managerial responsibility. Concurrent with MID 2313.
2313. Personnel Management. (3-3-0). Principles, procedures and organizational techniques used in managing personnel. Current developments within the general field of industrial relations. Includes one-hour weekly seminar of job-oriented discussion.
2332. Management Training IV. (2-0-20). Continuation of coordinated employment with added management responsibility. Concurrent with MID 2333.
2333. Management Seminar. (3-3-0). Current problems in business management. Research and readings related to current developments in management. Includes one-hour weekly seminar of job-oriented discussion.

MILITARY SCIENCE / ROTC (MIL)

1611. Marksman and Hunter Safety. (1-0-2). Fundamentals of small arms marksmanship including rifle filling, holding techniques, firing positions, and rifle maintenance. Basic firearms safety, hunter responsibilities, big game care, and identification, and survival rules. Introduction to Army Reserve Officers' Training Corps and selected military weapons.

1621. Introduction to the United States Army. (1-1-0). An overview of the United States Army to include its mission, current structure, deployment and future developments.
1641. Outdoor Skills and Orienteering. (1-1-1). Basic outdoor skills are introduced and practiced to include backpacking, camping, cooking, rappelling, map reading, and compass. Physical condition is stressed throughout the course. Introduction to Army ROTC.
2312. Management and Military Skills. (2-1-1). Basic military skills are demonstrated and practiced to include physical training, communications, map reading, weapons orientation, military customs and traditions, small unit tactics, and leadership.
2632. American Military History. (2-2-0). Examines the role of the Armed Forces in American Society today through a study of the origins and development of military institutions, traditions, and practices in the United States, 1775 to the present.
- 2901/02/03. Special Topics in Military Science. (1-1-0) (2-2-0) (3-3-0). (Special studies opportunities in Military Science.)†

MOTORCYCLE SERVICE TECHNICIAN (MST)

1307. Basic Motorcycle Service. (7-4-6). Overview of the industry and basic knowledge and technical skills required. Includes safety, hand and power tools and equipment, measurement systems, production materials and fastening systems, use of service references, introduction to motorcycle systems, fuels and lubricants, and welding. Students will perform complete motorcycle assembly and pre-delivery service and will gain experience in installation of dealer-installed accessories. Laboratory fee charged.
1327. Motorcycle Chassis Service. (7-3-7). Design and application of various system components which comprise different motorcycle chassis styles. Includes suspension systems, wheel-brake-tire systems, and final drive systems. Covers governmental regulations, vehicle safety inspection codes and inspection procedures of motorcycle service departments. Laboratory fee charged.
Prerequisite: MST 1307.*
1347. Motorcycle Electricity and Electrical Systems. (7-4-6). Electricity and operational theory of common circuit components. Use of electrical test equipment to read circuit schematic diagrams. Troubleshooting techniques involving charging, starting, and lighting systems. Theory and service of conventional and electronic ignition systems stressed. Laboratory fee charged.
Prerequisite: MST 1307.*
1367. Motorcycle Engine Service. (7-3-7). Operational theory and design, construction and applications of current two-cycle and four-cycle engines. Major powerplant systems studied in detail, including top-end and lower-end service, fuel system service, lubrication and cooling system functions, and exhaust and emissions systems. Development of industry-accepted work habits stressed. Laboratory fee charged.
Prerequisite: MST 1307.*
1387. Advanced Motorcycle Service. (7-2-8). Advanced service skills required for entry-level competency in the motorcycle service profession. Includes use of the chassis dynamometer; operation of precision machine tools and equipment; and periodic maintenance, inspection, and troubleshooting of the complete motorcycle. Problem-solving techniques requiring student's completion of major service problems in a service department atmosphere or laboratory. Laboratory fee charged.
Prerequisite: MST 1307 and consent of program coordinator.

†Waiver may be authorized in certain instances by consent of department chairperson.

†Course may be repeated for credit when topic varies.

†Specialized admission requirements; consent of department chairperson required for enrollment.

MUSIC(MUSf

1603. Basic Musicianship. (3-3-0). Fundamentals of music for the person who has little knowledge of music.
1612. Harmony I. (2-3-0). Chord and melody structure, chord progression, and part-writing as seen in music literature of all periods. Review of music fundamentals with emphasis on refinement of musical judgments. Direct application to the keyboard.
Prerequisite: MUS 1603.*
1613. Music Appreciation. (3-3-0). Music for the college student. Historical evolution of music with emphasis on major styles and types as revealed in music literature through the centuries.
1622. Ear Training I. (2-2-0). Sight-singing, rhythmic, melodic and harmonic dictation parallel to study in Harmony I. Must be taken concurrently with MUS 1612.
Prerequisite: MUS 1603.*
1623. Basic Music for Classroom Teachers I. (3-3-0). Experiences in music creativity for the college student majoring in elementary education and the "in-service" classroom teacher who has had little formal training in music.
1632. Harmony II. (2-3-0). Continuation of MUS 1612.
Prerequisite: MUS 1612.*
1633. Basic Music for Classroom Teachers II. (3-3-0). Continuation of MUS 1623. Training and experiences in music creativity, music fundamentals, vocal and instrumental skills, and materials appropriate to the elementary classroom.
Prerequisite: MUS 1623.*
1642. Ear Training II. (2-2-0). Continuation of MUS 1622. Concurrent with MUS 1632.
Prerequisite: MUS 1622.*
1651. Vocal Diction I. (1-2-0). Phonetic sounds of French and Italian languages enhancing the ability to sing in these languages.
1661. Vocal Diction II. (1-2-0). Phonetic sounds of the German and English languages enhancing the ability to sing in these languages.
2612. Harmony III. (2-3-0). Continuation of MUS 1632.
Prerequisite: MUS 1632.*
2613. Music Literature I. (3-3-0). Historical development of music as an art with emphasis on listening.
2622. Ear Training III. (2-2-0). Continuation of MUS 1642. Concurrent with MUS 2612.
Prerequisite: MUS 1642.*
2623. Music Literature II. (3-3-0). Continuation of MUS 2613.
Prerequisite: MUS 2613.*
2632. Harmony IV. (2-3-0). Continuation of MUS 2612.
Prerequisite: MUS 2612.*
2642. Ear Training IV. (2-2-0). Continuation of MUS 2622. Concurrent with MUS 2632.
Prerequisite: MUS 2622.*

ENSEMBLES

1811. Choral Ensembles. (1-0-3). Performance of serious literature. All voice principals must enroll in one of these ensembles. May be taken four times for credit. +
- A. Choir. Choral ensemble performing serious literature from all periods in music history. Open to all students without audition.
- B. Madrigal Singers. Select choral ensemble of 12 or 13 members performing music for madrigal repertoire. Audition is by invitation of director:

- C. Chamber Singers. Select choral ensemble performing serious choral literature from all periods of music history. Membership by audition only.
- D. Concert Chorale. Evening chorus for students from community at large. Large-scale choral works from various periods of music history. Membership by audition only.
1821. Choral Ensembles. (1-0-3). Performance of music of light nature. Open to all students without audition. May be taken four times for credit. +
- A. TCJC Collegiate Chorale. Choral ensemble for general college students. Light choral music and choral arrangements of traditional and popular songs.
- B. TCJC Singers. Choral ensemble performing music of light nature. Emphasis on Broadway show tunes, spirituals, popular, folk and patriotic music.
1851. Symphonic Band. (1-0-3). Open to all students with previous band or orchestral experience and required of all instrumental majors. May be taken four times for credit. +
1861. Studio Band. (1-0-3). Open to students with previous stage band experience or those with instrumental skills and a desire for learning stage band techniques. May be taken four times for credit. +
1871. Special Ensembles. (1-0-3). Ensembles to meet special needs. Nature of ensemble determined by student interest and available instrumentation. May be taken four times for credit. +
1891. Special Ensembles. (1-0-2). Ensembles to meet special needs. Nature of ensemble determined by student interest and available instrumentation. May be taken four times for credit. +

APPLIED MUSIC

1901. Private Music Lessons. (1-½-0). Piano, organ, voice, string, woodwind, brass and percussion instruments. Primarily for non-music majors. Private music lesson fee charged. May be taken four times for credit. +
1902. Private Music Lessons. (2-1-0). Piano, organ, voice, string, woodwind, brass and percussion instruments. Primarily for non-music majors. Private music lesson fee charged. May be taken four times for credit. +
1911. Private Music Lessons. (1-½-0). Piano or voice at the beginning college level. Primarily for music majors to fulfill secondary instrument requirement. Private music lesson fee charged. May be taken four times for credit. +
1912. Private Music Lessons. (2-1-0). Piano, organ, voice, string, woodwind, brass and percussion instruments at the beginning college level. For music majors to fulfill principal instrument requirement. Private music lesson fee charged. May be taken four times for credit. +
1921. Private Music Lessons: (1-½-0). Continuation of MUS 1911. Private music lesson fee charged. May be taken four times for credit. +
Prerequisite: MUS 1911.*
1922. Private Music Lessons. (2-1-0). Continuation of MUS 1912. Private music lesson fee charged. May be taken four times for credit. +
Prerequisite: MUS 1912.*
1931. Class Piano. (1-2-1). Introduction to piano playing through the use of simple pieces. For students with no knowledge of the keyboard and music reading, and for vocal and instrumental music majors with no piano background. May be taken two times for credit. Laboratory fee charged.

Students who elect ensemble participation are apprised of their rehearsal and concert obligations. Failure to meet obligations in either or both areas will result in non credit and/or failing marks. All students taking Applied Music for credit are required to enroll in MUS 1991, according to Music Department policy.

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+Course may be repeated for credit when topic varies.

1941. Class Voice. (1-2-1). Fundamentals of breathing, vocal productions, and placement. Primarily for instrumental and keyboard music majors to fulfill secondary requirement in voice, and for non-music majors to learn fundamentals of vocal technique. May be taken two times for credit.
1961. Class Guitar. (1-2-1). Music fundamentals and performance of the classical guitar. May be taken two semesters for credit.
1991. Recital. (1-1-0). Performance before audiences. Must be taken concurrently with any private course. May be taken four times for credit.+
2911. Private Music Lessons. (1-½-0). Piano or voice at the advanced level. Primarily for music majors to continue study in a secondary instrument. Private music lesson fee charged. May be taken four times for credit.+
Prerequisite: MUS 1921.*
2912. Private Music Lessons. (2-1-0). Piano, organ, voice, string, woodwind, brass, and percussion instruments at the advanced level. For music majors to fulfill requirements in a principal instrument. Private music lesson fee charged. May be taken four times for credit.+
Prerequisite: MUS 1922.*
2921. Private Music Lessons. (1-½-0). Continuation of MUS 2911. Private music lesson fee charged. May be taken four times for credit.+
Prerequisite: MUS 2911.*
2922. Private Music Lessons. (2-1-0). Continuation of MUS 2912. Private music lesson fee charged. May be taken four times for credit.+
Prerequisite: MUS 2912.*

NONDESTRUCTIVE EVALUATION TECHNOLOGY (NOE)

1513. Introduction to Nondestructive Testing. (3-3-0). Fundamentals of nondestructive testing (NDT). Principles, applications, advantages, and limitations of the major NOT methods. Includes economic factors, comparison with destructive test methods, and certification procedures.
1543. Penetrant and Magnetic Particle Testing. (3-2-3). Procedures for detecting surface and near-surface defects with liquid penetrant and magnetic particle techniques. Emphasizes physical principles and process steps involved in the methods. Laboratory fee charged.
2623. Origin of Material Defects. (3-2-3). Origin and significance of defects produced in engineering materials during manufacture or in service. Includes identification of defect types, failure modes, and failure processes. Laboratory fee charged.
Prerequisite: MEC 1573.*
2724. Ultrasonic Testing. (4-2-4). Principles of ultrasonic testing of materials. Includes properties of sound waves, wave generation and propagation, and interaction of ultrasonic energy with matter. Emphasizes technique development, effects of specimen geometry, calibration procedures, and test interpretation. Laboratory fee charged.
Prerequisite: PHY 1634.*
2754. Radiographic Testing. (4-2-4). Principles of radiographic examination of materials. Includes sources of radiation, radiation/matter interaction, and detection methods. Emphasizes radiation safety, radiographic techniques, darkroom procedures, and film interpretation. Laboratory fee charged. Prerequisite: PHY 1634.*
2783. Eddy Current Testing. (3-2-3). Applications of eddy current test procedures to defect detection and material property measurements. Includes interactions between electromagnetic fields and conductive materials, eddy current instrumentation, equipment calibration, and signal interpretation. Laboratory fee charged.
Prerequisite: ELE 1323 and MTH 1323.

2793. Problems in Nondestructive Testing. (3-2-3). Development of NOE techniques for typical inspections required in industry. Emphasizes selection of best method and development of specific procedures. Includes certification of NOE personnel, organization of NOE laboratories, and specialized NOE methods such as leak testing, acoustic emission, and holography. Laboratory fee charged.
Prerequisites: NOE 1543, NOE 2613, and NOE 2813.*

NURSING (NUR)#

1313. Fundamentals of Nursing. (3-3-1). Art and science of nursing, emphasizing humanitarian attitudes and standards of nursing care based on scientific principles from the humanities, social, physical, and biological sciences. Concepts of mental health, basic nutrition, and drug administration. Laboratory fee charged. Concurrent with NUR 1323.
1323. Practicum. (3-0-9). Scientific principles of basic nursing skills in clinical areas. Assignments in community health agencies and college laboratory. Concurrent with NUR 1313.
1324. Medical-Surgical Nursing I. (4-4-1). Nursing care of adults, including developmental tasks of adults; stress and adaptation syndrome; body defense mechanisms; fluid and electrolyte balance; psychosomatic relationships; pain; neoplastic, respiratory, cardiovascular, neurologic, endocrine and dermatologic disturbances. Laboratory fee charged. Concurrent with NUR 1334.
Prerequisite: NUR 1313, BIO 1323 and CHM 1604.
1334. Practicum. (4-0-12). Basic nursing care of adults with medical/surgical problems. Concurrent with NUR 1324.
2402. Psychiatric Nursing. (2-2-1). Working with mentally ill patients, individually and in groups. Emphasis on community approach to preventive therapy, rehabilitative aspects of mental illness, dietary and psychological principles of the motivation of behavior. Laboratory fee charged. Concurrent with NUR 2412.
Prerequisite: NUR 1324 and PSY 1613.
2412. Practicum. (2-0-6). Application of psychiatric and rehabilitative principles and/or concepts. Experience provided in psychiatric areas in the community. Concurrent with NUR 2402.
2414. Medical-Surgical Nursing II. (4-4-1). Nursing care of adults, including complete surgical cycle, pre-operative, operative, and post-operative care; common gastro-intestinal, ENT; urinary and orthopedic disturbances; and professional nursing organizations. Laboratory fee charged. Concurrent with NUR 2424.
Prerequisite: NUR 2402, BIO 1333 and BIO 1314.
2424. Practicum. (4-0-12). Application of principles of total patient care with experience in the operating room and medical-surgical units. Concurrent with NUR 2414.
2434. Maternal and Child Health Nursing. (4-4-1). Physiological and psychological aspects of normal maternity cycle with mother, infant, and family considered as a unit within the community. Emphasizes necessity of high standards of maternal and child care, physicochemical and dietary needs of mother and infant, and physical and mental health of children. Diseases in infancy, childhood, and adolescence as bases for nursing care of children with pathological conditions. Laboratory fee charged. Concurrent with NUR 2444.
Prerequisite: NUR 2414 and PSY 1623.
2444. Practicum. (4-0-12). Basic nursing care of mothers during gestation, delivery and the puerperium; infants during the neonatal period; infants and children with common medical-surgical problems. Concurrent with NUR 2434.
Prerequisite: NUR 2414.

*Waiver may be authorized in certain instances by consent of department chairperson.

+Course may be repeated for credit when topic varies.

#Specialized admission requirements; consent of department chairperson required for enrollment.

OFFICE AND SECRETARIAL CAREERS (OFO)

1303. Fundamentals of Typewriting. (3-3-0). Mastery of the keyboard with development of speed and accuracy on straight copy. No credit toward degrees or certificates in office and secretarial careers. Placement test available. Laboratory fee charged.
1313. Intermediate Typewriting Skills. (3-3-0). Further development and application of typing skills and techniques of various office data and correspondence. Placement test available. Laboratory fee charged.
Prerequisite: OFO 1303.*
1323. Principles of Shorthand. (3-3-2). Development of shorthand theory, vocabulary, dictation and transcription skills. Placement test available. Laboratory fee charged.
Prerequisite: OFO 1303.*
1333. Shorthand Speed Building. (3-3-0). Further development of vocabulary, dictation and transcription skills. Placement tests available. Laboratory fee charged.
Prerequisite: OFO 1303 and OFO 1323.*
1343. Calculating Machines. (3-3-0). Instruction and practice on calculating machines used in the business environment. Machines include electronic display and printing calculators. Laboratory fee charged.
1383. Machine Transcription. (3-3-0). Use of dictating and transcribing equipment. Emphasis on grammar, spelling, punctuation and forms common to dictation and transcription of business letters and related correspondence. Laboratory fee charged.
Prerequisite: OFO 1313.*
1393. Principles of Speedwriting. (3-3-2). Development of Speedwriting (alphabetic) shorthand theory, vocabulary, dictation, and transcription skills. May not be substituted for OFO 1323. Approved elective for A.A.S. Office Careers program. Laboratory fee charged. Prerequisite: OFO 1303.*
2303. Business Communications. (3-3-0). Current trends in business correspondence with emphasis on grammar and mechanics of writing. Experience in composing various types of business letters and other typewritten communications.
Prerequisite: OFO 1303.*
2313. Advanced Typewriting Problems. (3-3-0). Emphasis on refinement of typing skills and techniques of office communications. Laboratory fee charged.
Prerequisite: OFO 1313.*
2323. Advanced Shorthand Dictation and Transcription. (3-3-0). Emphasis on speed building, mailable transcription and office-style dictation. Terms and expressions of specialized areas presented. Laboratory fee charged.
Prerequisite: OFO 1333.*
2343. Office Accounting I. (3-3-0). For non-accounting majors. Instruction in bookkeeping and accounting principles and practices.
2373. Medical Terminology. (3-3-0). Emphasis on medical terms, standard medical abbreviations, spelling, and transcription of medical communications. Laboratory fee charged.
Prerequisite: OFO 1313.*
2383. Office Procedures. (3-3-0). Emphasis on duties, responsibilities, and personal qualifications of office workers. Duplicating processes, filing systems, and simulated office situations. Laboratory fee charged.
Prerequisite: OFO 1303.*

2393. Secretarial Procedures. (3-3-0). Emphasis on coordination of secretarial duties, responsibilities, and personal qualifications. Laboratory fee charged.
Prerequisite: OFO 1313 and OFO 2383.*
2423. Legal Terminology and Procedures. (3-3-0). Legal terms, procedures, and transcription of related office communications. Laboratory fee charged.
Prerequisite: OFO 1313.*
2453. Office Accounting II. (3-3-0). Further development of principles and practices in bookkeeping and accounting.
Prerequisite: OFO 2343.*
2463. Word Processing Practices and Procedures. (3-3-0). Orientation to terminology, procedures, and hardware, including automated typing equipment. Laboratory fee charged.
Prerequisites: OFO 1313 and OFO 1383.*
2473. Advanced Word Processing. (3-3-0). Emphasis on the refinement of word processing skills. Terms for and applications of specialized areas presented. Laboratory fee charged.
Prerequisite: OFO 2463.*
2503. Cooperative Office Education I. (3-0-20). Supervised employment in students' chosen career fields. Practical work experience for students preparing for office careers. Concurrent with OFO 2511.
Prerequisite: Consent of department chairperson.
2511. Cooperative Office Seminar I. (1-1-0). Class-related activities for students concurrently enrolled in OFO 2503. Classroom discussions and activities planned for individual student and training station.
2523. Cooperative Office Education II. (3-0-20). Continuation of supervised employment in students' career-oriented office positions. Provides students opportunities to refine office skills in actual office environment and complete internship in office career development. Concurrent with OFO 2531.
Prerequisite: Consent of department chairperson; OFO 2503 and OFO 2511.*
2531. Cooperative Office Seminar II. (1-1-0). Class-related instruction for students concurrently enrolled in OFO 2523. Classroom discussions and activities related to on-the-job experiences with emphasis on career planning and realistic goal setting.

PHILOSOPHY (PHI)

1613. Introduction to Philosophy. (3-3-0). Approach to philosophy through cultural movements, tracing ideas as embodied in artistic, literary, and scientific works. Emphasizes meaning of existence, universe, knowledge and values.
2633. Seminar in Philosophy. (3-3-0). Concerns in philosophy. Various topics: logic; ethics; history; problems; contemporary emphases. May be taken three times for credit. +

PHYSICAL SCIENCE (PSC)

1614. Physical Science I. (4-3-2). Fundamental concepts of physical science with emphasis on chemistry and physics. For non-science majors. Laboratory fee charged.
1624. Physical Science II. (4-3-2). Fundamental concepts of physical science with emphasis on geology, astronomy and meteorology. For non-science majors. Laboratory fee charged.
2634. Selected Topics in Physical Science. (4-3-3). Oceanography, environmental geology; field courses in the geology of selected areas, and other topics. Laboratory fee charged. May be taken four times for credit. +

*Warner may be authorized in certain instances by consent of department chairperson.

+Specialized admission requirements; consent of department chairperson required for enrollment.

PHYSICAL THERAPIST ASSISTANT (PTA)#

1403. Pathophysiological Conditions. (3-3-0). Etiology, symptoms and treatments of the diseases, disorders and injuries commonly encountered in physical therapy.
1404. Physical Therapy Assisting I. (4-3-3). Historical background, terminology and abbreviations; theory and application of modalities; ethics and legal responsibilities of patient care; and preparation for patient treatment. Laboratory fee charged.
1413. Applied Anatomy. (3-2-2). The human musculoskeletal system and its function, study of muscles, ligaments, joints and bony landmarks. Laboratory fee charged.
1414. Physical Therapy Assisting II. (4-3-3). Body mechanics, transfer techniques, ambulation techniques, and therapeutic exercises. Laboratory fee charged.
1481. Seminar. (1-1-0). Individualized studies in physical therapy.
- 1491/93/94. Clinical Practice. (1-0-6)/(3-0-18)/(4-0-24). Practical clinical laboratory experience in physical therapy under general supervision of a program coordinator.
2404. Physical Therapy Assisting III. (4-3-3). Causes and treatments of spinal, knee and shoulder disorders, diseases and injuries. Laboratory fee charged.
2414. Physical Therapy Assisting N. (4-3-3). Record keeping, goniometry and specialized physical therapy techniques. Laboratory fee charged.
2424. Physical Therapy Assisting V. (4-3-3). Muscle testing gait analysis, A D L and advanced rehabilitation techniques. Laboratory fee charged.

PHYSICS (PHY)

1613. Fundamentals of Physics. (3-2-3). Contemporary physics with application to current scientific and social problems. Laboratory fee charged.
1614. General College Physics I. (4-3-3). Mechanics, heat, and sound. Laboratory fee charged. Prerequisite: Proficiency in algebra and trigonometry.
1623. Technical Physics I. (3-2-2). Mechanics and properties of matter, utilizing algebra and trigonometry. Laboratory fee charged. Prerequisite: MTH 1323 or concurrent with MTH 1323. •
1624. General College Physics II. (4-3-3). Electricity and magnetism, optics and light, and modern physics. Laboratory fee charged. Prerequisite: PHY 1614. •
1634. Technical Physics II. (4-3-2). Mechanics, properties of matter, heat, electricity and magnetism, utilizing algebra and trigonometry. Laboratory fee charged. Prerequisite: MTH 1333 or concurrent with MTH 1333.
1643. Introductory Astronomy. (3-3-0). Planetary and stellar astronomy.
2614. Engineering Physics I. (4-3-3). Mechanics, heat, and wave motions. For majors in science, mathematics and engineering. Laboratory fee charged. Prerequisite: MTH 1725 or concurrent with MTH 1725. •
2624. Engineering Physics II. (4-3-3). Electricity. Magnetism and modern physics. For majors in science, mathematics, and engineering. Laboratory fee charged. Prerequisite: PHY 2614. •

POSTAL SERVICE ADMINISTRATION (PSA)

1303. Survey of the Postal Service System. (3-3-0). Major components and subdivisions of the postal service system. History and organization of the postal inspection service included.

1313. Mail Processing. (3-3-0). Acceptance, mail processing, and transportation procedures of U.S. Postal Service.
1323. Customer Services. (3-3-0). Functional knowledge of mail delivery and collection systems provided postal customers.
2303. Postal Economics and Finance. (3-3-0). Explores how postal revenues are established, controlled, received, processed, and used to defray operating costs.
2313. Labor Relations. (3-3-0). Laws and practices related to labor-management in the postal service. Grievance procedures, disciplinary procedures, and the National Labor Relations Board are studied.
2323. Employee Services. (3-3-0). Functions of the personnel office and services provided postal service employees. Covers insurance and retirement benefits, awards program, salary schedules, safety, and health.
2333. Postal Problems Analysis. (3-3-0). Presents postal problems requiring students to use system analysis and problem-solving grids.

PROPERTY TAX APPRAISAL (PRA)

1613. Texas Ad Valorem Tax Law. (3-3-0). Texas laws and regulations on property tax, including overview of legalities, legal basis of assessing basic property, exemptions, legislative acts, federal law, appeal process, and legal requirements for assessor-collectors.
2613. Advanced Real Estate Appraisal. (3-3-0). Advanced study of property appraisal including all approaches to value applied in practical situations. Prerequisite: REA 2783.
2623. Assessment Administration and Procedures. (3-3-0). Policies, procedures, and techniques involved in assessment process including general property tax assessments, development of values and assessment lists, renditions, Boards of Equalization and Appraisal Review, maximum tax rates, tax levies, and computerized assessment.
2633. Personal Property Appraisal. (3-3-0). Methods and techniques of appraising all types of personal property including identifying personal property, inventory valuation, cost measures, income tax records, levels of trade, accounting methods, cost tables, and practical application. Prerequisite: REA 2783.
2643. Mass Appraisal Techniques. (3-3-0). Methods and techniques of appraising large numbers of properties in a minimum of time. Emphasis on statistical analysis, assessment dispersion measures, sales-ratio analysis, three approaches to value in mass appraisal, properties appraised for both residential and income-producing, and practical applications.
2653. Tax Collection Procedures. (3-3-0). Procedures of collecting taxes and legal remedies with emphasis on general property tax; processing, billing, and collection; seizure and sale; limitation; bankruptcy, delinquent tax suits; tax suits and liens; and accounting system and roll.
2663. Problems in Taxation. (3-3-0). Problems and solutions to be encountered in the tax field including special valuation problems in agriculture, timber and unusual properties; effects of new legislation; trends in taxation; taxpayer problems; and current court decisions and lawsuits.
2676. Cooperative Internship. (6-0-20). Students will work 20 hours, or more, per week in a tax appraisal office under the supervision of certified appraisers. Prerequisite: Completion of 24 semester hours of specialized courses in this program.

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#Specialized admission requirements; consent of department chairperson required for enrollment.

PSYCHOLOGY (PSY)

- 1601/02. College Study Skills. (1-1-0)/(2-2-0). Improvement of study systems, time management, effective listening, and note taking. Underlining, outlining texts, learning through media, concentration, retention of information, and taking examinations. PSY 1601 may be repeated for credit ONE time. (Students may NOT earn credit for both PSY 1602 and RDG 1602.)
1611. Orientation to College. (1-1-0). Facilitates adjustment to college. Standardized tests and counseling offered to provide personal, vocational, and educational development.
1613. Introduction to Psychology. (3-3-0). Methods and content of the science of psychology.
1623. Child Growth and Development. (3-3-0). Overview of child development from conception through early adolescent period. Normal developmental trends emphasized with attention to retardation and emotional disturbances.
Prerequisite: PSY 1613.*
1643. Human Relations. (3-3-0). Introduction to the theory, development, and application of human behavior as it applies to human relationships. Emphasis on application.
2623. Psychology of Personality. (3-3-0). Survey of contemporary theories of personality with emphasis on personality dynamics. Individual personality trends stressed with attention to group interaction.
Prerequisite: PSY 1613.*
2643. Problems in Human Development. (3-3-0). Elective course to develop knowledge and interpersonal skills in selected areas of human relationships. May be taken two times for credit. +
2653. Social Psychology. (3-3-0). Individual behavior in social situations, human relations, group effectiveness, conflicts among people, motivation, and attitudes within society. (Students may NOT earn credit for both PSY 2653 and SOC 2653.)
Prerequisite: PSY 1613 or SOC 1613.*

QUALITY TECHNOLOGY (QUA)

1433. Introduction to Quality Assurance. (3-3-0). Quality assurance and philosophy; interfacing with affected functions; inclusion of quality control and components of quality systems.
1443. Metrology I. (3-2-3). Introduction to measurement systems and instruments. Includes care, applications, capabilities, and limitations of measuring instruments. Work will be done in both English and metric systems. Laboratory fee charged.
1453. Metrology II. (3-2-3). Continuation of Metrology I, moving into advanced measurement techniques, amplification systems, coordinate measuring machines and laser usage. Calibration systems, calibration of precision devices, auditing, and evaluation techniques will be discussed. Laboratory fee charged.
Prerequisite: QUA 1443.*
1593. Inspection Standards and Specifications. (3-3-0). Review of inspection standards related to manufacturing processes and quality assurance, including a survey of pertinent specifications, inspection tools, gauges, instruments, and mechanisms used in illustrating the need for maintaining quality control in industry.
2513. Quality Planning and Analysis. (3-3-0). Examines techniques for quality planning and analysis. Presents procedures for analysis of design and production processes essential to the preservation of product design integrity and quality achievement.
Prerequisite: QUA 1433.*

2523. Quality Statistical Applications. (3-3-0). Provides applications of basic statistics to the quality field. Practical applications of control charts, analysis of variance in processes and products, and sampling techniques as used by the inspector or quality technician.
Prerequisite: QUA 1433 and MTH 1673.*
2533. Quality Problems. (3-3-0). Practice in defining and solving practical quality problems. Economic, technical, and systems considerations are explored to give a summary of the contributions of various quality groups to a successful product.
Prerequisite: QUA 1433, QUA 1453, QUA 2513, QUA 2523.*

RADIOLOGIC TECHNOLOGY (RAD)#

1402. Introduction to Radiologic Technology. (2-2-0). Radiation protection, sterile techniques, medical ethics, nursing procedures, role of technologist, and review of radiology.
1403. Radiologic Techniques I. (3-3-0). Introduction to radiologic physics, x-ray production, radiographic screens, film and film processing and interaction with matter.
1412. Radiologic Positioning. (2-1-3). Darkroom techniques and X-ray positioning. Laboratory fee charged. Course may be taken three times for credit. +
1413. Radiologic Techniques II. (3-3-0). Radiographic exposure techniques and related equipment.
1481. Seminar. (1-1-0). Additional study in radiologic technology to meet the needs of students and their program.
- 149 1/92/93/94. Clinical Practice (1-0-10) (2-0-16) (3-0-24) (4-0-30). Practical clinical laboratory experience in radiologic technology under the supervision of an instructor. May be taken zero/two/two/zero times for credit. +
2403. Radiologic Physics. (3-3-0). AC/OC current, magnetism, x-ray tube and generator, and radioactivity.
2413. Radiologic Techniques III. (3-3-0). Advanced radiation protection, and special radiographic techniques to include tomography, stereography, and fluoroscopy.
2423. Radiologic Techniques IV. (3-3-0). Special radiologic procedures and equipment to include radiographic contrast media and their reactions.

RADIO AND TELEVISION (ATV)

1306. TV-Radio Maintenance I. (6-3-6). Provides training in antenna installation, picture tube replacement, purity adjustment, and color convergence; radio and TV block diagrams; picture elements; safety and basic troubleshooting. Laboratory fee charged.
1316. TV-Radio Maintenance II. (6-3-6). A continuation of TV-Radio Maintenance I. Laboratory fee charged.
Prerequisite: RTV 1306 or concurrent with RTV 1306.
2306. TV-Radio Maintenance III. (6-3-6). A continuation of TV-Radio Maintenance II. Emphasis on solid state, modular, and color equipment. Laboratory fee charged.
Prerequisite: RTV 1316.
2316. TV-Radio Maintenance IV. (6-3-6). A continuation of TV-Radio Maintenance III. Laboratory fee charged.
Prerequisite: RTV 2306 or concurrent with RTV 2306.

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+Course may be repeated for credit when topic varies.

#Specialized admission requirements; consent of department chairperson required for enrollment.

READING (ROG)

- 1601/02. College Study Skills. (1-1-0)/(2-2-0). Improvement of study systems, time management, effective listening, and note taking. Underlining, outlining texts, learning through media, concentration, retention of information, and taking examinations. RDG 1601 may be repeated for credit ONE time. (Students may NOT earn credit for both RDG 1602 and PSY 1602.)
1613. College Reading Techniques I. (3-3-0). Improvement of basic reading skills through individualized development of flexible speed, comprehension, vocabulary, and study skills. Laboratory fee charged.
1623. College Reading Techniques II. (3-3-0). Further development of reading skills with continuing emphasis on comprehension, vocabulary and critical reading skills. Laboratory fee charged.
1633. College Reading Techniques III. (3-3-0). Techniques and skills involving speed, flexibility, comprehension, vocabulary, and effective reading skills for students reading at average or above-average reading level. Laboratory fee charged.

REAL ESTATE (REA)

2743. Principles of Real Estate. (3-3-0). Real estate practices and principles; activities of real estate brokers; transfer of real properties and real estate securities; real estate law; control of real properties; and practices incidental to ownership of real properties.
2773. Real Estate Finance. (3-3-0). Policies, problems and risks involved in financing and investing in various types of real property. Analysis of taxation, exchanges, sources of funds, institutional and government policies, and instruments and methods of loan processing. Prerequisite: REA 2743. *
2783. Real Estate Appraisal. (3-3-0). Theories, functions, and purposes of appraisal. Residential, income property and land appraisal; principles of valuation, including cost, market and income approach; techniques for determining condemnation, insurance, loan, purchase, and sales values. Prerequisite: BUA 1303 and REA 2773. *
2793. Real Estate Law. (3-3-0). Complex aspects of ownership, use and transferability of real estate as encountered by brokers and others who deal with real property. Contracts, titles, deeds, leases, liens, covenants, conditions, restrictions, easements, estates, probates, and landlord-tenant relationships. Prerequisite: BUA 2663 and REA 2743. *
2833. Title, Abstract, Escrow, and Closing Procedures. (3-3-0). Legal and procedural aspects of handling titles, abstracts, and escrows. Common office practices and closing procedures. Prerequisite: REA 2773. *
2843. Tax Aspects of Real Estate. (3-3-0). Tax principles governing the acquisition, ownership, operation, and disposition of real property with emphasis on tax planning and integration of tax concepts with procedural aspects. Prerequisite: BUA 1303 and REA 2773. *
2853. Property Management. (3-3-0). Managing property for owners of income property. Renting and leasing property; preparing appropriate documents; collecting rent; supervising repair and maintenance functions; and keeping accounting and tax records. Prerequisite: BUA 2733 and REA 2743. *
2863. Real Estate Investments. Examines forms of ownership; tax consequences of investment; data collection; analysis techniques, including discounted cash flow, investment philosophy, installment sales, exchanges, and financial calculator usage. Prerequisite: REA 2843.

RELIGION (REL)

1613. History of Judaism. (3-3-0). Origin and development of the Jewish religion from 2000 B.C. to the first century, A.D.
1623. History of Christianity in the First Century, A.D. (3-3-0). Origin and development of the Christian religion in the first century, A.D.
2613. Great Religions of the World. (3-3-0). History, beliefs, ethics and practices of the major religions: Christianity, Judaism, Islam, Hinduism, Buddhism, and Confucianism.
2633. Seminar in Religion. (3-3-0). Studies of religious concepts and experiences. Various course options in the nature; history; literature; personalities or concerns of religion. May be taken three times for credit. +

RESPIRATORY THERAPY (RES)#

1404. Respiratory Procedures I. (4-3-3). Fundamental principles of respiratory technology. Laboratory fee charged.
1414. Respiratory Procedures II. (4-3-3). Basic procedures of respiratory technology and operation of equipment. Laboratory fee charged.
1481. Seminar. (1-1-0). Additional study in respiratory therapy to meet needs of students.
- 1491/92. Clinical Practice. (1-0-8), (2-0-16). Practical clinical laboratory experience in respiratory therapy under general supervision of a program coordinator. May be taken one/four times for credit. +
2402. Cardiopulmonary/Renal Anatomy and Physiology. (2-2-0). Normal anatomy and physiology of the cardiac, pulmonary, and renal systems related to respiratory therapy.
2404. Respiratory Procedures III. (4-3-3). Advanced equipment operation and procedures in respiratory technology. Laboratory fee charged.
2412. Pulmonary Pathophysiology. (2-2-0). Disease processes of the pulmonary system related to respiratory therapy.
2414. Respiratory Procedures N. (4-3-3). Continuation of RES 2404. Laboratory fee charged.
2424. Respiratory Procedures V. (4-3-3). Continuation of RES 2414. Laboratory fee charged.

SMALL BUSINESS MANAGEMENT (SBM)

2603. Small Business Management. (3-3-0). Problems of starting, operating, and evaluating the effectiveness of the small business. Includes various forms of organization, financing, cost structure, location, sources of personnel, marketing, and competition.
2613. Small Business Planning, Control, and Financing. (3-3-0). Procedures and techniques of accounting analysis applicable to the managerial functions of credit and collection, cash budgeting control and planning. Includes evaluating methods and costs of obtaining capital, culminating in the formulation of a complete proposal package for a small business.
2623. Small Business Practicum. (3-3-0). Applies knowledge obtained in previous courses to business situations. Students assigned to new or existing businesses in need of management consultation. Technical assistance in development of loan proposals, financial projections, and planning. Prerequisite: SBM 2603 and SBM 2613. *

*Waiver may be authorized in certain instances by consent of department chairperson.

+Course may be repeated for credit when topic varies.

#Specialized admission requirements; consent of department chairperson required for enrollment.

SMALL GASOLINE ENGINE REPAIR (SER)

1306. Basic Engine Service Principles. (64-4). Engine theory, repair procedures, safety, shop equipment, hand tools, fasteners, and precision measurement. Laboratory fee charged.
1314. Motorcycle Power Unit. (4-2-4). Operational theory and repair practices for two- and four-cycle power units, including carburetion, cooling, lubrication, ignition, power transfer, and electrical systems. Laboratory fee charged.
Prerequisite: SER 1306 and AUT 1303.*
1324. Lawn, Garden and Construction Equipment. (4-2-4). Theory and repair procedures for power mowers, garden tractors, chainsaws, power plants, contractor's equipment, and other applications. Laboratory fee charged.
Prerequisite: SER 1306 and AUT 1303.*
1334. Motorcycle System. (4-2-4). Training in construction and servicing of motorcycle chassis. Includes suspension, frame, wheel/brake assemblies, and electrical circuits. Laboratory fee charged.
Prerequisite: SER 1306 and AUT 1303.*
1344. Outboard Engine Systems. (4-2-4). Theory of operation and specific repair of powerhead, lower unit, cooling system, lubrication system, and auxiliary equipment. Laboratory fee charged.
Prerequisite: SER 1306 and AUT 1303.*



SOCIOLOGY (SOC)

1613. Introduction to Sociology. (3-3-0). Nature of human society, cultural heritage, collective behavior, community and social organization, nature of social change, and methods and processes of social control.
1623. Contemporary Social Problems. (3-3-0). Inquiry into select groups of current social problems with specific reference to their origin, development and suggested solutions. Course may be taken two times for credit. +
1633. Introduction to Anthropology. (3-3-0). Emphasizes physical anthropology, archaeology, social anthropology and linguistics. Analysis of the impact of modern western culture on pre-literate peoples.
2613. Marriage and the Family. (3-3-0). Sociological analysis of marriage and family relations based on concepts introduced in SOC 1613. Includes origin and development of family, the family in transition, organization and disorganization of the family, and adjustment mechanisms.
2653. Social Psychology. (3-3-0). Individual behavior in social situations, human relations, group effectiveness, conflicts among people, motivation and attitudes within society. (Students may Not earn credit for both SOC 2653 and PSY 2653.)
Prerequisite: SOC 1613 or PSY 1613.*
2663. Introduction to Criminology. (3-3-0). Social dimensions of crime as a form of deviant behavior; nature and extent of crime; past and present theories; the role of the police and the courts; group and community-oriented programs, with evaluation of prevention, control, and treatment programs.

SPANISH (SPN)

1601. Studies in Hispanic Culture. (1-0-2). Study in history, ideas, and cultural values in Spanish-speaking countries. May be taken four times for credit as topic varies.
1611. Spanish Grammar. (1-0-2). Studies in Spanish grammar. May be taken four times for credit as topic varies.
1614. Elementary Spanish I. (4-3-2). Fundamentals of Spanish. Audio-lingual presentation of dialogues, conversation, vocabulary building, grammar, and culture, with extensive laboratory practice. Laboratory fee charged.
1624. Elementary Spanish II. (4-3-2). Continuation of SPN 1614 with emphasis on conversation. Laboratory fee charged.
Prerequisite: SPN 1614.*
2601. Conversation in Spanish. (1-0-2). Practice in comprehension and production of the spoken language for students who wish to improve their skills in comprehension, pronunciation, and oral expression. May be taken four times for credit as topic varies.
2611. Language Practicum. (1-0-2). Practice in maintaining and increasing aural-oral fluency and building systematically a larger vocabulary in Spanish. May be taken four times for credit. +
Prerequisite: SPN 1624.*
2613. Intermediate Spanish I. (3-3-0). Finer points of Spanish grammar. Audio-lingual practice based on selected readings and dialogues. Directed composition. Class conducted largely in Spanish.
Prerequisite: SPN 1624.*
2621. Listening Comprehension, (1-0-2). Practice in comprehension of the spoken language. May be taken four times for credit as topic varies.

*Waiver may be authorized in certain instances by consent of department chairperson.
+Course may be repeated for credit when topic varies.

2623. Intermediate Spanish II. (3-3-0). Continuation of SPN 2613. Prerequisite: SPN 2613.*
2631. Reading in Spanish. (1-0-2). Introduction to and practice in reading Spanish prose. May be taken four times for credit as topic varies.
2633. Hispanic Language and Culture I. (3-3-0). Literature, civilization, history, art and music. Conducted in Spanish. Prerequisite: SPN 2623.*
2643. Hispanic Language and Culture II. (3-3-0). Literature, civilization, history, art and music. Conducted in Spanish. Prerequisite: SPN 2633.*

SPEECH (SPE)

1611. Speech Workshop. (1-0-2). Special interest areas and communication problems. May be taken four times for credit.+
1613. Fundamentals of Speech Communication. (3-3-0). Communication theories applied to speech; practical communicative experiences ranging from interpersonal communication and small group process to preparation and delivery of platform speeches.
1623. Public Speaking. (3-3-0). Public speaking situations; emphasis on content, organization, and delivery of speeches for various occasions.
1633. Business and Professional Communication. (3-3-0). Techniques of oral communication with applications to business and professional situations.
1663. Interpersonal Communication. (3-3-0). Theory and practice in person-to-person communication with focus on development, maintenance, and termination of relationships.
2613. Voice and Diction. (3-3-0). Training in effective use of the voice and body. Vocal mechanism and the phonetic alphabet; improvement of enunciation, pronunciation, and articulation.
2623. Oral Interpretation. (3-3-0). Oral presentation of literature forms, analysis of thought, development of imagination, communication of emotional values, and individual projects in interpretative reading.
2643. Discussion and Small Group Communication. (3-3-0). Small-group theory relating to group process and interaction. Leadership and effective participation, group behavior, problem solving, and resolution of conflict. Prerequisite: SPE 1613 or SPE 1633.*

SURGICAL TECHNOLOGY (SUR)

1401. Surgical Laboratory. (1-0-4). Basic instruments, equipment and practice in operating rooms. Laboratory fee charged.
1406. Surgical Techniques. (6-6-0). Operating room environment and basic equipment, principles and practices of surgical asepsis. Responsibilities - moral, legal, and ethical - regarding surgical patients' care and safety.
1415. Surgical Procedures. (5-5-0). Continuation of SUR 1406, including the principles of instrumentation in each of the body systems.
1481. Seminar. (1-1-0). Additional study in Surgical Technology to meet needs of students and their programs.
- 1491/92. Clinical Practice. (1-0-8) (2-0-16). Practical clinical laboratory experience in operating rooms under general supervision of a program coordinator. May be taken one/two times for credit.+

TECHNICAL EDUCATION (TEC)

1301. Introduction to Technology. (1-1-0). Examines the various fields of technology and the work of technicians. Assists the student in relating personal interests and aptitudes to training and employment in a technical field.
1333. Survey of Occupations. (3-3-0). General survey of available technical-occupational programs for beginning technical students, including information on current occupational trends and basic research methods, for individual investigation of potential careers in technical programs.
2333. Employee-Employer Relations. (3-3-0). Examines the human relations between employees and their co-workers and supervisors in an industrial environment. Assists the student in making the transition from college to employment.

WELDING TECHNOLOGY (WEL)

1313. Welding I. (3-1-5). Introduction to the major industrial welding processes. Includes welding terminology, welding safety, cutting, brazing, soldering, GMAW, and GTAW. Basic skills are developed in oxyacetylene welding and SMAW. Laboratory fee charged.
1323. Welding II. (3-1-5). Development of skills in SMAW. Emphasis is placed on power sources, effects of electrode selection, joint design, and procedures for out-of-position welding. Laboratory instruction in SMAW of mild steel plate in all positions. Laboratory fee charged.
1413. Welding III. (3-1-5). SMAW of structural steel as performed in building and bridge construction. Welding skills developed in producing multipass welds. Includes gouging, procedure and welder qualification, weld distortion, welding cast iron, and hard surfacing of steel. Laboratory fee charged. Prerequisite: WEL 1323.*
1423. Welding Design and Layout. (3-2-4). Design and construction fundamentals for shop layout of structural steel and pipe. Examines the use of symbols, blueprints, and written specifications in the layout and fabrication of welded structures. Laboratory fee charged. Prerequisites: DRF 1383 and WEL 1323.*
2513. Advanced Welding I. (3-1-5). Introduction to pipe welding as performed in the service and transmission piping industries. Develops the skills necessary to produce multipass welds in the uphill and downhill positions. Laboratory fee charged. Prerequisite: WEL 1413.*
2613. Advanced Welding II. (3-1-5). Development of skills in GTAW and GMAW. Emphasis is placed on arc characteristics, GTAW and GMAW safety, metal transfer, and shielding gases. Skills developed in GMAW of mild steel plate and in GMAW and GTAW of thin gauge mild steel, aluminum, and stainless steel. Laboratory fee charged. Prerequisite: WEL 1413.*
2623. Advanced Welding III. (3-1-5). Procedures for welding in accordance with structural standards and welding codes. Requires development of two welding procedures and performance of related destructive and nondestructive tests for two assigned structures, using established codes. Laboratory fee charged. Prerequisite: WEL 2513.*

*Warner may be authorized in certain instances by consent of department chairperson.

+Course may be repeated for credit when topic varies.



Faculty And Administration

COLLEGE ORGANIZATION

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Chairperson of the Board

Clay J. Berry Jr.
Vice-Chairperson of the Board

Dr. May Owen
Secretary of the Board

Gwen Morrison, Ph.D.
Assistant Secretary of the Board

John Lamond
Bill McKay
J. Pete Zepeda

DISTRICT ADMINISTRATIVE STAFF

Joe B. Rushing, B.A., M.A., Ph.D.	Chancellor
C. A. Roberson, B.B.A., M.B.A., C.P.A.	Executive Vice Chancellor
Erma C. Johnson, B.S., M.Ed.	Vice Chancellor for Human Resources
Jimmie C. Styles, B.S., M.A., Ed.S.	Vice Chancellor for Research and Development
Charles E. Bay, B.A., M.S.	Director of Admissions and Records
Roy Belew, B.S., M.B.A.	Director of Computer Services
Horace E. Griffiths, B.S., M.Ed., Ph.D.	Director of Research
William W. Lace, B.A., M.A.	Director of College Relations
Jack Legett, B.S.	Director of Bookstore
Jerry MacLachlan, A.A.S.	Director of Public Safety
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James E. Whitehead, B.B.A.	Director of Finance
Wayne D. Wilks, B.S., M.Ed.	Director of Planning
Douglas E. Winters, B.S., M.Ed.	Director of Physical Plants

DISTRICT SPECIAL SERVICES STAFF

Nancy Chang, B.A., M.B.A.	Chief Accountant
Troy L. Coleman, B.S., M.S.	Director of Employee Relations
David M. Gardner, B.A., M.Ed.	Director/Coordinator of Financial Aid
Suzanne Goodwin, B.A.	Veterans Affairs Officer
Cathie Jackson, B.A., M.A.	Assistant Director of Admissions and Records
Vicki Mason, B.S.Ed.	Research Analyst/Assistant
James H. Miller, B.S., M.B.A., Ph.D.	Director of Compensation and Employment
Kenneth Muncy, B.S., M.S.	Assistant Director of Computer Services
G. Faye Murphy, B.S., M.Ed., Ph.D.	Assistant Director of Program Development
Arturo Pena, B.A., M.A.	Director of Training and Development
Suzanne Prytherch, B.A.	Coordinator of Television Programming
Larry W. Reynolds, B.B.A.	Systems Accountant
C. George Richardson, Jr.	Assistant to the Director of Physical Plants
Mary Rode, B.A., M.S.	Assistant Director of User Services, Computer Services
Mary K. Stansbery, B.S.Ed., M.L.S.	Director of Technical Processing
Mary Galen Thomas, B.A.	Coordinator of Publications

NORTHEAST CAMPUS ADMINISTRATIVE STAFF

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 Elizabeth Branch, B.S., M.Ed., Ed.D. Director of Special Services
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 Kirby Cox, B.S., M.N.S. Division Chairperson of Science and Technology
 Delbert H. Derrett, B.A., M.A., Ph.D. Division Chairperson of Business and Social Science
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 Theodore R. Laabs, B.A., M.S. Coordinator of Instructional Media
 Jessie Milford Plant Superintendent
 Joe Norton, B.A., M.J. Director of Student Publications
 Oswell Person, B.S., M.L.S., Ph.D. Director of Library Services
 Van Parker, B.A., M.A., Ed.D. Assistant Dean of Instruction and Student Development Services
 Paula G. Vastine, B.S., M.Ed., R.N. Director for Student Services
 J. N. Williams, B.S., M.Ed. Registrar

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 Robert Claussen, B.S., M.Ed. Division Chairperson of Learning Resources
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 Rachel Johnson, B.A., M.A. Division Chairperson of Humanities
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 Maxwell G. Newcom, A.A., B.S., M.Ed. Registrar
 Joe Rode, A.A., B.A., M.Ed., Ph.D. Director of Counseling and Career Placement
 Kenneth D. Southall Plant Superintendent
 Kayte Steinert-Threlkeld, B.A., M.A. Director of Student Publications
 Wayne D. Wilks, B.S., M.Ed. Bursar
 Bonnie Lytton, B.A., M.A. Director of Student Activities

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 Frances Noll, B.A., M.A., Ph.D. Dean of Instructional Technology
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 Dixie Heath, B.A., M.L.S. Public Service Librarian
 William Mark Hicks Electronic Equipment Engineer
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 L. D. Jones Plant Superintendent
 Jimmy Madison, B.B.A. Bursar
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 Elizabeth J. Pryor, B.A., B.S.Ed., M.S., Ed.D. Division Chairperson of Health Sciences and Director of Nursing Program
 Don Richard, B.S., M.A. Coordinator of Testing
 Claire M. Roemer, B.A., M.Ed. Director of Financial Aid
 Sue E. Sanders, B.S.Ed., M.S.Ed. Assistant Director for Instructional Design
 Roy Schauer, B.G.Ed., M.Ed. Director of Career Placement
 Delores J. Simpson, B.S.Ed., M.A.T., Ed.D. Division Chairperson of Humanities and Communications
 Jack D. Thornton, B.B.A., M.Ed. Registrar
 Diane Turner, B.A., M.A. Director of Student Publications
 Abraham Washington, B.F.A., M.Ed. Director of Special Services
 Joseph Zielinski, A.A., B.S., M.Ed., Ed.D. Director of Counseling and Testing

COMMUNITY CAMPUS ADMINISTRATIVE STAFF

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 Aubrey D. Sharpe, B.A., M.Div., M.R.E. Dean of Community Services
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 Judith Milling, B.S., M.S. Assistant Dean, Community Services
 Elizabeth S. Henry, B.A., M.Ed. Assistant Dean, Community Services
 Gary Goodwin, B.S., M.A. Assistant Dean, Community Services
 Rose Beverly, B.S., M.N.Ed. Special Counselor, Special Projects
 Annie M. Dobbins, B.A., M.E. Coordinator, Senior Citizens Programs
 Richard T. May, B.A.A.S. Assistant Coordinator of Police Academy
 Steven Otto, B.A., M.A. Coordinator of Police Academy

FACULTY, 1983-84

- John R. Abshire, S C Associate Professor of History and Government. B.A. and M.A., Texas Tech University.
- Jerry Reid Adams, N W Coordinator and Instructor in Aviation Maintenance.
- Margie S. Adams, N E Assistant Professor of Computer Science. B.S. and M.S., North Texas State University.
- Jay R. Adkins, S C Instructor in Music. B.M., North Texas State University; M.M., Southwestern Baptist Theological Seminary.
- Jeanette Adkins, N E Assistant Professor of Office Occupations. B.S., Prairie View A & M; M.B.Ed., North Texas State University.
- Eduardo E. Aguilar, N W Assistant Professor of Art. B.A., Trinity University; M.F.A., North Texas State University.
- Dolores C. Akins, N W Coordinator of Communications and Professor of Spanish. B.A. and M.A., Texas Christian University; Ph.D., North Texas State University.
- Patsy R. Alenik, N E Coordinator of Labor Studies and Assistant Professor of Government. B.S., Ed. Texas Christian University; M.A., University of Texas at Arlington.
- Connie C. Alexander, N W Counselor and Assistant Professor of Psychology. B.A., Quincy College; M.A., Northeast Missouri State University.
- Clarice Allen, N W Counselor and Associate Professor of Sociology. B.A., Arkansas AM & N; M.A., Ohio University.
- Homer M. Allen, N W Coordinator and Associate Professor of Drafting and Design. B.S., East Texas State University; M.Ed., North Texas State University.
- Elva L. Allie, N E Coordinator and Instructor in Child Development. B.S. and M.Ed., North Texas State University.
- William D. Almy, N E Associate Professor of Natural Sciences. B.S., Austin Peay State College; M.A., George Peabody College.
- Harold D. Anglin, N E Associate Professor of Mid-Management. B.S., Texas Wesleyan College; M.B.A., Texas Christian University.
- Karen G. Anisman, N E Assistant Professor of History. B.A., Howard Payne University; M.A., Texas Christian University.
- Regina L. Ashwill, S C Assistant Professor of Nursing. B.S. and M.S., University of Texas at Arlington.
- Melvin R. Avery, S C Associate Professor of Mathematics. B.S. and M.Ed., Texas Wesleyan College.
- Jackie R. Baggett, S C Sports Club Director and Assistant Professor of Health, Physical Education and Recreation. B.S., University of Texas at Austin; M.S., East Texas State University.
- Jo K. Bagley, S C Coordinator of Dietetic Technology Program; Dept Chair of Person and Professor of Home Economics. B.S., M.S., and Ph.D., Texas Woman's University.
- Clarence A. Baker, S C Associate Professor of Automotive Service Technology. B.A.A.S., Tarleton State University; M.Ed., East Texas State University.
- Lawrence W. Baker, Jr., N E Coordinator and Professor of Media Technology. B.A., Baylor University; M.Ed., North Texas State University; Ed.D., East Texas State University.
- Melba Michaelene Baker, N E Associate Professor of Psychology. B.S., University of Texas at Austin; M.S., East Texas State University.
- Coleman D. Barnett, Jr., N E Associate Professor of Computer Science. B.B.A. and M.B.A., North Texas State University; C.D.P.
- James D. Barros, N E Associate Professor of Music. B.M., Texas Christian University; M.M.Ed., North Texas State University.
- Edith A. Bartley, S C Associate Professor of Chemistry. B.S., University of Houston; M.S., Texas Woman's University.
- B. Lawrence Bell, N E Department Chairperson and Associate Professor of Government. B.A., Austin College; M.A., University of Texas at Austin.
- David C. Benford, N E Instructor in Government. B.S., Eastern New Mexico University; M.S., East Texas State University.
- Richard N. Berg, N E Coordinator of Radiologic Technology and Instructor in Health Sciences. B.S., Midwestern State University.
- Betty L. Biles, N W Coordinator and Associate Professor of Office Occupations. B.B.A. and M.B.Ed., North Texas State University.
- Thomas R. Bischof, N E Associate Professor of Natural Sciences. B.S., University of Nebraska; M.S., East Texas State University.
- William M. Bishop, S C Department Chairperson and Associate Professor of Health, Physical Education and Recreation. B.A., Pan American University; M.S., Baylor University.
- Elie E. Boothe, S C Assistant Professor of Refrigeration and Air Conditioning. A.A.S., Tarrant County Junior College; B.S., East Texas State University; M.Ed., North Texas State University.
- James H. Bottorff, S C Assistant Professor of History. B.A., Wayland Baptist College; M.A., Texas Tech University.
- Clyde E. Bottrell, S C Associate Professor of Biological Science. B.S. and M.S., Oklahoma State University.
- Jerry B. Brammer, S C Associate Professor of Chemistry. B.A., North Texas State University; M.S., University of Illinois.
- Elizabeth V. Branch, N E Director of Special Services and Associate Professor of Reading. B.S., Jarvis Christian College; M.Ed., Texas Southern University; Ed.D., North Texas State University.
- Philip D. Brandenburg, N E Assistant Professor of German. B.A., Baylor University; M.A., Southwest Texas State University.
- Fred Lee Brasfield, S C Assistant Professor of Drafting and Design Technology. B.S. and M.Ed., North Texas State University.
- James Warren Brewster, N E Instructor in Engineering. B.F.A., North Texas State University; M.E., Texas State University.
- Lorraine Broadus, S C Associate Professor of Nursing. B.S.N., Meharry Medical College; M.S.N., Texas Woman's University.
- Clementine A. Brown, S C Assistant Professor of Biology and Home Economics. B.A., Emmanuel College; M.S., Eastern Texas State University.
- Nina Elizabeth Brown, N W Assistant Professor of Business Administration. B.S., Bob Jones University; M.A., Columbia University; C.P.A.
- Sharon Jo Casseday, N W Instructor in Office Occupations. B.S.Ed. and M.Ed., University of Houston.
- Mary J. Castellow, N E Coordinator of Physical Therapist Assistant Program and Assistant Professor of Health Sciences. B.A., David Lipscomb College; M.Ed., Boston University.
- Wanda C. Chapman, S C Associate Professor of Nursing. Nursing Diploma, JPS School of Nursing; B.S., Texas Wesleyan College; M.S., Texas Woman's University.
- Sharon K. Chitwood, N E Assistant Professor of Office Occupations. B.B.A. and M.B.E., North Texas State University.
- Michael Edward Cinatl, N W Associate Instructor in Interpreting for the Deaf. B.S., University of Wisconsin.
- Betty A. Clark, S C Assistant Professor of English. B.A. and M.A., North Texas State University.
- John W. Clark, S C Associate Instructor in Electronics.
- Mae Alice Clark, S C Assistant Professor of Mathematics. B.S., Prairie View A & M College; M.A.T., Texas Christian University.
- Charles R. Clay, S C Associate Professor of Electronics. B.S., University of Houston; M.Ed., Texas Tech University.

David J. Clinkscale, NW Coordinator of Social Sciences and Associate Professor of Government. B.A., Southwest Texas State University; M.A., University of Missouri.

Jack M. Cobb, NE Associate Professor of Music. B.M., University of Mississippi; M.A., New Mexico Highlands University.

Lessie C. Cole, NE Coordinator of Architectural Technology Program and Associate Instructor in Engineering Technology. B.A., Tuskegee Institute.

Carroll L. Commons, SC Associate Professor of Mathematics. B.Ed. and M.Ed., Texas Tech University.

Bill D. Connor, NE Associate Professor of Health, Physical Education and Recreation. B.S.Ed. and M.Ed., Abilene Christian University.

Nelda J. Cook, NE Assistant Professor of Government and Coordinator of Legal Assistant Program. B.A. and M.A., Texas Christian University.

G. Frank Corley, NE Assistant Professor of Computer Science. B.S., University of Houston; M.S., Northwestern State University (Louisiana).

James E. Cornelius, SC Associate Professor of History. B.S.Ed., Abilene Christian University; M.A.T., New Mexico State University.

Larry G. Cotten, NW Instructor in Auto Body Repair. North Texas State University

Joyce O. Cox, Jr., NE Coordinator and Professor of Mid-Management. B.S., Texas A&I University; M.S., University of Arizona; Ph.D., North Texas State University.

J. Jean Crane, SC Assistant Professor of Humanities. B.F.A. and M.F.A., Texas Christian University.

Charles R. Credicott, SC Coordinator of Manufacturing Technology and Assistant Professor of Mechanical Technology. B.S., East Texas State University.

Miriam Jeannine Crill, SC Assistant Professor of English. B.A., Texas Wesleyan College; M.A., University of Texas at Arlington.

Barbara Ann Crow, SC Assistant Professor of Computer Science. B.B.A. and M.B.A., University of Texas at Arlington.

Faul Cruz, NW Associate Instructor in Automotive Service Technology.

Dorothy L. Davis, SC Assistant Professor of Reading. B.A., Texas A&I University; M.Ed., Southeastern State College.

Larry R. Davis, NE Associate Professor of Sociology and Anthropology. B.S.Ed. and M.A., Duquesne University; M.S.Ed., University of Nebraska at Omaha.

Mary K. Davis, SC Assistant Professor of Health, Physical Education and Recreation. B.S., Mary Hardin-Baylor College; M.S., Baylor University.

Robert A. Davis, SC Associate Professor of English. B.A., Wiley College; M.A., East Texas State University.

Yvian I. Davis, SC Department Chairperson of English and Professor of English and Applied Communications. B.A., Ball State University; M.A., University of Chicago; M.Ed., University of Chicago; Ph.D., Northwestern University.

Wayland E. Dedmon, SC Assistant Professor of Mid-Management. B.S. and M.B.A., Texas Christian University.

Wmston N. Dennis, NW Coordinator and Instructor in Automotive Service Technology.

Faul G. Desha, SC Department Chairperson and Associate Professor of Biological Sciences. B.A., Texas Western College; M.Ed., North Texas State University; M.S., Texas Tech University.

Alton R. Dillaha, SC Professor of Computer Science. B.S.Ed. and M.S.Ed., State College of Arkansas; Ed.D., East Texas State University.

Carl E. D'inkel, SC Coordinator and Assistant Professor of Automotive Service Technology. A.A., Tarrant County Junior College; B.S., East Texas State University; M.Ed., East Texas State University.

Richard E. Doherty, NE Assistant Professor of Photography. B.A., University of Arkansas; M.F.A., The School of the Art Institute of Chicago.

David C. Dorries, NE Assistant Professor of Business Administration and Coordinator of Banking and Finance. B.A., University of Texas at Arlington.

Joe M. Downs, SC Assistant Professor of Speech and Drama. B.A., Ouachita Baptist University; M.A., University of Arkansas.

Robert L. Downtain, NE Assistant Professor of History. B.A., University of Texas at Austin; M.A., Southwest Texas State College.

Sara C. Draper, NE Instructor in Health Sciences. A.A., Warren Wilson Junior College; B.S., Ohio State University.

Daisy M. DuBose, NE Department Chairperson and Assistant Professor of Office Occupations. B.S.Ed., Jarvis Christian College; M.Ed., Texas Woman's University.

Jerre A. Dulock, SC Associate Professor of Applied Communications and English. B.A., North Texas State University; M.A., Texas Woman's University.

Jo Ruth Dunn, SC Assistant Professor of Biology. B.S., University of Texas at Arlington; M.S., East Texas State University.

Von Dunn, SC Associate Professor of Biological Sciences. B.S., West Texas State University; M.T., Southwestern State College.

Ervin O. Easterling, SC Coordinator and Instructor in Refrigeration and Air Conditioning. A.A.S., Tarrant County Junior College; B.S., East Texas State University.

Larry R. Edwards, SC Department Chairperson and Assistant Professor of Business Administration. B.S., Louisiana Polytechnic Institute; M.B.A., Louisiana State University; C.P.A.

Norman D. Ellis, NE Department Chairperson and Professor of Mid-Management. B.B.A., M.B.A., and Ph.D., North Texas State University.

Jackson Eng, SC Counselor and Associate Professor of Psychology. B.A., University of Texas at Austin; M.S.W., Our Lady of the Lake College.

Dortha A. Erwin, SC Associate Professor of Reading. B.S., Texas Wesleyan College; M.Ed., North Texas State University.

Judy Espino, NE Associate Instructor in Health Sciences. R.T. Certificate, Saint Joseph Hospital; A.A.S., Tarrant County Junior College.

Cuyler E. Etheredge, NE Assistant Professor of English. B.A. and M.A., Texas Christian University.

Alton W. Evans, NE Professor of Business Administration. B.A., Austin College; M.B.A. and Ph.D., North Texas State University.

Alvis J. Evans, SC Assistant Professor of Electronics. B.S., University of Texas at Arlington; M.S., East Texas State University.

Jon R. Evans, NE Assistant Professor of Business Administration. B.S., North Texas State University; M.B.A., Texas Christian University.

Madelaine K. Fell, NE Instructor, Developmental Studies. B.A. and M.A., University of Texas at Arlington.

Peter H. Feresten, NE Assistant Professor of Photography. B.F.A. and M.F.A., Rhode Island School of Design.

Billy O. Fields, NE Instructor in Office Occupations. B.B.A., Texas Tech University; M.B.E., North Texas State University.

Saturno Figueroa, SC Associate Instructor in Electronics.

Donald Glenn Flood, NW Instructor in Aviation Maintenance. B.S., Oklahoma State University.

Heard L. Floore, SC Counselor and Assistant Professor of Psychology. B.A. and M.Ed., Texas Christian University.

C. Patrick Foley, NW Associate Professor of History. B.A., California State University at Chico; M.A., University of Santa Clara.

- O. Durwood Foote, NE Assistant Professor of Natural Sciences. B.S. and M.S., East Texas State University.
- Peggy K. Ford, NW Assistant Professor of Reading. A.A., Tarrant County Junior College; B.S. and M.Ed., Texas Christian University.
- Albert L. Frigola, NE Assistant Professor of Mid-Management. B.A. and M.A., Texas Christian University.
- A. Irene Francis, NE Professor of Business Administration. B.A. and J.D., University of Texas at Austin.
- Juan R. Franco, NE Professor of Spanish. B.A., Texas Tech University; M.A., University of Texas at El Paso; Ed.D., East Texas State University.
- Tahita M. Fulkerson, NW Associate Professor of English. B.A. and M.A., Texas Christian University.
- Elizabeth D. Funderburk, NE Assistant Professor of Music. B.M.E., Mary Hardin-Baylor College; M.A., Texas Woman's University.
- M. Duane Gage, NE Associate Professor of History. B.A. and M.A., University of Oklahoma.
- Eddie S. Gallagher, NE Assistant Professor of English. B.A., Texas Wesleyan College; M.A., North Texas State University.
- Gary R. Galloway, SC Counselor and Associate Professor of Psychology. B.A., Fort Hays Kansas State College; M.Ed., Texas Christian University.
- Elton D. Gardner, Jr., NE Assistant Professor of Health, Physical Education and Recreation. B.S. and M.Ed., Texas Christian University.
- John R. Garlow, NW Coordinator of Mathematics and Professor of Physics and Mathematics. B.S., M.S. and Ph.D., North Texas State University.
- M. Camille Garre, NE Coordinator and Assistant Professor of Fashion Merchandising. B.S., Texas Tech University; M.S., California State University.
- Suzanne Gault, Coordinator and Assistant Professor of Business Administration. B.B.A., Baylor University; M.B.A., University of Texas at Arlington.
- Jane R. Gede, SC Assistant Professor of Mathematics. B.A., University of Texas at Austin; M.A., University of Texas at Arlington.
- Hazel - Geigley, SC Assistant Professor of Office Occupations. A.A., Tyler Junior College; B.S., Prame View A&M College; M.B.Ed., North Texas State University.
- William H. Gehrman, SC Professor of Biological Science. B.A., New York State University; Ph.D., University of Arizona.
- Barbara M. Getts, SC Associate Professor of Office Occupations. B.B.A. and M.B.Ed., North Texas State University.
- Robert Geyer, SC Associate Professor of Mechanical Technology. B.S., Tuskegee Institute; M.S., Prame View A&M College.
- James Chris Goebl, SC Assistant Professor of Art. B.A., Texas Wesleyan College; M.F.A., University of Georgia.
- Guy A. Goldstein, SC Department Chairperson and Assistant Professor of Mathematics. B.S., Texas Tech University; M.A., Louisiana State University.
- Virginia W. Goodson, SC Instructor in Government. B.A., North Texas State University; M.A., Texas Christian University.
- Martha V. Gorder, NE Assistant Professor of Art. B.A., University of Tulsa; M.F.A., Texas Christian University.
- Margaret F. Grantham, NW Coordinator of VOE and Instructor in Office Occupations. B.B.A. and M.B.Ed., North Texas State University.
- Myrtle B. Gray, NE Assistant Professor of English. B.S. and M.A., North Texas State University.
- Kenneth F. Griffin, NW Coordinator of Physical Sciences and Professor of Biological Science. A.A., Tyler Junior College; B.S. and M.S., Stephen F. Austin University; Ed.D., Ball State University.
- Mary V. Griffin, SC Assistant Professor of Nursing. B.S., Texas Tech University; M.S., Texas Woman's University.
- Robert M. Griffin, SC Coordinator and Instructor in Electronics. B.S., East Texas State University.
- Joe B. Grissom, III, SC Associate Professor of Business Administration. B.B.A. and M.B.A., Baylor University; C.P.A.
- Patrick Grivich, SC Counselor and Associate Professor of Psychology. B.S. and M.Ed., Texas A&M University.
- Nicholas D. Grunt, SC Associate Professor of Business Administration. B.B.A., Woodbury College; M.A., New Mexico Highlands University.
- Ouida L. Guthrie, SC Professor of Psychology. B.S., Texas Wesleyan College; M.Ed., North Texas State University; Ed.D., University of Northern Colorado.
- Ernesto A. Guzman, SC Department Chairperson of Foreign Languages and Associate Professor of Spanish. B.A. and M.A., Texas Tech University.
- Barbara J. Hagood, NE Assistant Professor of Health Sciences. Certificate in Dental Hygiene, Caruth School of Dental Hygiene; B.S., Baylor University; M.Ed., North Texas State University.
- Richard R. Hakes, NW Coordinator and Associate Professor of Health, Physical Education and Recreation. B.S., State University, Cortland, New York; M.S., University of Massachusetts.
- Marilyn A. Halsell, SC Associate Professor of Nursing. R.N. and B.S., Union College of Nursing; M.S., University of Colorado.
- Cheryl A. Hamilton, NE Assistant Professor of Speech. B.S.Ed., Eastern Illinois University; M.A., Purdue University.
- Janet V. Hamilton, NE Professor of Physical Sciences. B.A., Millikin University; Ph.D., Tulane University.
- Gerald P. Handley, II, SC Associate Professor of Electronics. B.S., McNeese State University; M.Div., Texas Christian University; M.S., University of Texas at Dallas.
- Gloria S. Hankins, SC Clinical Instructor in Nursing. B.S.N., University of Texas at Arlington.
- Paula J. Harbour, SC Counselor and Assistant Professor of Psychology. B.S., University of Texas at Austin; M.Ed., East Texas State University.
- M. Lynne Hardin, NW Associate Professor of Chemistry. B.S. and M.S., Texas Woman's University.
- James J. Harnar, NE Department Chairperson and Assistant Professor of Criminal Justice. B.A. and M.P.A., Texas Christian University.
- M. Jane Harper, NE Department Chairperson of Foreign Languages and Professor of French. B.A., M.A. and Ph.D., East Texas State University.
- Eva M. Harrell, NE Assistant Professor of Health, Physical Education and Recreation. B.S., Ouachita Baptist University; M.S., State College of Arkansas.
- Jerry L. Harris, NW Counselor and Associate Professor of Psychology. B.A., Oklahoma Baptist University; M.S. and Ph.D., North Texas State University.
- Ricky D. Hestlow, NW Associate Instructor in Aviation Maintenance. A.A., Tarrant County Junior College; A&P Certificate.
- Philip L. Hickman, NE Instructor/Clinical Instructor in Health Sciences. A.A.S., Tarrant County Junior College; B.S., Health Science Center at Dallas.
- Bonnie Jean Higgins, SC Assistant Professor of Nursing. B.S., Incarnate Word College; M.S., Texas Woman's University.
- Patsy J. Hill, NE Coordinator of Operating Room Technology and Associate Professor of Health Sciences. Diploma, John Peter Smith Hospital; Diploma, New York University Hospital; B.S., Texas Wesleyan College; M.L.A., Texas Christian University.

Dennis F. Hilton, S C Professor of History, Government and Geography. B.S., North Texas State University; M.S., East Texas State University; Ph.D., Western Colorado University.

Gilberto Hinojosa, N E Associate Professor of Spanish and French. B.A., Berea College; M.A., University of Alabama.

John D. Hiser, N E Clinical Coordinator of Respiratory Therapy Program and Instructor in Health Sciences. A.A.S., Tarrant County Junior College; B.S., University of Texas Health Science Center-Dallas.

Richard W. Hlad, N E Assistant Professor of Art. B.F.A., Kansas City Art Institute; M.A., State University of Iowa.

George E. Hoffman, N W Instructor in Aviation Maintenance.

Helen L. Hogan, S C Associate Professor of English and Applied Communications. B.A. and M.A., Stetson University.

Russell C. Hollingsworth, N E Associate Professor of Computer Science and Natural Sciences. B.S., University of Texas at Arlington; M.S., North Texas State University.

Cynthia E. Holloway, N E Coordinator of Property Tax Appraisal Program and Instructor in Business Administration. B.B.A., Texas Wesleyan College; M.S., North Texas State University.

Garland E. Holt, N E Associate Professor of Business Administration. B.G.E., University of Omaha; M.B.A., Oklahoma City University.

Mark H. Holt, N E Clinical Instructor in Health Sciences. B.S., Midwestern State University.

William A. Holt, S C Associate Professor of English, Religion and Humanities. B.S. and M.A., Illinois State University.

Alzora J. Hooker, S C Instructor in Speech. B.A., William Jewell College; M.A., Texas Christian University.

Anita V. Hope, N E Assistant Professor of Business Administration. B.S. and M.B.A., Texas Christian University; C.P.A.

Paul Houser, N W Coordinator of Mid-Management and Small Business Management and Assistant Professor in Business Administration. B.S., State University of Wichita; M.B.A., George Washington University.

Thoma M. Howle, Jr., N E Associate Professor of Mathematics, Computer Science, and Physical Sciences. B.A. degrees, McMurry College; M.S., Texas Christian University; M.A., University of Texas at Arlington.

Esther Huckaby, N W Instructor in English. B.S.Ed. and M.A., Texas Christian University.

Judy Humphrey, S C Assistant Professor of Computer Science and Home Economics. B.S., University of Nebraska; M.B.A., University of Texas at Arlington.

Herbert Hudgens, S C Associate Professor of Physical Science. B.S.Ed., East Central State College; M.N.S., University of Oklahoma.

Dolores Ingle, N E Coordinator and Instructor in Mental Health/Mental Retardation, B.S., Southwestern Oklahoma University; M.Ed., North Texas State University.

Judy K. Ivy, S C Assistant Professor of Office Occupations. B.B.A. and M.B.Ed., North Texas State University.

Patsy V. James, N E Associate Professor of English. B.A., Southern State College; M.A., University of Arkansas.

Annie M. Jewett, N E Assistant Professor of Reading. B.A., Prairie View A & M College; M.Ed., Texas Woman's University.

David L. Johnson, N E Associate Professor of Business Administration and Computer Science. H.S. and M.B.A., Louisiana State University.

Flavil Leon Johnson, N W Assistant Professor of Aviation Maintenance. B.S. and M.Ed., Texas Christian University.

Jacquelyn W. Johnson, N E Assistant Professor of Health Sciences. B.S.D.H., University of South Dakota; M.Ed., Baylor University.

James C. Johnson, S C Instructor in Automotive Service Technology. A.A., Tarrant County Junior College; B.S., East Texas State University.

Don W. Jones, N E Department Chairperson and Professor of Health, Physical Education and Recreation. B.S., Stephen F. Austin State College; M.Ed. and Ph.D., East Texas State University.

Edwtn R. Jones, S C Coordinator and Associate Professor of Automotive Service Technology. B.S., Texas A & M University; M.S., East Texas State University.

Randall S. Joy, N E Associate Instructor in Health Sciences.

James L. Keating, N E Associate Professor of Reading and Psychology. B.S., Mississippi State University; M.Ed., University of Arizona.

John P. Keating, Jr., N E Associate Professor of Business Administration. B.B.A. and M.S., North Texas State University.

Maureen C. Keating, N E Coordinator of Testing Center and Assistant Professor of Sociology. B.A., Texas Woman's University; M.Ed., University of Arizona.

Judith A. Keith, N E Professor of Psychology. B.S., M.Ed. and Ph.D., North Texas State University.

J. Roland Kelley, N E Department Chairperson and Associate Professor of Business Administration. B.S., Northeast Louisiana State College; M.Ed., Texas Wesleyan College; M.B.A., North Texas State University.

Janice G. Kelly, N W Associate Professor of Business Administration. A.A., Tarrant County Junior College; B.A., Texas Wesleyan College; M.B.A., Texas Christian University.

Jane-Ella Kelsey-Mapel, N W Assistant Professor of Art. B.A., Arizona State University; M.F.A., North Texas State University.

Thomas Kemp, N W Instructor of Agribusiness. B.S., Tarleton State University; M.Ed., Southwest Texas State University.

William G. Kern, S C Department Chairperson of Art, Philosophy and Religion and Professor of Art and Philosophy. B.F.A.Ed., Wayne State College; M.A., Ball State University.

Helen L. Kerr, S C Associate Professor of Reading. B.A. and M.A., University of Southern California; M.Ed., Texas Christian University.

Harry D. Kilgore, S C Acting Coordinator and Instructor in Mechanical Technology.

John C. Kilman, N E Professor of English. B.A. and M.A., Texas Christian University; Ph.D., University of Delaware.

Cheryl Kimberling, S C Associate Professor of Sociology. B.S. and M.Ed., Memphis State University; M.R.E., Southwestern Baptist Theological Seminary.

William Kindsfather, S C Instructor in Business Administration. B.B.A., University of New Mexico; M.B.A., University of Texas at Arlington.

Ruth E. Kleinmann, S C Associate Professor of English. B.A., University of Texas at Arlington; M.A., Southern Methodist University.

Karen L. Kologe, S C Assistant Professor of French. B.A., Texas Christian University; M.A., University of Texas at Austin.

Jacqueline C. Kunke, N E Coordinator of Medical Laboratory Technology Program and Associate Professor of Health Sciences. B.S. and M.S., Texas Christian University.

Linda J. Kyle, N E Assistant Professor of Mathematics. B.A., University of Texas at Austin; M.S., Texas Christian University.

Diane Lacey, S C Counselor and Assistant Professor of Psychology. B.S.Ed., University of Texas at Austin; M.Ed., Texas Christian University.

Robert L. Landry, N W Coordinator and Instructor in Aviation Maintenance. B.S.C.E., Missouri School of Mines.

Bobby D. Langston, N E Department Chairperson of Engineering and Mathematics and Associate Professor of Mathematics. B.A., Howard Payne University; M.A., University of Illinois.

F. Hollis Latimer, N E Department Chairperson and Associate Professor of Computer Science. B.S., Stephen F. Austin College; M.B.A., University of Texas at Austin; C.D.P.

Victor E. Lauderdale, Jr., SC Coordinator and Associate Professor of Appliance Service and Repair. B.S. and M.S., North Texas State University.

Ron Law, NW Associate Professor of History. B.A., University of St. Thomas; M.A., Texas Christian University.

Jerry B. Layton, NE Instructor in Health Sciences. Diploma, Hendrick Memorial Hospital; B.S.N., Texas Christian University.

Mary A. Lee, NE Associate Professor of Religion. B.A., Hendrix College; M.T. and M.R.E., Perkins School of Theology, Southern Methodist University.

Benton M. Leeth, NW Counselor and Assistant Professor of Psychology. B.S., North Texas State University; M.Ed. and Ed.D., Texas A&M University.

Arnold J. Leondar, NE Department Chairperson and Associate Professor of Art. B.S., Columbia University; M.A., University of New Mexico.

June M. Leondar, NE Coordinator of Preparatory Music and Instructor in Music. B.S.Ed. and M.Ed., Texas Tech University.

John W. Lepenski, NW Associate Instructor in Computer Science. B.B.A., Texas Wesleyan College.

William F. Lewis, SC Associate Professor of Health, Physical Education and Recreation. B.A. and M.Ed., Texas Tech University.

Triesha M; Light, SC Counselor and Assistant Professor of Psychology. B.S. and M.Ed., East Texas State University.

Jerri K. Lindsey, NE Professor of Natural Sciences. B.A., McMurry College; Ph.D., North Texas State University.

Marion E. Linehan, NE Associate Professor of English. B.S.Ed., New Jersey State College; R.N., Medical Center, New Jersey; M.A., Texas Christian University.

Delores Linton, NW Instructor in Economics and Business Administration. B.A. and M.A., Prairie View A&M.

Mary Kay Little, SC Instructor in Music. B.M.Ed. and M.M., Northwestern University.

Kenneth H. Lloyd, NE Department Chairperson and Assistant Professor of Engineering Technology. B.S. and M.S., New Mexico State University.

Patricia A. Long, SC Associate Professor of Business Administration. B.S., St. Louis University; M.S.Ed., Northern Illinois University; M.B.A., University of Texas at Arlington.

Larry W. Lucas, SC Assistant Professor of Engineering Technology. B.S., Indiana State University; M.S., University of Missouri.

Emily A. Lunday, SC Counselor and Associate Professor of Behavioral Science. B.A., Howard Payne University; M.Ed., Texas Christian University; M.A., East Texas State University.

Charles A. Lycan, NW Professor of Biology. B.S. and M.S., Abilene Christian University; Ph.D., North Texas State University.

Hap Lyda, SC Professor of Philosophy and Religion. B.Th., University of Oregon; M.Div., Texas Christian University; M.A. and Ph.D., Vanderbilt University.

Mary D. Lyons, SC Professor of English. B.S.M.E., Kansas State University; M.A., Midwestern University; Ph.D., University of Texas at Austin.

Eddie R. McAnthony, SC Associate Professor of Art. B.F.A., Texas Southern University; M.S., East Texas State University.

Kathryn T. McClellan, NE Instructor in Mathematics. B.A., Prairie View A&M University; M.S., University of Tulsa.

William S. McClung, SC Professor of Business Administration. B.S., Texas Wesleyan College; M.B.A. and Ed.D., North Texas State University.

Joan McCord, SC Instructor in English. B.A. and M.A., Sam Houston State University.

Leonard A. McCormick, SC Department Chairperson and Associate Professor of Music. B.M. and M.M., University of Texas at Austin.

MarJes L. Mccurdy, NE Associate Professor of Natural Sciences. B.S., Midwestern University; M.Ed., North Texas State University.

Pamela D. McDaniel, NW Associate Professor of Speech and Drama. B.A.Ed., Northwestern State College; M.A., Oklahoma State University.

Delores J. McDonald, NE Coordinator of Medical Record Technology Program and Instructor in Health Sciences. B.S., Texas Woman's University.

Jimmy C. McKenzie, NE Professor of Business Administration. B.S.Ed., Texas Christian University; M.Ed. and Ed.D., North Texas State University.

Virginia L. McKenzie, SC Department Chairperson and Associate Professor of Office Occupations. B.B.A. and M.B.E., North Texas State University.

Emily D. McKinney, SC Assistant Professor of Nursing. B.S., Baylor University; M.S., University of Texas at Arlington.

William J. McMurry, NE Professor of English. B.A., College of the Ozarks; M.M. and Ed.D., East Texas State University.

Roy G. McWhorter, NE Coordinator of Commercial Transportation and Associate Professor of Management. B.A., Naval Post-graduate School; M.S., Texas A&I University.

Susan D. Magee, NE Coordinator of Dental Hygiene and Instructor in Health Sciences. A.S., Miami-Dade Junior College.

Robert W. Magers, SC Assistant Professor of Business Administration. B.B.A. and M.B.A., North Texas State University.

Frances E. Maguire, SC Assistant Professor of English and Applied Communications. B.S.Ed., Central Missouri State College; M.A., University of Missouri.

Juan L. Maldonado, NW Counselor and Assistant Professor of Psychology. B.A. and M.Ed., North Texas State University.

Seldon B. Mapel, Jr., NE Counselor and Professor of Psychology. B.S.Ed., M.Ed. and Ed.D., North Texas State University.

Garry Lee Marsden, NW Associate Instructor in Aviation Maintenance.

John R. Martin, NE Associate Professor of Engineering, Mathematics and Natural Science. B.S. and M.S., North Texas State University.

LaVerle D. Martin, NE Assistant Professor of Health, Physical Education and Recreation. B.A., Kansas Wesleyan University; M.Ed., Texas Tech University.

Robert L. Martin, NE Assistant Professor of Business Administration. B.A. and M.S.B.A., Baylor University.

V. John Mathew, NE Professor of English, B.A., University of Madras; M.A., University of Agra, India; Ph.D., St. Louis University; D.M., Texas Christian University.

C. Jan Matre, NE Assistant Professor of Health Sciences. B.A., University of Cincinnati; M.R.A. Certificate.

William C. Matthai, NE Associate Professor of Biological Sciences. B.S., Northern Michigan University; M.A., University of Illinois.

J. T. Matthews, NE Department Chairperson and Professor of Music. B.M., Hendrix College; M.A. and Ed.D., Columbia University.

James M. Matthews, NE Associate Professor of English. B.A., North Texas State University; M.A., University of Texas at Austin.

Martin L. Mattingly, SC Assistant Professor of Government. B.S., Lamar State College; M.A., Louisiana State University.

Michael M. Mayall, NE Department Chairperson and Professor of Behavioral Occupations. B.A.Ed., Central Washington University; M.A.Ed., Eastern Washington University; Ed.D., North Texas State University.

Michael R. Mayben, NW Instructor in Small Gasoline Engine Repair. B.S., East Texas State University.

Benita B. Mays, NE Professor of Health Sciences. B.S., University of Texas at Arlington; Ph.D., Texas A&M University.

Hector Menchaca, SC Counselor. B.A., Texas Wesleyan College.

J. Jan Mercer, NW Associate Professor of Biological Science. B.S. and M.S., Louisiana Polytechnic Institute.

Rosario Metcalf, NE Assistant Professor of Psychology and Counselor. B.S., University of Texas at El Paso.

Carol J. Miller, SC Associate Professor of Health, Physical Education and Recreation. B.S.Ed., Northeast Missouri State University; M.A., Texas Woman's University; Ph.D., Texas Woman's University.

Gloria J. Mills, NW Associate Professor of Mathematics. B.S., Northwestern State College; M.S. and Ed.D., Oklahoma State University.

Elmer R. Milner, NW Associate Professor of History and Government. B.A., M.A. and Ph.D., North Texas State University.

Loreta Sue Milner, NW Associate Professor of English. B.S. and M.S., North Texas State University.

Jo Nell Mitchell, SC Assistant Professor of Nursing. A.D.N., Tarrant County Junior College; B.S.N., Texas Christian University; M.Ed., Texas Christian University.

John P. Mitchell, NE Department Chairperson and Professor of Natural Science. B.S. and M.S., George Peabody College.

Albert G. Mogor, NE Counselor and Professor of Psychology. B.A., Kent State University; M.A., New Mexico State University; Ph.D., North Texas State University.

Jimmy A. Moore, SC Department Chairperson of Engineering Technology and Associate Professor of Mechanical Technology. B.S., University of Oklahoma; M.S., University of Texas at Arlington.

Nancy E. Morgan, SC Assistant Professor of Nursing. B.S.N., University of Texas at Austin; M.S., University of Texas at Arlington.

Ron M. Morgan, NW Assistant Professor of Health, Physical Education and Recreation. B.S., University of Wisconsin; M.S., Southern Methodist University.

Gwendel D. Mulkey, SC Professor of Speech, Drama and English. B.A., M.Ed. and Ph.D., North Texas State University.

Jerry D. Mullen, SC Department Chairperson and Associate Professor of Electronics. B.S., University of Houston; M.Ed., North Texas State University.

Robert E. Nabors, SC Professor of Biological Sciences. B.S., M.A. and M.Ed., Texas Christian University; M.S., East Texas State University.

Marion F. Nesvadba, NE Assistant Professor of Music. B.A., Sacred Heart Dominican College; M.M., University of Houston.

Clanton W. Newbill, NE Associate Professor of Religion and Sociology. B.A., Trinity University; B.D., Yale University; M.A., Sul Ross State University.

Mollie A. Newcom, NW Coordinator of English and Reading and Assistant Professor of English. B.S.Ed. and M.Ed., North Texas State University.

James B. Nichols, SC Department Chairperson and Associate Professor of Fire Technology. B.S., University of Texas at Arlington; M.S., East Texas State University.

Joe L. Norton, NE Director of Student Publications and Associate Professor of Journalism. B.A., Texas Wesleyan College; M.J., University of Texas at Austin.

Margot B. Norwood, SC Associate Professor of Business Administration. B.A. and M.A., Smith College, Massachusetts; M.B.A., North Texas State University; C.P.A.

Thomas C. Nunnelley, SC Associate Professor of Mechanical Technology. B.S. and M.S., East Texas State University.

Sue Ellen Ochsner, SC Assistant Professor of Nursing. B.S.N., College of Mt. St. Joseph; M.S., Texas Woman's University.

Gerrit Johan Oonk NW Associate Professor of Horticulture. M.A., German Language Academy; Ph.D., University of Washington; M.S., Oklahoma State University.

Jacqueline Otto, CC Instructor in Special Projects. B.S.N., West Texas State University; M.A., University of Texas, Permian Basin.

Betsy Overholser, SC Assistant Professor of Reading. B.Ed., University of Alaska; M.Ed., Texas Christian University.

William A. Parish, SC Professor of Business Administration. B.S. and M.S., North Texas State University; Ed.D., University of Arkansas.

C. Cordell Parker, NE Department Chairperson of Speech and Drama and Professor of Speech. B.S.Ed., M.Ed. and Ed.D., North Texas State University.

Dorothy E. Parker, SC Associate Professor of Nursing. B.S.N., Texas Christian University; M.S., Texas Woman's University.

JNell Pate, NE Associate Professor of Government. B.A. and M.A., Texas Christian University; Ph.D., North Texas State University.

Lesli Dianne Perry, NE Associate Instructor in Health Sciences. A.A.S., Tarrant County Junior College.

Gary Lee Peschka NE Coordinator of Respiratory Therapy Program and Associate Professor of Health Sciences. B.S., University of Missouri; M.Ed., University of Illinois. RT Certification.

Neva R. Peters, SC Assistant Professor of History. B.A., Texas Christian University; M.A., Ohio University.

Floyd Lester Peterson, SC Associate Instructor in Mechanical Technology.

Sue C. Petrick, NW Assistant Professor of Health, Physical Education and Recreation. B.S., Pennsylvania State University; M.Ed., University of Illinois.

Gustav W. Petrusz, NE Department Chairperson of History, Philosophy and Religion and Associate Professor of Philosophy. B.A. and M.A., Satya Watjana Christian University at Salatiga, Central Java, Indonesia; M.L., Middlebury College.

D. Dane Phillips, NW Instructor in Mathematics. B.S. and M.T., Southwestern State College.

James D. Phillips, NE Professor of Sociology. B.A., Huston-Tillotson; B.D., Southern Methodist University; M.A., University of Texas at Arlington; D.M., Texas Christian University.

Robert M. Platt, SC Department Chairperson of Behavioral Science and Professor of Sociology and Behavioral Science. A.B., Milligan College; B.D., The College of the Bible; Ed.D., Texas Tech University.

Elizabeth M. Porras, SC Assistant Professor of Business Administration. B.B.A. and M.B.A., North Texas State University; C.P.A.

Martha A. Post, SC Counselor and Associate Professor of Psychology. B.S.Ed., University of Texas at Austin; M.S.Ed., University of Southern California.

Dorothy L. Poteet, SC Assistant Professor of Computer Science. A.A., Wharton County Junior College; B.B.A., Sam Houston State University; M.S., East Texas State University.

Morris R. Poteet, SC Instructor in Physical Science. B.S. and M.A., Sam Houston State University.

Joe D. Price, SC Associate Professor of Mathematics. B.S., Southwestern University; M.S., North Texas State University.

Arthur S. Pritchard, SC Associate Professor of English. B.A., Atlantic Christian College; M.A., Texas Christian University.

Lanna F. Pruitt, NE Associate Professor of Health, Physical Education and Recreation. B.S., Eastern New Mexico University; M.Ed., East Texas State University.

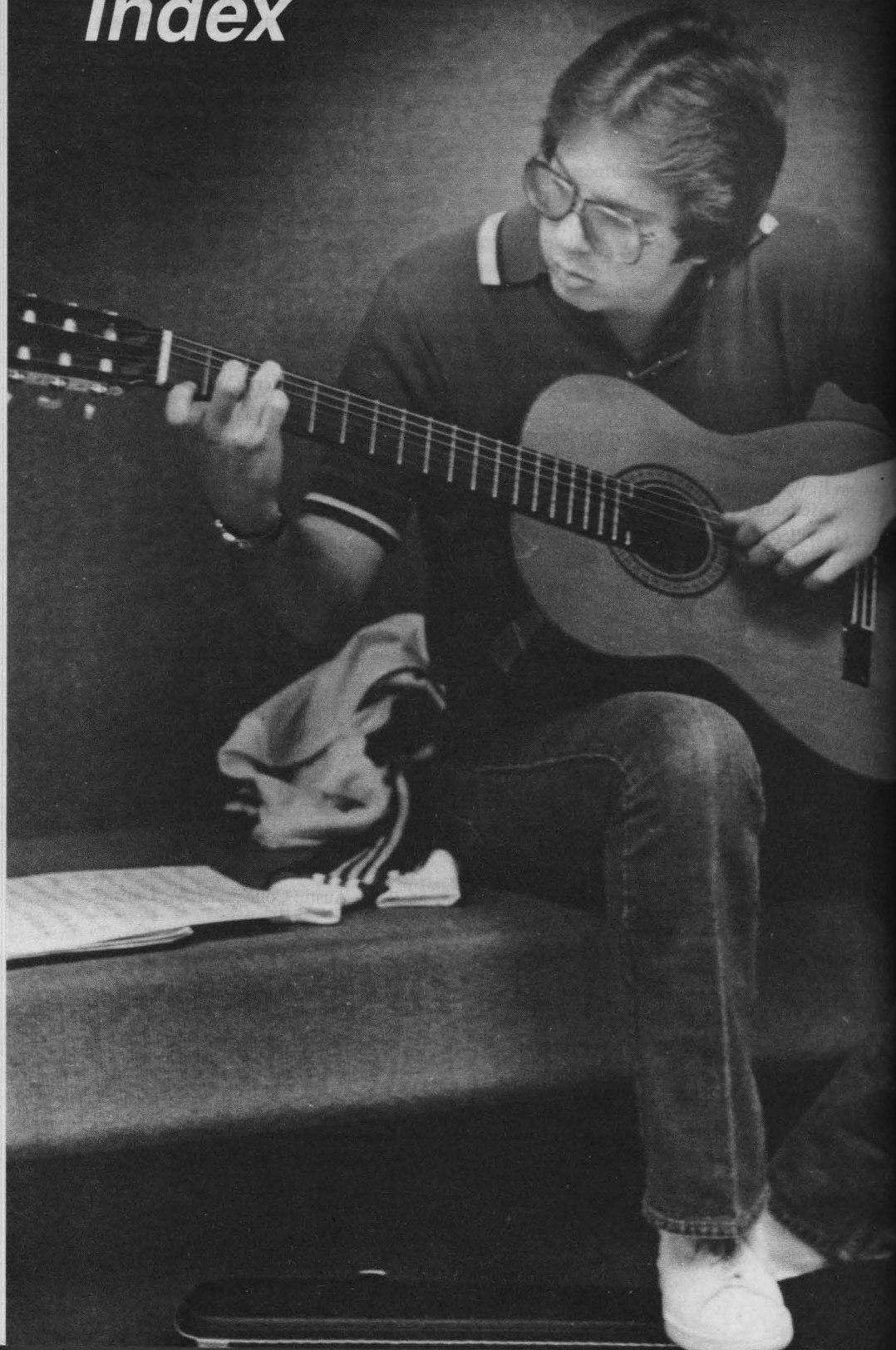
Glenda F. Pruitt, SC Associate Professor of Nursing. Diploma in Nursing, John Peter Smith Hospital; B.S., Texas Christian University; M.S., Texas Woman's University.

Elizabeth J. Pryor, SC Department Chairperson and Professor of Nursing. B.A. and B.S.Ed., Ashland College; M.S., Iowa State University; Ed.D., Nova University.

- Carl Rau, NW Associate Professor of Biological Science. B.A., M.A., and Ph.D., University of Missouri.
- Wilmer E. Rayner, SC Associate Instructor in Welding.
- Weldon T. Reed, SC Associate Professor of English. B.A. and M.A., North Texas State University.
- M. Virginia Reedy, NE Associate Professor of English. B.A., University of Tulsa; M.A., North Texas State University.
- William L. Rentzell, SC Assistant Professor of Automotive Service Technology. A.A., Tarrant County Junior College; B.S., East Texas State University; M.Ed., North Texas State University.
- Herbert C. Rezeau, Jr., SC Assistant Professor of Engineering Technology. B.S. and M.B.A., Wayne State University.
- James M. Rich, SC Assistant Professor of Health, Physical Education and Recreation. B.S. and M.Ed., North Texas State University.
- Don J. Richard, SC Coordinator of Testing and Associate Professor of Psychology. B.S. and M.A., University of Alabama.
- Karen D. Richardson, NE Associate Professor of Office Occupations. B.B.A. and M.B.Ed., North Texas State University.
- E. Raydean Richmond, SC Assistant Professor of Computer Science. B.S. and M.S., University of Pittsburgh.
- Charles Phillip Riley, Jr., NW Coordinator and Associate Professor of Mid-Management. B.B.A. and M.Ed., Southwest Texas State University.
- John D. Riley, SC Department Chairperson of History, Government and Geography and Professor of History and Government. A.B., Syracuse University; M.A., University of Oklahoma; Ph.D., Texas Christian University.
- Rita S. Rios, NE Assistant Professor of Health Sciences. B.S., Texas Woman's University; R.D.H. Certificate.
- Herbert E. Roane, SC Assistant Professor of Drafting. B.S. and M.S., Oklahoma State University.
- Neal Roberts, NW Assistant Professor of Auto Body Repair. B.S., M.S., Oklahoma State University.
- James E. Roberts, SC Associate Instructor in Air Conditioning and Refrigeration.
- Carolyn Robertson, SC Assistant Professor of Physical Science and Biology, ITV. B.S., University of Corpus Christi; M.S., East Texas State University; Ph.D., North Texas State University.
- Juanita Rodriguez, NW Instructor in Reading. B.S.Ed. and M.Ed., Texas Christian University.
- Dennis W. Roediger, SC Associate Professor of History and Geography. B.S. and M.A., West Texas State University.
- Nancy A. Roediger, NE Associate Professor of English. B.S. and M.A., West Texas State University.
- Dwight C. Rogers, NE Assistant Professor of Mathematics. B.S., Southeastern State College; M.S., East Texas State University.
- Sandra A. Ross, SC Coordinator of Special Technical Lab and Assistant Professor of Reading. B.A., Texas Western College; M.Ed., University of Arizona.
- Charles C. Runnels, Jr., NE Associate Professor of Mid-Management. B.B.A., University of Texas at Austin; M.B.A., Syracuse University.
- Edward Sandoval, ID, NE Counselor and Associate Professor of Psychology. B.S. and M.Ed., Sul Ross State University.
- Billy B. Savage, SC Instructor in Air Conditioning and Refrigeration. B.S., East Texas State University; M.Ed., North Texas State University.
- Mary L. Scaggs, SC Assistant Professor of Nursing. Nursing Diploma, Parkland School of Nursing; B.S., University of Texas at Galveston; M.S., University of California.
- Martha L. Schieme, NW Assistant Professor of French and English. B.A. and M.A., Texas Christian University.
- Stacy E. Schronk, NE Associate Professor of Drama. B.M.Ed. and M.F.A., University of Oklahoma.
- Frances S. Schuessler, SC Associate Professor of Music. A.A., William Woods College; B.A., University of Kansas; M.M. and M.L.A., Texas Christian University.
- Mark J. Schusler, NW Assistant Professor of Horticulture. B.S. and M.S., University of Illinois.
- M. Sue Scott, SC Associate Professor of English. B.A. and M.A., Texas Christian University.
- Marsha R. Scott, SC Counselor and Instructor in Psychology. B.A. and M.A., Howard University.
- George A. Shaw, NE Department Chairperson and Associate Professor of Health Sciences. R.T. Certificate, Glendale Adventist Hospital; B.A., University of Texas at Arlington; M.M.S., Texas Christian University.
- Barbara N. Shearer, NE Coordinator of Dental Assistant Program and Instructor in Health Occupations. A.A.S., Tarrant County Junior College.
- Robbrey Kay Sheffy, SC Associate Professor of Business Administration. B.S., M.S., and M.P.A., West Texas State University.
- C. Nelda Shelton, SC Associate Professor of Office Occupations. B.S.Ed. and M.B.Ed., North Texas State University.
- Dennis W. Shull, SC Associate Instructor in Electronics. A.A.S., DeVry Institute of Technology.
- Gerald L. Shutter, NE Coordinator of Graphic Arts Program and Associate Instructor in Engineering Technology. A.A., Tarrant County Junior College.
- Curtis Alan Siebenthal, SC Counselor and Professor of Psychology. B.S. and M.Ed., Midwestern University; Ed.D., North Texas State University.
- James M. Sims, NE Coordinator of Civil/Construction Technology Program and Associate Professor of Engineering Technology. B.S. and M.S., University of Texas at Arlington.
- Arthur Slaughter, Jr., SC Assistant Professor of History and Government. B.S., Wtley College; M.Div., Southwestern Baptist Theological Seminary.
- B. Jean Smith, SC Assistant Professor of Nursing. B.S.N., Baylor University; M.S.N., Texas Woman's University.
- Charles E. Smith, NE Associate Professor of Health, Physical Education and Recreation. B.S., Arkansas Polytechnic College, M.Ed., Mississippi State University.
- Danny H. Smith, SC Associate Instructor in Electronics. B.S., East Texas State University.
- Gary A. Smith, NE Professor of Natural Sciences. B.A. and M.A., Baylor University.
- Jo Ann Smith, NE Coordinator of Emergency Technician Program and Instructor in Health Sciences. Diploma, School of Nursing, Parkland Hospital.
- Mary Alice Smith, NE Associate Professor of Office Occupations. B.B.A. and M.B.A., Texas Tech University.
- Nathaniel D. Smith, SC Coordinator of Drafting and Design and Industrial Supervision and Professor of Engineering. B.S. and M.S., Northwestern State University; Ed.D., Auburn University.
- William H. Sproull, SC Associate Professor of Psychology. B.S., University of Texas at Austin; M.Ed., Hardin-Simmons University.
- J. Martin Stacy, SC Department Chairperson and Associate Professor of Computer Science. B.B.A. and M.B.A., North Texas State University; C.D.P.
- Catherine S. Standerfer, SC Assistant Professor of Mathematics. B.A., North Texas State University; M.S., University of Wisconsin.
- David Stanton, NE Counselor and Instructor in Psychology. B.S. and M.S., North Texas State University.
- Kayte Steinert-Threlkeld, NW Director of Student Publications and Instructor in Journalism. B.A., University of Connecticut; M.A., University of Missouri.
- Joe H. Stephens, SC Associate Professor of Refrigeration and Air-Conditioning. A.A.S., Tarrant County Junior College; B.S. and M.S., East Texas State University.
- Paul D. Stewart, SC Director of Intramurals and Assistant Professor of Health, Physical Education and Recreation. B.S. and M.Ed., East Texas State University.

- Rudolph G. Stippec, SC Associate Professor of Mid-Management. B.S.C., LL.B., and J.D. degrees, St. Louis University; M.B.A., Southern Methodist University.
- Richard E. Stitzel, SC Instructor in Music. B.M.E. and M.M.E., North Texas State University.
- Ronald P. Stocker, SC Professor of Humanities. B.A. and M.A., Wayne State University; Ph.D., Texas Christian University.
- J. Larry Story, SC Assistant Professor of History. B.A., University of Texas at Arlington; M.A., East Texas State University.
- Jerry D. Strader, SC Department Chairperson and Professor of Mid-Management. B.B.A. and Ph.D., North Texas State University; M.A., Fresno State College.
- Mary J. Strickland, SC Assistant Professor of Health, Physical Education and Recreation. B.S. and M.S., Baylor University.
- Ara B. Sullenberger, SC Associate Professor of Mathematics. B.A. and M.A.T., Texas Tech University.
- Joe W. Sutter, NE Instructor in Criminal Justice. B.S. and M.P.A., Texas Christian University.
- Betty S. Sweeney, NE Department Chairperson and Associate Professor of English. B.A., Texas A & I University; M.Ed., Stephen F. Austin University.
- Thomas J. Taaffe, SC Department Chairperson and Associate Professor of Physical Science. B.S.E.E., University of Texas at Arlington; M.S., North Texas State University.
- James R. Tunkersley, SC Instructor in Automotive Service Technology.
- Judith A. Tate, NE Associate Professor of Computer Science. B.S., University of Wisconsin at River Falls; M.A., University of Minnesota; M.S., Texas Woman's University.
- Loy H. Taylor, Jr., SC Associate Professor of English. B.S., Centenary College; M.A., Louisiana Polytechnic Institute.
- Meri Taylor, SC Department Chairperson of Industrial Technology and Professor of Refrigeration and Air-Conditioning. A.S., Altus Junior College; B.A., Southwestern State College; M.S., North Texas State University; Ed.D., East Texas State University.
- Curtis Todd Terry, NW Associate Instructor in Automotive Technology.
- Joy L. Thetford, NE Associate Professor of Health, Physical Education and Recreation. B.S. and M.Ed., North Texas State University.
- William F. Thomas, SC Professor of Behavioral Science, Philosophy and Religion. B.A., Baylor University; M.R.E. and Ed.D., Southwestern Baptist Theological Seminary.
- Nancy L. Thompson, SC Instructor in Nursing. A.A., Rochester State Junior College; B.S., Winoona State University.
- Don L. Timberlake, NW Associate Professor of Music. B.A., East Texas State University; M.M.Ed., Texas Christian University.
- Ezekiel W. Toibert, NW Instructor in Mathematics. B.A., Jarvis Christian College; M.S., East Texas State University.
- B. D. Trail, NW Associate Professor of English. B.A. and M.Ed., Texas A & M University.
- Kreta N. Trammell, NE Instructor in Reading. B.S., North Texas State University; M.Ed., Texas Christian University.
- E. Allen Triplett, SC Associate Professor of Biology (Basic Studies). B.S. and M.Ed., Sam Houston State University.
- Roger L. Tufts, NE Instructor in Art. B.F.A. and M.Ed., Texas Christian University.
- Carrie Jean Tunson, NW Instructor in Office Occupations. B.S., Bishop College; M.S., Central Connecticut State College.
- William L. Turnbull, NE Associate Professor of History. B.A. Ed. and M.A.T., Northeastern State College.
- Diane Turner, SC Director of Student Publications and Instructor in Journalism. B.A., Texas Christian University; M.A., East Texas State University.
- Charles T. Tweddale, SC Assistant Professor of English. B.S. and M.A., Central Michigan University.
- Charles W. Tyer, NW Coordinator and Associate Professor of Mid-Management. B.S.C., Texas Christian University; M.B.A. and Ph.D., North Texas State University.
- Jon R. Vandagriff, SC Instructor in Journalism. A.A., Weatherford College; B.A., Howard Payne University; M.A., North Texas State University.
- Caro I.A. Vaughan, NW Assistant Professor of English. B.A., University of Houston; M.A., Wichita State University.
- Steven R. Vazquez, NW Assistant Professor of Psychology and Sociology. B.S. and M.Ed., North Texas State University; Ph.D., Western Colorado University.
- Richard J. Wakefield, NE Coordinator of Marketing and Associate Professor of Business Administration. B.S.B.A. and M.B.A., Ohio State University.
- Gaston L. Walker, SC Professor of Behavioral Science and Psychology. B.A., Texas Western College; M.Ed. and Ed.D., North Texas State University.
- Martha K. Walker, NW Associate Professor of Psychology. B.S.E., Southwest Texas State University; M.Ed., Texas Christian University.
- Velma M. Walker, NE Counselor, Coordinator of Career Center and Professor of Psychology. B.S., Tarleton State College; M.Ed., North Texas State University; Ed.D., Western Colorado University.
- Waunnetta J. Walling, NE Assistant Professor of Mathematics. B.A. and M.A., North Texas State University.
- William E. Watson, Jr., NE Instructor in English. B.A., North Texas State University; M.A., Southern Methodist University.
- Larry G. Willcoxon, SC Assistant Professor of Music. B.M., University of Oklahoma; M.M., North Texas State University.
- Eva J. Williams, SC Associate Professor of Nursing. B.S.N., Texas Woman's University.
- Judith C. Williams, SC Associate Professor of Art. B.F.A., University of Texas at Austin; M.A., University of Dallas; M.F.A., Texas Christian University.
- E. Lynn Wilson, NE Assistant Professor of History. B.S., Nason College; M.S., North Texas State University.
- Lyle J. Wilson, NE Coordinator of Drafting Program and Instructor in Engineering Technology. B.S. and M.S., East Texas State University.
- Edward A. Windebank, SC Associate Professor of Mathematics and Social Sciences. B.A., Baylor University; M.A., Texas A&I University.
- Carnes Woods, NE Professor of English. B.A. and M.A., Texas Woman's University; Ph.D., Texas Christian University.
- John C. Woods, NE Professor of Business Administration. B.B.A. and M.B.A., North Texas State University.
- Berry C. Woodson, NW Assistant Professor of Government. B.A., Austin College; M.A., University of Wisconsin.
- Lillian W. Wright, NW Assistant Professor of Mathematics. B.A., North Texas State University; M.A., Texas Woman's University.
- Kathryn A. Young, NE Associate Instructor in Health Sciences. A.A.S., Tarrant County Junior College.
- Margarita C. Zamora, NW Associate Instructor in Office Occupations. A.A., San Antonio College; B.A., Southwest Texas State University.
- Wayne E. Zatopek, NE Assistant Professor of Sociology. B.B.A. and M.S., East Texas State University.

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I certify that the information given above is complete and correct to the best of my knowledge. I understand that should I be found to be in violation of the program of your choice, I will be held responsible for denial of admission or for dismissal. Also, I understand that admission to TCJC does not guarantee admission to a special program of your choice.

14. ARE YOU CURRENTLY EMPLOYED? YES NO

HOCH	HOCH	HOCH	HOCH	HOCH
0000	0000	0000	0000	0000
0000	0000	0000	0000	0000
0000	0000	0000	0000	0000
0000	0000	0000	0000	0000

III. LIST IN ORDER OF ATTENDANCE ALL COLLEGES PREVIOUSLY ATTENDED INCLUDING TARRANT COUNTY JUNIOR COLLEGE, AND DATES OF ATTENDANCE AT EACH. FAILURE TO REPORT PREVIOUS COLLEGES CONSTITUTES FRAUDULENT ENROLLMENT.

GED

9. MAJOR: _____

MAJOR CODE:

SEE reverse side list in **checkbox** on reverse side

11. CITIZENSHIP

U.S. Citizen

Immigrant with I 881

Refugee

Other: _____

FEE OR VISA

10. ETHNIC ORIGIN: (Required)

Regulations)

White (Non-Hispanic)

Amer-Indian or Alaskan Native

Black (Non-Hispanic)

Oriental or Pacific Islander

Other

Not Described

(All Non-White Ethnicities are to be reported for the ethnicity of the student)

CITY _____ COUNTY _____ STATE _____ MONTH/YEAR _____

11. SIGNATURE: _____

TCCJC

TARRANT COUNTY
JUNIOR COLLEGE

(U.S.P.S. 592-010)

1500 HOUSTON STREET
FORT WORTH, TEXAS
76102-6599