
CENTRAL TEXAS COLLEGE



*A Great Place
to Start!*

CONTINENTAL
& INTERNATIONAL
1989-1991 CATALOGUE

LOCATIONS SERVED BY VARIOUS AMERICAN EDUCATIONAL COMPLEX PROGRAMS

CONTINENTAL CAMPUS

Alaska
Adak
Fort Greely
Fort Richardson
Fort Wainwright

California
Alameda
Lemoore NAS
Marine Island NS
Moffett Field
San Diego
Treasure Island NS

Colorado
Fort Carson

Connecticut
New London

District of Columbia
Bolling AFB

Florida
Key West
Mayport

Georgia
Fort Stewart
Hunter Army Airfield

Hawaii
Fort Shafter
Pearl Harbor
Schofield Barracks
Tripler Army Medical Center

Kansas
Fort Riley

Kentucky
Fort Knox

Louisiana
Fort Polk
New Orleans

Maryland
Aberdeen Proving Grounds
Cheltenham NS
Fort Meade

Massachusetts
Fort Devens

Missouri
Fort Leonard Wood

Nevada
Fallon
New Hampshire
Portsmouth Naval Yard

New Jersey
Fort Monmouth

North Carolina
Camp Lejeune
Fort Bragg
Franklin
Pope AFB

Oklahoma
Fort Sill

Pennsylvania
Carlisle Barracks
Cumberland Army Depot
Fort Indiantown Gap
Philadelphia

Rhode Island
Newport

South Carolina
Charleston

Texas
Fort Hood
Killeen

Virginia
Fort Lee
Langley AFB
Norfolk

Washington
Bangor
Bremerton
Fort Lewis
Key Port
Sand Point
Whidbey Island

West Virginia
Sugar Grove NS

Bermuda

Cuba
Guantanamo Bay

Iceland
Kallavik

Greenland
Thule AFB

Panama
Fort Clayton
Fort Davis
Fort Kobbe

Puerto Rico
Antigua
Fort Buchanan
Roosevelt Roads

EUROPE CAMPUS

Egypt
Sinai-North Camp
Sinai-South Camp

Germany
Amberg
Ansbach
Aschaffenburg
Augsburg
Babenhausen
Bad Hersfeld
Bad Kissingen
Bad Kreuznach
Bad Toelz
Bamberg
Baumholder
Berlin
Bindlach
Bremerhaven
Buedingen
Butzbach
Camp Pieri

Germany (cont)
Crailsheim
Darmstadt
Dexheim
Frankfurt
Friedberg
Fulda
Garlstadt
Gelnhausen
Giessen
Goepfingen
Grafenwoehr
Hanau
Heidelberg
Heilbronn
Hoechst
Hohenfels
Idar Oberstein
Illesheim
Kaiserslautern
Karlsruhe
Kirchgoens
Kitzingen
Kriegsfeld (No. Point)
Mainz
Mannheim
Miessau
Neubrunn
Neu Ulm
Nuernberg
Oberursel
Pirmasens
Schweinfurt
Schwaebisch-Gmuend
Soergl
Stuttgart
Vilseck
Wackerheim
Wertheim
Wiesbaden
Wildflecken
Wuerzburg
Zweibrucken

Greece
Crete
Elefsis
Kilkis
Langada
Nea Makri

Italy
Naples
Sigonella
Vicenza

Spain
Rota

Turkey
Cakmakli
Corlu
Erzurum
Izmit
Ordykoy
Sinop

PAGE ATLANTIC

PAGE PACIFIC

PACIFIC FAR EAST CAMPUS

Guam
Anderson AFB
CIRO
NAVAIR
NAVCAM
NAVSTA

Indian Ocean
Diego Garcia

Japan
Atsugi
Camp Zama
Iwakuni
Misawa Air Base
Sasebo
Yokosuka
Yokota Air Base

Korea
Camp Ames
Camp Carroll
Camp Casey
Camp Essayons
Camp Gary Owens
Camp Greaves
Camp Henry
Camp Hovey
Camp Howze
Camp Humphreys
Camp Long
Camp Market
Camp Page
Camp Pelham
Camp Red Cloud
Camp Stanley
Kwang-Ju Air Station
Kunsan Air Base
Osan Air Base
Pusan
Taegu Air Station
Suwan Air Station
Yongsan

Okinawa
Camp Butler
Camp Courtney
Camp Foster
Camp Hansen
Camp Kinser
Camp Lester
Camp McTearous
Camp Schwab
Camp Shields
Futenma
Kadena Air Base
Torii Station

Philippines
Botan
Clark Air Base
Camp O'Donnell
Cubi Point NAS
San Miguel
Subic Bay NS
Wallace Air Station

MAJOR CAMPUS ADDRESSES COLLEGE PROGRAMS

**CENTRAL CAMPUS
CENTRAL TEXAS COLLEGE**
P.O. Box 1800
Killeen, Texas 76540-9990
1-817-526-1132

**CONTINENTAL AND
NAVY CAMPUSES
CENTRAL TEXAS COLLEGE**
Office of the Dean
P.O. Box 1800
Killeen, Texas 76540-9990
1-817-526-1368/1356

**EUROPE CAMPUS
CENTRAL TEXAS COLLEGE**
Office of the Dean
Yorkhof Kaserne Building 1205
APO New York 09165
(Civilian) 06181-13027/13028
(Military) 322-8219/8871

**NAVY ATLANTIC CAMPUS
CENTRAL TEXAS COLLEGE**
1301 East Little Creek Road, Suite 2
Norfolk, VA 23518
1-804-587-8873

**PACIFIC FAR EAST CAMPUS
CENTRAL TEXAS COLLEGE**
Office of the Dean
Offices of Student Services
Offices of Administrative Services
Camp Market-Building P-1530
Republic of Korea
APO San Francisco, CA 96483
722-3833 (Dean)
722-3814 (Administration)
722-3815 (Student Services)

**NAVY PACIFIC CAMPUS
CENTRAL TEXAS COLLEGE**
4250 Pacific Highway, Suite 122
San Diego, CA 92110
1-619-226-6626

CORRESPONDENCE AND INQUIRIES

Correspondence and inquiries should be addressed to the appropriate office, e.g. Admissions, Records, Financial Aid, etc., as listed in the catalogue, at the location where the student currently attends. Records and transcript service for students currently enrolled in Pacific Far East/Europe will be provided by the Pacific Far East/Europe Campuses.

Students should become familiar with the contents of this catalogue and should bring their catalogues with them to the campus for degree planning and scheduling.

Central Texas College

Continental and International Services

An Operating Unit of the American Educational Complex

Eighth

1989-1991

OFFICIAL CATALOGUE

Accredited By
Southern Association of Colleges and Schools

Programs Approved By
Coordinating Board,
Texas College and University System
Texas Education Agency

Listed In
Report of Credit Given By
American Association of Collegiate
Registrars and Admissions Officers

and
Accredited Institutions of Postsecondary Education by
Council On Postsecondary Education

and
Education Directory of Colleges and Universities by
U.S. Department of Health, Education and Welfare

Member Of
American Association of College Admissions Counselors
American Association of Collegiate Registrars and Admissions Officers
American Association of Community and Junior Colleges
Association of Texas Colleges and Universities
Broadcast Education Association
National Association of Veteran Program Administrators
National Association of Student Financial Aid Administrators
Servicemembers Opportunity College
Southern Association of Collegiate Registrars and Admissions Officers
Texas Association of Broadcast Educators
Texas Association of College Admissions Counselors
Texas Association of Public Junior Colleges
Texas Association of Collegiate Registrars and Admission Officers
Texas Association of Collegiate Veterans Program Officers
Texas Association of Student Financial Aid Administrators

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GENERAL INFORMATION

CONTINENTAL AND INTERNATIONAL PROGRAMS

Central Texas College serves military personnel throughout the world. The main office is located on the Central Texas College Campus at Killeen, Texas. Programs of study vary with each location and not all programs are available at each location. This Catalogue provides information concerning the policies, procedures and programs applicable to off-campus branches and extensions operated outside the State of Texas. Individuals interested in programs which are not locally available should consult with the local Education Services Officer (ESO), Navy Campus Representative, Educational Specialist (NCR), or Central Texas College representative.

HISTORY

To provide increased opportunities in higher education, the voters of the Killeen and Copperas Cove Independent School Districts and the Nolanville Common School District created the Central Texas Union Junior College District in July, 1965. A \$2,000,000 bond issue to construct and equip the campus followed in October, 1965. In January, 1966, Central Texas College opened its first offices in Killeen. In June of that same year, ground-breaking ceremonies were held and the first classes met in September, 1967. Since that time, Central Texas College has expanded to include three Texas Campuses: Central Campus in Killeen, the Fort Hood Campus, and the Service Area Campus. Additionally, a full-service support facility is located in the Killeen Mall. The Central Campus Physical Plant now includes the present thirty-two buildings. The current student population for the three Texas Campuses is approximately 7,000 per semester.

The 560-acre campus, located on U.S. Highway 190 between Killeen and Copperas Cove, Texas, was dedicated "...to the service of the people..." on December 12, 1967, by the 36th President of the United States, Lyndon Baines Johnson.

WORLDWIDE SERVICES

From its beginning in 1967, Central Texas College has provided a wide variety of educational programs to meet the specific needs of its military neighbors at Fort Hood, Texas. Today CTC serves the armed services across the nation and overseas. This commitment to provide expanded education opportunities carries the same thrust of dedication which is characteristic of Central Texas College.

Central Texas College provides the opportunity for higher education to military personnel serving our country in the United States and in foreign lands. Academic and technical-vocational programs are offered by the College at over 200 locations throughout Europe and the Far East, as well as at military bases in the United States and to the United States Navy, Pacific and Atlantic Fleets.

EDUCATIONAL PHILOSOPHY

Central Texas College is dedicated to the philosophy that in a democracy the well-being of the individual, as well as the whole of the society, depends upon the sound moral and educational development of its people. Since education is an individual, evolutionary, and never-ending process, the College curricula are both flexible and extensive.

In order to ensure the fullest service possible to the civilians of the surrounding area, to the personnel of the large military installation adjacent to the Central Campus and to the personnel of military installations around the world, the educational programs of the College are designed to

meet the needs of full-time and part-time students. To accommodate diverse educational needs, Central Texas College provides a variety of educational programs.

The objective of Central Texas College is to become a total learning environment, encompassing traditional and non-traditional forms of education. The guiding principle of the total learning environment is the College's commitment to meet the real educational needs of all the people. The College proposes to make available, in its total environment, the opportunity to achieve success in life, which is the birthright of every American.

EDUCATIONAL OBJECTIVES

Central Texas College meets the varied educational needs of its students by providing the following categories of programs:

1. For students working toward a baccalaureate or professional degree, the College offers a wide range of first-year and second-year courses which transfer to senior colleges and universities.
2. The College offers one-year and two-year programs in technical and occupational fields for students interested in preparing for careers in a variety of business, health, industrial, and other vocational occupations.
3. The College provides general education courses for those students wishing to develop competence, skills, and attitudes essential to effective performance as an individual, as a citizen, and as a productive member of society.
4. For the person wishing to improve job skills or to move into a new career, the College offers credit and non-credit continuing education courses, as well as service programs on cultural, civic, and other topics of community interest. Continuing education services are provided to individual adults, business, industrial, and military organizations.
5. The College provides counseling and guidance services to assist students in defining goals, identifying abilities, and selecting appropriate courses. Placement Services are provided to assist students in locating full-time and part-time jobs while they are attending College and to assist students in securing employment after graduation.

THE CATALOGUE

The catalogue is an official bulletin of Central Texas College containing policies, regulations, procedures, and fees in effect as the publication went to press. The College reserves the right to make changes at any time to reflect current board policies, administrative regulations and procedures, amendments to state or federal laws, and fee changes when required.

Students are urged to study the contents of the catalogue carefully, for they are responsible for observing the regulations contained herein.

EQUAL OPPORTUNITY POLICY

Central Texas College is committed to its policy of equal educational opportunity and administers its educational programs without regard to sex, handicap, race, color, age or national origin in its educational and vocational programs, activities or employment as required by Title IX, Section 504, Title VI.

Central Texas College has established programs to ensure that a lack of English language skills will not be a barrier to admission and participation in all educational and vocational programs.

PROGRAM AND COURSE AVAILABILITY

Programs of study displayed in this catalogue are offered when sufficient interest indicates a level of enrollment required for program continuation. Students desiring to enter specific programs of study are advised to seek confirmation of program availability prior to their first registration.

The College further reserves the right to adjust course scheduling, including class cancellation, when enrollment or other circumstances require this action.

SCHEDULE OF FEES ALL CONTINENTAL AND INTERNATIONAL CAMPUSES

Institutional Challenge Examination Fee—A fee of \$50.00 for each challenge examination, should accompany the Application for Examination.

Certificate Fee—A fee of \$10.00 is payable at the time a student applies for each Certificate of Award. Two certificates are available, Level I and Level II.

Degree Fee—A fee of \$25.00 is payable at the time a student applies for a Degree.

Transcript Fee—The first transcript is issued free of charge. Subsequent transcripts are \$3.00 each.

Returned Check Charge—A charge of \$10.00 is made for checks which have been returned for insufficient funds.

***NOTE:** Refund of Overpayment of transcript or record fees will be made only upon written application of the student.

TEXTBOOK COSTS

Costs are based on publishers' prices plus transportation costs and may vary from term to term. Prices are available from the Central Texas College representative. Textbook costs are not refundable unless the class is cancelled by the College and the book is returned unused and unmarked to the appropriate Central Texas College representative.

ADMISSIONS AND REGISTRATION

HOW TO BEGIN

Counseling

Students wishing to attend Central Texas College should visit the local Education Center or Naval Campus office to consult with the ESO or NCR about educational goals. Education Centers and Naval Campus offices provide diagnostic, aptitude and placement testing to assist students in selecting programs of study and educational goals. Once the student has identified and chosen an appropriate degree and program of study, the admission and registration process may begin.

GENERAL ADMISSION INFORMATION

Requests for application materials or questions concerning admission should be addressed to the Central Texas College personnel serving your location.

Central Texas College is an open-door comprehensive community college. An open-door admission policy is maintained to ensure that all persons who can benefit from post-secondary education have the opportunity to enroll. New students will be admitted to the College providing all admission requirements are met. Admission to the College does not guarantee admission to specific programs and courses.

ADMISSION REQUIREMENTS—ALL STUDENTS

Students who hold diplomas from accredited secondary (high) schools or GED equivalency certificates will be admitted to Central Texas College. Students transferring from another accredited college will be admitted if they are eligible to *return to the institution last attended*. Adults, veterans and military personnel who have not completed a high school program, but who are prepared to undertake post high school studies, may be admitted by individual admission to certain areas of study if, in the judgment of College officials, such study will be of value to the individual. **NOTE:** An adult, for purposes of admission, is defined as an individual 18 years of age or older, U.S. Armed Forces personnel on active duty or veterans eligible for VA educational benefits.

International Students

Local and Third Country National students must provide an official certificate of minimum score of 500 on the Test of English as a Foreign Language in order to be eligible for admission to degree-credit courses and a minimum score of 375 for admission to Developmental Studies courses.

OVERSEAS ADMISSIONS-SPECIAL NOTE: Personnel not sponsored in the overseas command by the U.S. Armed Forces are not normally permitted to attend Central Texas College classes. Applicants may attend classes if local policy permits, but must receive approval from the local ESO or NCR for necessary military and governmental approval prior to being permitted to file application for admission. Active Duty personnel will have priority when enrolling for all classes.

FORMS REQUIRED

In addition to the above criteria, students must complete an Application for Admission form prior to being considered for unconditional admission.

RECORDS REQUIRED

Transcripts And Test Scores

Degree or certificate seeking students must ensure that all records of all previous education must be on file with the Records Office in order to fulfill admission requirements of Central Texas College.

1. **HIGH SCHOOL GRADUATES** Degree/certificate seekers who have not previously completed 12 semester hours of course work from a regionally accredited college or university must submit an official high school transcript.
2. **HIGH SCHOOL EQUIVALENCE GRADUATES** who have not previously completed 12 semester hours of course work from a regionally accredited college or university must submit High School General Education Development (GED) scores.
3. **COLLEGE TRANSFER STUDENTS** seeking certificates or degrees from Central Texas College must provide official transcripts for all regionally accredited college study before official degree plans are provided.
4. **INDIVIDUAL ADMISSIONS STUDENTS** (except transient students) must provide official transcripts from all regionally accredited colleges or universities they previously attended.

NOTE: Students are responsible for requesting their official records be forwarded directly from the issuing institution to the Central Texas College campus serving the student's location. Addresses are listed in the front of the catalogue. Transcripts must bear original mark or seal and signature of the Registrar to be acceptable. If transcripts of previous education are issued to CTC in a student's former name, without a social security number, CTC cannot be responsible for properly identifying the document. Admission requirements are not met until records required are on file with the appropriate campus records office.

Transient Students

Students not seeking a degree or certificate from Central Texas College are not required to provide previous education records, as noted above. Records will be required if student later elects to seek a diploma or certificate.

Readmission Requirements

Students who have attended other institutions during their absence from Central Texas College must provide transcripts from all institutions attended during the absence.

Early Admissions

Early admission offers the opportunity for high school seniors to earn college credits while concurrently enrolled in high school. Early admission is open to any high school senior, subject to the following conditions:

- a. An Early Admission Form with the signatures of high school principal or counselor* and parent or legal guardian must be submitted.
- b. Student must provide an official high school transcript showing that they are a senior.
- c. The student will be expected to adhere to all policies of the College and the high school, to include attendance.

Students who meet the above criteria will be accepted at Central Texas College on individual approval to take one (1) course per term.

***NOTE:** Central Texas College assumes no responsibility for loss of Interscholastic League eligibility of high school students enrolled under this program.

Career Pilot Students

All career pilot students must pass FAA physical exams appropriate to their level of training prior to admission to flight training. Written evidence of FAA medical certification must be presented to the appropriate College official at the time of pre-registration advisement for admission to this department.

UNIFORM APPLICATION OF STANDARDS

The standards of College policy relative to the academic status of the student and all matters relating to the student are uniform at all locations serviced by Central Texas College. The subsequent sections of the catalogue provide information required and unique to Continental and International Campuses.

WHEN TO REGISTER FOR CLASS

Registration Periods

Central Texas College conducts an academic year beginning in September and ending in August. It is based on terms and varies considerably in different locations to meet military schedules. Course lengths are four, six, eight, ten and twelve weeks. Varying course lengths or the special needs of the community may alter the generally established registration periods at any given site. The Education Center publicizes registration periods, term dates, and course offerings. Students should consult their local schedules for times and dates of registration and classes.

Term beginning and ending dates are listed below:

TERM CALENDAR

1989-1990

Term 1	August 13, 1989	thru	October 14, 1989
Term 2	October 15, 1989	thru	December 16, 1989
Term 3	December 17, 1989	thru	March 3, 1990
Term 4	March 4, 1990	thru	May 12, 1990
Term 5	May 13, 1990	thru	August 11, 1990

1990-1991

Term 1	August 12, 1990	thru	October 13, 1990
Term 2	October 14, 1990	thru	December 22, 1990
Term 3	December 23, 1990	thru	March 9, 1991
Term 4	March 10, 1991	thru	May 11, 1991
Term 5	May 12, 1991	thru	August 10, 1991

1991-1992

Term 1	August 11, 1991	thru	October 12, 1991
Term 2	October 13, 1991	thru	December 21, 1991
Term 3	December 22, 1991	thru	March 7, 1992
Term 4	March 8, 1992	thru	May 9, 1992
Term 5	May 10, 1992	thru	August 15, 1992

WHO TO SEE FOR CLASSES

Central Texas College normally assigns a representative to each Education Center or College office where a program is conducted. Information on registration, term dates, evaluations, programs offered and related questions should be directed to the local Central Texas College representative at the Education Center, Navy Campus office or to the local Central Texas College office.

HOW TO SIGN UP FOR CLASSES

Registration Requirements

Official registration with Central Texas College is required before any student may begin course work. The following must be completed before the student will be officially registered:

1. Application for Admission (first registration) at each location
2. Class Registration Form (each registration)
3. Payment of fees and tuition

NOTE: Step 3 may include providing completed military Tuition Assistance forms or completed Veterans Administration forms if this method of financial aid is chosen to pay for course work.

All forms necessary for registration are available from the Central Texas College representative at each location.

LATE REGISTRATION

Late registration is permitted for limited time after class begins. Individuals should consult local schedules for exact dates. Students who complete registration after classes begin are not excused from meeting attendance or academic requirements and must arrange with the instructor to make up missed classes. No students will be permitted to register after the scheduled late registration ends.

CHANGING REGISTRATION

Adding or Dropping Classes

Students wishing to register for additional courses, or change course enrollments after registering, must have the amendments made on the registration card. Such changes must be completed and initialed by the student before the announced end of the registration period.

COURSE ADMISSION

To Be Officially Registered

Students must complete the published registration procedure each term, including payment of all tuition and fees, to gain admission to classes. Installment paying of tuition is not permitted. Students who withdraw are not entitled to remain in class on an unofficial basis. See page 13 for withdrawal grade.

COST OF CLASSES

Tuition And Fees

Tuition for classes at Central Texas College locations outside the Central Campus in Texas vary with the Government contract through which the institution operates. Therefore, both tuition and fees must be adjusted, based on Government contracts and local conditions, during the period this Catalogue is in effect.

Costs of classes to students will vary with the level of support being provided by the sponsoring agency at each campus or site.

Current tuition, fees, and costs of classes can be obtained from the Education Officer, Navy Campus Representative, and the Central Texas College Representative.

PAYMENT

Method Of Payment

Checks or money orders should be made payable to Central Texas College. Central Texas College requires payment of tuition and applicable fees prior to attendance at the first class meeting.

Refunds

The effective date of the withdrawal is the date the withdrawal form is date stamped at the appropriate Education Center or Navy Campus Office and signed by the ESO or designated representative. In all cases, the instructor must sign the withdrawal form, either before or after the effective withdrawal date.

Refunds will be computed from the effective date and will be made according to the following schedule:

- | | |
|------|---|
| 100% | Withdrawal before the first class meeting |
| 75% | Withdrawal if not more than 1/8 of the total class meetings have elapsed. |
| 25% | Withdrawal if more than 1/8 but not more than 1/4 of the total class meetings have elapsed. |
| 0% | Withdrawal if more than 1/4 of the total class meetings have elapsed. |

Refunds will be processed by the Director of Administrative Services after receipt of certification by the Student Services Office that the Application for Withdrawal or the Application for Refund form has been properly completed and processed.

Emergency withdrawal will be considered to be filed as of the date of the emergency. Students must submit written proof of emergency such as military emergency leave orders or medical certification of family emergency. Refund under emergency conditions will follow the refund of tuition schedule above.

STUDENT FINANCIAL AID

Information and application forms for Military Tuition Assistance and VA benefits are available at Military Education Centers and Navy Campus offices. The two forms of student financial aid are not part of the same program. Students interested in using such aid should be aware of the liabilities incurred.

TYPES OF AID

PELL Grant

The PELL Grant is authorized by the Higher Education Act Amendments of 1972 to assist students in pursuing their first undergraduate degree. The intent of the PELL Grant is to provide a foundation of financial assistance to supplement the cost of postsecondary education. The amount of the PELL award is based on the actual cost of the student's education while attending Central Texas College. Applications are available at the Military Education Center or Navy Campus office. Brochures describing various financial aid and VA programs are available to all students, Education Centers, and Navy Campus offices.

Guaranteed Student Loan

An undergraduate student may borrow up to \$2,625 per academic year with an aggregate loan limit of \$17,250. These are loans obtained by the student from a lending agency outside the college such as a bank, savings and loan association, credit union, etc., which are insured by the Federal Government.

The interest rate is 8% per annum simple interest. The Government will pay the interest charge while the student is enrolled at least half-time. Repayment begins six months after leaving school.

Interested students should obtain detailed information and application forms directly from lending institutions or Student Services offices.

Loans must be repaid. Students who are awarded Stafford Loans (GSL) must attend a pre-loan counseling session. This session provides additional information about the loan programs, such as monthly repayments, deferments, grace periods and cancellations. The applicant will be advised of the disbursement procedures during the counseling session.

Veterans' Benefits

Most Central Texas College programs are approved for those who wish to attend and receive benefits under the Veterans Readjustment Benefits Act of 1966, Post-Vietnam Era Veterans Educational Assistance Program, The Veterans' Educational Assistance Act of 1984, Chapter 106-Reservists' Education Bill, Chapter 30, VA Education Bill of 1986 and dependents qualified for VA educational benefits.

Military Tuition Assistance

Many military personnel, whether or not eligible to participate under the Veterans Readjustment Benefits Act, may wish to attend Central Texas College under the Tuition Assistance Program.

Active duty military students approved under this program will have a portion of tuition costs paid by the government but will be responsible for paying the remaining amount as well as all fees and book costs.

Each recipient should make sure that he or she is informed of all conditions on the Tuition Assistance agreement. Information about such conditions may be obtained at the Military Education Center or Navy Campus office.

The Air Force, Army, Marines and Navy have Tuition Assistance programs. Students attending classes at Central Texas College should complete their appropriate service form and deliver it to the appropriate Education Center or Navy Campus office. The signature of the student's unit commander (or authorized representative) and the approving signature of the appropriate Education Center or Navy Campus representative are required.

Department Of Defense Civilians

The applicant is responsible for securing Tuition Assistance from the employer. Forms and procedures for requesting Tuition Assistance vary with each branch of service. Please consult the local ESO, NCR or Civilian Personnel Office.

One copy of the approved Tuition Assistance form must be provided to the College at the time of registration.

Satisfactory Progress

Central Texas College students who are receiving financial aid are required to make adequate progress toward a degree objective in order to remain eligible to receive financial aid.

The following satisfactory progress standards are applicable to all students who receive financial aid at Central Texas College:

- a. The maximum time frame for the completion of a degree program is the equivalent of six 12-week or 16-week semesters of full-time enrollment. This time frame includes the entire attendance history of a student regardless of whether financial aid was or was not received.
- b. The time frame for students enrolled full-time (enrolled in six or more credit hours) shall be no more than twelve 8-week terms of full-time enrollment to complete a degree program.
- c. Half-time students (enrolled in three to five credit hours) shall have twenty-four 8-week terms of half-time enrollment to complete a degree program.

Satisfactory progress can be satisfied with any combination of full-time or part-time enrollment. Students may refer to their degree plan, college catalogue, or see a counselor for further details regarding their specific academic program.

RECORDS ACCESS

Student Records

In compliance with the Family Educational Rights and Privacy Act of 1974, information classified as "directory information" may be disclosed to the general public without prior written consent from a student, unless the Central Texas College Records Office is notified in writing, by the student, prior to the 6th class day of each term.

Access to any other records by persons other than the student will be limited to those persons specified in the statute. Records will be maintained of persons granted such access.

Students may inspect and review their education records upon written request to the appropriate record custodian. For more information contact the CTC representative.

COLLEGE POLICIES AND REGULATIONS

HOW MANY CREDIT HOURS SHOULD YOU TAKE

Academic Load

Students are responsible for determining the academic load they can master during each term. Typical course loads, based on eight-week schedules, are as follows:

Half (1/2) time	3 semester hours
Three quarter (3/4) time . . .	5 semester hours
Full (1/1) time	6 semester hours

NOTES (Academic Load):

1. For schedules other than eight weeks, consult with the Central Texas College representative.
2. Final determination of academic load for purposes of VA benefits payments is the prerogative of the Veterans Administration, not the Institution. Questions about VA payments must be sent by the student directly to the VA office serving the student's campus.

Working students, and students who may have difficulty with college level courses, are encouraged to consult with Central Texas College personnel or the Education Center or Navy Campus counselors for advice on the number of hours that should be taken.

ATTENDANCE POLICY

Absences And Tardiness

Students are required to regularly attend all classes in which they have enrolled. Students are required to be in classrooms on time.

Absences

Absences for any reason negatively affect the learning process, the individual student, and the class.

When absence from class is necessary for any reason, the student has the responsibility to arrange to make up assignments missed during the absence.

Students are required to notify instructors in advance of any absence to retain the privilege of submitting make-up work without grade penalty.

Excessive Absences

Absences from classes for any reason must not exceed College standards. In general, students may be administratively withdrawn from any class with the grade of "F" when their unexcused absences reach a total equal to 12.5% of the class hours for the course. *Example: Students attending a 48-hour class during an 8-week period normally meet 180 minutes each session for 16 sessions. Those students accumulating two (2) unexcused absences are subject to Administrative Withdrawal since the total unexcused absences equals 12.5% of class hours for the course. Students attending 96-hour classes are subject to administrative withdrawal after they have accumulated 12 hours of unexcused absences.*

The following specific rules apply to absences:

1. A class meeting of 50 minutes equals 1 absence.
2. Beginning the first scheduled day of class meeting, instructors are required to keep attendance records.
3. An administrative withdrawal may be initiated when the student fails to meet College attendance requirements. The course will be noted as an "FN" on the roll and record book, with a final grade of "F" on the transcript.
4. As a matter of policy, excused absences are not provided for any reason by College employees other than instructors. Regardless of the reason for the absence, students are responsible for completing all course work covered during any absence.

ARE YOU OFFICIALLY ENROLLED

Class Membership

The only way to become an official member of a class at Central Texas College is by following the established procedures for registering and paying tuition and fees. No person is officially enrolled until all charges have been paid in full. Installment payment of tuition is not permitted. When a student officially withdraws from a course, that person is not entitled to remain in class on an unofficial basis. Only those students who are officially enrolled have the privilege of attending classes.

YOUR CLASSIFICATION IS

FRESHMAN—with thirty semester hours or less recorded on your permanent record.

SOPHOMORE—with thirty-one semester hours or more recorded on your permanent record.

RESIDENT CREDIT

All Campuses

A student may earn an Associate Degree entirely through study at campuses outside the State of Texas or in combination with study at the Texas Campuses. At least fifteen (15) semester hours must be earned by formal study at Central Texas College, regardless of campus location. Courses offered at all Central Texas College campuses meet the same academic standards and carry the same resident credit.

CREDIT TRANSFERS

To Other Colleges And Universities

Central Texas College is accredited by the Southern Association of Colleges and Schools. Credits earned at Central Texas College are transferable to other institutions in accordance with policies of the receiving institution. Students who plan to transfer to other institutions for degree completion or to pursue a more advanced degree are advised to consult with officials of the receiving school for degree requirements and transfer policy. See also the following sections for more information about credit transfers: "SERVICEMEMBERS OPPORTUNITY COLLEGES" and "SOCAD/SOCNAV DEGREE COMPLETION AGREEMENT."

CREDIT TRANSFER LIMITS

Maximum Hours For Transfer To Other Colleges

As a general rule, senior colleges will accept a maximum of sixty-six (66) semester hours of transfer credit from junior colleges. A student should not take more than this number of hours with the objective of transfer of credit unless written permission is secured from the chosen senior college.

HOW TO CHOOSE COURSES

Course Numbers

The unit of credit for Central Texas College is the Semester Hour. Course numbers contain four digits. The first digit "1," reading from the left, indicates a freshman level course. If the first digit is a "2," it indicates a sophomore level course. If the first digit is a "0," it indicates a developmental course. The second digit indicates the semester hour value of the course. The third and fourth digits indicate the generally recommended sequence in which the courses are to be taken.

WHAT TO DO ABOUT COURSE PREREQUISITES

Courses Out Of Sequence

Students who, for scheduling reasons, find it desirable to take an advanced course prior to completing the prerequisite must secure, in writing, approval from the appropriate College representative prior to registering for the course. Failure to obtain approval could result in loss of credit toward the degree. The final responsibility for taking advanced courses without completing the required prerequisite rests with the student.

HOW YOU RECEIVE GRADES

Grade Reporting

Grades are assigned by faculty members based on class and laboratory performance, test scores and other departmental academic requirements. Students are encouraged to become familiar with each instructor's class syllabus and requirements for grades.

Grades are reported by two methods:

1. Grade Reports are provided by faculty members at the end of each course. This method of reporting grades permits students to judge their performance at the end of each course.
2. Transcripts are provided by the Records Office and are the official report of completed courses, grades and credit awarded by the College. For information on ordering transcripts, see page 17.

Grades And Point Average

The grading system at Central Texas College is as follows:

Numerical Value	Grades	Quality Points
90-100	A—Superior	4
80-89	B—Above Average	3
70-79	C—Average	2
60-69	D—Passing, but Unsatisfactory	1
	F—Failure	0
	I—Incomplete	0
	N—No Credit	0
	P—Completed	0
	W—Withdrawal	0
	X—Non-attendance	0

Grade Designations

“D”

Students receiving a “D” grade in prerequisite courses are advised not to enroll in succeeding courses until they complete prerequisite course work with at least a “C” grade. A “D” grade will not be acceptable toward graduation for any course in the major in the Associate in Arts, Sciences or Applied Science degree programs.

“F”

Failure may be awarded for lack of academic progress or failure to attend. “F” grades may not be removed with “W” or “I” grades. Students who elect to repeat a course for which they have received an “F” must re-register, pay full tuition and fees and repeat the entire course.

“I”—Incomplete

An incomplete grade may be given in those cases where the student has completed the majority of the course work, but because of personal illness, death in the immediate family or military orders, the student is unable to complete all the requirements for the course. Notice of absence with supporting documentation may be required by the instructor. Students are requested to notify instructors in advance of absence whenever possible. The instructor makes the final decision concerning the granting of the Incomplete grade.

In awarding the grade of “I,” the instructor may set a deadline for completing the remaining course requirements. In no case will the deadline exceed 90 days after the scheduled end of the class. It is the responsibility of the student to arrange with the instructor for the assignment of work necessary to complete the course and change the “I” grade within the time specified. An “I” grade will be changed to a grade of “F” unless completed within 90 days and cannot be removed

by the grade of "W." If a student elects to repeat the course, the individual must register, pay full tuition and fees and repeat the entire course.

NOTE: In calculating the grade-point average for graduation or other purposes, the "I" grade is calculated as an "F." *Students must complete course requirements to remove the "I" within the period specified above. Military branches may prescribe a lesser period of time to remove an incomplete grade than does Central Texas College, and the Service directive related to reimbursement will apply to tuition assisted students. Servicemembers are, therefore, urged to consult with their Education Officer or Navy Campus Representative.*

"N"—No Credit

The grade of "N" is reserved for use with developmental and designated non-traditional, modular courses and will be awarded to students who have made satisfactory progress, but lack the completion of certain modules required for course completion. The grade of "N" indicates that the student must enroll the following semester and complete those modules for a final grade in the course. Re-enrollment requires the payment of usual tuition and fees for the course.

"P"—Completed

The grade of "P" is reserved for use with developmental and designated non-traditional, modular courses and will be awarded to students who have satisfactorily mastered all the modular course requirements. When used with credit granting courses, earned credit hours will be displayed on the transcript. Quality points and grade point calculation are not computed.

"W"—Withdrawal

Students who officially withdraw by the scheduled deadline will be awarded the grade of "W," provided the student's attendance and academic performance are satisfactory at the time of official withdrawal.

"X"—Non-Attendance

The grade of "X" is reserved for use with developmental and designated non-traditional, modular courses and will be awarded to students who have failed to make satisfactory progress due to failure to attend.

Grade Point Averaging

A student's grade point average is calculated by dividing the total quality points by the total semester hours attempted. Grades of "W," "N" and "P" are not included in these calculations. *Grades from Developmental Courses are not included in these calculations.*

Grades And Financial Aid

The student attending Central Texas College with Military Tuition Assistance, Financial Aid or VA Benefits should be familiar with the requirements and possible obligations incurred, particularly upon receiving a grade of "F," "I," "W" or "N."

Change Of Grades

Students who feel that there has been a computational error in grading must immediately contact the instructor for the course in question. Students must bring this matter to the attention of the instructor involved no later than 90 days after the end of the course in order for a grade change to be considered. Administrative personnel of Central Texas College are not authorized to change an instructor's grade.

Repeating A Course

The total hours earned toward a degree are not increased if a student repeats a course in which a passing grade has already been earned. Through repeating a course, only the last grade earned is utilized in computing the grade point average. Honors designation at graduation considers all grades, including repeated courses. A student who repeats a course should notify the Records Office for recomputation of cumulative grade point average.

ACADEMIC STANDARDS

Student Responsibility

Students are expected to be aware of their grade point average. The method of calculation of grade point average is noted above. Students are encouraged to calculate their grade point average frequently. Students are responsible for knowing whether or not they are eligible to continue in the College. An ineligible student who nevertheless registers in the College shall be withdrawn and the student shall not receive special consideration for the plea of lack of knowledge of scholastic status. Students who receive grades below "C" (2.0) for any course should seek academic counseling to determine the causes of unsatisfactory work and receive recommendations for improving grades in subsequent classes.

GRADE REQUIREMENTS

Minimum For Graduation or Satisfactory Progress

GRADUATION—Requires an overall grade point average of 2.0 to include a minimum 2.0 GPA with Central Texas College. Associate degrees in Arts, Science or Applied Science require a "C" for each course in the major.

SATISFACTORY PROGRESS—Students at Central Texas College must achieve a 2.0 cumulative grade point average to maintain satisfactory progress toward graduation.

IF YOU DO NOT MAKE THE GRADE

COUNSELING: Students who fail to maintain a 2.0 grade point average during their initial seven semester course hours will be required to participate in an academic counseling session prior to re-enrollment.

PROBATION will be imposed after the first seven semester hours attempted when the student fails to maintain a 2.0 cumulative grade point average. Students who fail to achieve a 1.0 grade point average during any term will be placed on probation if their cumulative grade point average is 2.0 or higher. Probation will be imposed during the next term in which the student registers. Students on probation cannot register for classes until the requirements listed below are completed for Return To Class After Probation.

Students who do not maintain a "C" or 2.0 grade point average during the probation period will be suspended and cannot register for classes until the requirements listed below are completed for Return To Class After Suspension.

SUSPENSION will be imposed for students who have attempted 8 or more semester hours and who previously failed to maintain a 2.0 cumulative grade point average or for students who fail to achieve a 1.0 grade point average during the term when the resulting cumulative grade point average is below 2.0. Suspended students may register for classes upon completion of the requirements listed below for Return To Class After Suspension.

Students who use financial aid or VA benefits and who are suspended will be reported to the Financial Aid Office or the Veterans Administration and must also meet financial aid or VA requirements prior to reinstatement of financial aid or VA benefits.

HOW YOU MAY RETURN

Return To Class After Probation

Students on probation must sign a probation agreement and receive re-entry counseling.

Return To Class After Suspension

Students attending Central Texas College who have been suspended may be permitted to re-enter the College on an individual petition basis. Students granted immediate re-entry must:

1. Receive counseling and be recommended, in writing, by the ESO or NCR for return to classes.
 2. Complete a re-entry petition agreement and send it with the ESO or NCR recommendation to the Central Texas College Director.
- Students who have been suspended once may be re-admitted under PETITION and must meet academic standards required while on petition re-entry status.

RE-ENTRY PETITIONS WILL BE PROVIDED TO EACH STUDENT AT THE TIME OF SUSPENSION NOTIFICATION.

ARE CLASSROOM VISITS ALLOWED

Visitors In Class

Permission to visit a class may be granted by the local College Administrator. Such permission carries with it permission to listen and observe, but not to enter into class discussion or laboratory work. Permission to visit is not to be considered auditing on a full-time basis, nor will permission be granted to allow small children in class. Parents must make arrangements for care of their children during class meetings. College policy does not permit a student to audit courses.

REGULATIONS GOVERNING STUDENT ACTIVITIES

STUDENT RESPONSIBILITIES

Address Change

Students attending Central Texas College must keep current permanent and local mailing addresses on file with the College. Address changes must be reported promptly to the appropriate Campus Records Office. Students are responsible for all communication mailed to the last address on file.

Alcohol And Illegal Substances

Students are not to use intoxicating beverages, narcotics or non-prescription drugs in a Central Texas College classroom or while attending any school sponsored activity. Any student in a Central Texas College classroom or administrative office or at a school-sponsored function who is under the influence of or in possession of any of these items will be subject to disciplinary dismissal from the College.

Anyone found in possession of, using or distributing illegal drugs or aiding those involved in such activities will be subject to immediate expulsion from the College.

Class Behavior

Generally, students attending Central Texas College are in class for intense personal and professional reasons. To facilitate instruction and learning, students are expected to maintain a mature, earnest and interested attitude in the classroom. The College will not tolerate student behavior which disrupts the class or which attempts to discredit the instructor, the course material or other students. Students who seek to disrupt classes or discredit the course or other students will be asked to cease such disruptions. *If the student fails to do so, she/he will be dropped from the class with a grade of "F."*

Falsification Of Records

Students who knowingly falsify College records or who knowingly submit any falsified records to the College, are subject to disciplinary action which may include suspension or expulsion from the College.

Harassment

Harassment, whether verbal or by action, by any student enrolled at Central Texas College of any member of the student body, faculty, administration or any other Central Texas College employee will be considered a serious breach of discipline and shall be treated accordingly.

Any action, whether in the classroom or laboratory, at the administrative offices or at a school approved activity, subjecting a person to humiliation, indignity, discomfort, or that interferes with any process in which the College is engaged, may be considered harassment.

Scholastic Honesty

All students are required and expected to maintain the highest standards of scholastic honesty in the preparation of all course work and during examinations. The following will be considered examples of scholastic dishonesty:

1. *Plagiarism*—The taking of passages from writing of others without giving proper credit to the sources.
2. *Collusion*—(a) using another's work as one's own or (b) working together with another person in the preparation of work, unless such joint preparation is specifically approved in advance by the instructor.
3. *Cheating*—giving or receiving information on examinations.

Students guilty of scholastic dishonesty will be administratively dropped from the course with a grade of "F" and subject to disciplinary action.

Textbooks

Students are expected to buy the textbooks designated for each course. Textbooks may be purchased from the Central Texas College representative during the registration period. This period is normally two weeks prior to class starting date and during the first week of classes. After the registration period, students may obtain textbooks by contacting a Central Texas College representative or by sending a check or money order in the amount of the cost of the textbook plus ten percent for handling and shipping to: Central Texas College, Attn: Book Department. Addresses for the Book Department serving your area are available from Central Texas College personnel.

STUDENT DISCIPLINE

Philosophy

Students are admitted to Central Texas College for the purpose of educational, social, and personal enhancement. As students, they have rights, privileges, duties, and responsibilities, as prescribed by State and Federal Constitutions and statutes and policies of the Governing Board of the Institution.

For those few students who fail to understand and accept their role in an educational institution, the College has prescribed procedures for counseling and disciplinary action which are designed to help the students in every way possible. In essence, the disciplinary procedures are a part of the learning process for students and students will be suspended or expelled from the College only if they fail to respond positively to disciplinary procedures.

Due Process

Further information concerning due process procedures may be requested from Central Texas College personnel.

Disciplinary Action

Disciplinary action may be an oral or written reprimand, disciplinary probation, suspension or expulsion from the College.

Students on disciplinary probation may receive no honors from Central Texas College. The probation status is permanent unless the student has earned the privilege of being released from disciplinary probation.

HOW TO OBTAIN TRANSCRIPTS

Transcript Ordering

A student's records are considered confidential in nature. Convenient forms for ordering of transcripts are available from the Central Texas College personnel at local education centers and Navy campuses served by the College.

The first transcript is issued free of charge. Graduates are provided an information transcript free of charge upon graduation. The fee of \$3.00 for all other transcripts must accompany the written request signed by the student.

The transcript of College work is an official copy of the student's permanent record bearing the College seal and official signature. Copies of a student's transcript are available from the transcript office upon written request signed by the student.

Requests for transcripts should be addressed to the Campus Student Services Office for students attending in Europe or Pacific Far East Campuses. All other requests should be sent to the Central Campus address. Addresses are listed in the front of this catalogue. Transcript requests should include full name, social security number, date of birth, last month, year, and location of attendance, as well as the complete address to which the transcript is to be sent.

Students departing Central Texas College locations must notify the administrative office of their departure to ensure their records are transferred to the System Office at Killeen, Texas. Records and transcript services will be provided through the System Registrar. Evaluations and graduation applications will be processed through the Dean of Student Services Office.

The registrar may deny a student's transcript request if the student has an outstanding obligation to the College. The obligation may be due to a library fine, parking ticket, bad check, non-repayment of Financial Aid or failure to comply with admissions requirements.

NOTE: Records of students attending campuses outside of Texas are maintained at those campus offices until the branch campus is informed by the student, in writing, that the student has moved. Academic records are then transferred to the Killeen, Texas, Central Campus office.

NOTE: Transcripts may be provided only upon the written request of the student.

Official Withdrawal Policy

Any student who desires to, or must, withdraw from a course after the first scheduled class meeting must file an *Application for Withdrawal* or an *Application for Refund with the instructor*. Additionally students must file with the Education Services Officer or Navy Campus Representative. Applications for Withdrawal or an Application for Refund will not be accepted after the close of business on the last working day before the last week of class. Also see previous sections entitled "W," "WITHDRAWAL" and "REFUNDS."

Students using Financial Aid, Military Tuition Assistance, VA benefits or other than personal funds may be required to repay tuition and fees to the funding agency. For specific repayment requirements, students are referred to the Student Services office. Military Tuition Assistance students are referred to the Military Education Center or Navy Campus office. Students who are administratively withdrawn from classes without officially withdrawing will receive an "F" grade and are ineligible for refunds.

A student may not withdraw from a class for which the instructor has previously issued the student a grade of "F" for non-attendance.

Emergency withdrawal will be considered when documentary evidence is presented. Also see Refunds, page 7.

CERTIFICATE AND DEGREE REQUIREMENTS

WHAT DEGREES ARE OFFERED

Central Texas College confers the Associate in Arts, the Associate in Science, the Associate in Applied Science or the Associate in General Studies degrees upon students who have completed and successfully passed all the minimum and specific requirements for graduation. The minimum requirements for each degree are listed below. To earn a degree, a student must also complete the specific degree requirements in the curriculum plan for his/her major field of study as shown in the programs of study. Except for the Associate in General Studies Degree, a student may not use the minimum requirements listed below to "tailor" his/her own degree. It is the student's responsibility to make application for the degree. Each degree candidate must earn a minimum of 15 semester hours at Central Texas College classrooms. No designation of a program discipline will be written on the face of any Central Texas College degree or certificate.

A person may normally be awarded one degree from Central Texas College. Students wishing to be awarded a second degree must satisfy all requirements for the second degree, including at least 12 additional semester hours of traditional courses in residence at Central Texas College after degree requirements for the first degree have been met. This requirement is in addition to those requirements already completed for the award of the first degree. The Associate in General Studies degree may not be awarded more than once to any student.

MINIMUM REQUIREMENTS FOR

Associate In Arts Degree

Complete a minimum of 65 semester hours which must include:

1. Twelve semester hours of communications to include a, b and c:
 - a. ENGL 1301 and 1302.
 - b. Three semester hours of ENGL 2301, 2302, 2303, 2304, 2305 or 2306.
 - c. Three semester hours of speech.
2. Three semester hours of humanities or fine arts (see page 25.)
3. Three semester hours of mathematics, MATH 1302 or higher.
4. HIST 1301 and 1302.
5. GOVT 2301 and 2302.
6. Eight semester hours of foreign language (1401, 1402 sequence).
7. Six semester hours of natural science.
8. Four semester hours of physical education from activity courses.
9. Four semester hours of computer science.
10. PSYC 1101.
11. A minimum of 18 semester hours of sophomore courses.
12. A minimum of 15 semester hours credit earned within the Central Texas College system.
13. All required courses in the major as listed in the college catalogue.
14. Satisfy a, b and c:
 - a. A minimum overall grade point average of 2.0 ("C" average).
 - b. A minimum of 2.0 ("C") on each course in the major.
 - c. A minimum of 2.0 ("C") with Central Texas College.
15. Meeting all other College and departmental requirements.

Associate In Science Degree

Complete a minimum of 65 semester hours which must include:

1. Twelve semester hours of communications to include a, b and c:
 - a. ENGL 1301 and 1302.
 - b. Three semester hours of ENGL 2301, 2302, 2303, 2304, 2305 or 2306.
 - c. Three semester hours of speech.

2. Three semester hours of humanities or fine arts (see page 25.)
3. HIST 1301 and 1302.
4. GOVT 2301 and 2302.
5. Twelve semester hours of laboratory science (1401, 1402 sequence.)
6. COSC 1403 or MISC 1451 (additional hours of computer science courses are recommended.)
7. Six semester hours of mathematics, MATH 1302 or higher, excluding MATH 1305, 1306 and 1309.
8. Four semester hours of physical education from activity courses.
9. PSYC 1101.
10. A minimum of 18 semester hours of sophomore courses.
11. A minimum of 15 semester hours credit earned within the Central Texas College system.
12. All courses in the major as listed in the college catalogue.
13. Satisfy a, b and c:
 - a. A minimum overall grade point average of 2.0 ("C" average.)
 - b. A minimum of 2.0 ("C") on each course in the major.
 - c. A minimum of 2.0 ("C") with Central Texas College.
14. Meeting all other College and departmental requirements.

Associate In General Studies Degree

Complete a minimum of 65 semester hours, which must include:

1. Communications to include either a or b:
 - a. ENGL 1301 and three semester hours of oral communications.
 - b. ENGL 1309.
2. Three semester hours of humanities or fine arts (see page 25.)
3. Three semester hours of mathematics, MATH 1301 or higher, excluding MATH 1307.
4. HIST 1301 and 1302.
5. GOVT 2301 and 2302.
6. Three semester hours of computer science (excluding COSC 1302) or microcomputer technology selections.
7. Two semester hours of physical education from activity courses.
8. PSYC 1101.
9. A minimum of 18 semester hours of sophomore courses.
10. A minimum of 15 semester hours earned within the Central Texas College system.
11. All courses in the major as listed in the college catalogue.
12. A minimum overall grade point of 2.0 ("C" average), to include a minimum 2.0 ("C" average) on all courses taken with Central Texas College.
13. Meeting all other College and departmental requirements.

Associate In Applied Science Degree

Complete a minimum of 65 semester hours which must include:

1. Communications to include either a or b:
 - a. ENGL 1301 and three semester hours of oral communications.
 - b. ENGL 1309.
2. Three semester hours of humanities or fine arts (see page 25.)
3. Three semester hours of mathematics, MATH 1301 or higher.
4. Three semester hours of social or behavioral science.
5. Three semester hours of computer science (excluding COSC 1302) or microcomputer technology selections.
6. PSYC 1101.

7. A minimum of 36 semester hours of technical courses in the major or a closely related field.
8. A minimum of 18 semester hours of sophomore courses.
9. A minimum of 15 semester hours earned within the Central Texas College system.
10. All courses in the major as listed in the college catalogue.
11. Satisfy a, b and c:
 - a. A minimum overall grade point average 2.0 ("C" average.)
 - b. A minimum of 2.0 ("C") on each course in the major.
 - c. A minimum of 2.0 ("C") with Central Texas College.
12. Meeting all other College and departmental requirements.

Certificate Of Completion

A Certificate of Completion will be awarded to students who fulfill the curricular requirements of special courses and programs. Minimum residency and GPA as listed for degree programs is required.

Transferability Of Courses

Students are urged to consult the catalogue of the institution to which he/she may transfer for the detailed information concerning course work transfer. This catalogue should be used by the student as the basis for course planning. Courses taken in Developmental Studies may not satisfy degree requirements at receiving institutions.

Developmental Studies

The Developmental Studies courses offered by the College are designed to provide means for students to remove specific deficiencies or provide refresher course work prior to attempting academic, occupational or technical programs.

Students on academic probation or suspension may be required to complete Developmental Studies courses to satisfy probation or suspension re-admission requirements.

DEVELOPMENTAL STUDIES COURSES MAY NOT BE USED TO SATISFY DEGREE REQUIREMENTS AND CANNOT BE COUNTED IN THE GRADE POINT AVERAGE AT CENTRAL TEXAS COLLEGE.

HOW TO EARN A CERTIFICATE

Certificates Conferred

Since the duties of military personnel normally prohibit them from full-time student status, the College provides indicators of progress toward the Associate Degree in the form of certificates. The College presents the Certificate of Award at two levels, 15 hours and 30 hours, to indicate skills obtained by the student through course work as outlined in the program chosen by the student.

The student is eligible to receive the 15-hour Certificate of Award upon completion of 15 semester hours of credit in one program area. Nine of these hours must be taken with Central Texas College by traditional classroom methods including video study. An additional 15 semester hours of credit in the same program area of study will qualify the student for the 30-hour Certificate of Award. To receive the certificate, the student must have a minimum 2.0 GPA.

WHEN ARE CERTIFICATES AND DEGREES AWARDED

Central Texas College awards certificates and degrees each year in December, May and August.

HOW TO APPLY FOR CERTIFICATE OR DEGREE

Request for certificate or Request for degree, with appropriate non-refundable fees, must be submitted to appropriate Central Texas College office by:

	DEADLINE
Fall Semester–December Graduation	October 1st
Spring Semester–May Graduation	February 1st
Summer Semester–August Graduation	June 10th

NOTE: All College entrance and course requirements must be complete prior to certificate or degree award. Request for Certificate or Request for Degree received from students who have not completed course requirements and who are not enrolled in the remaining courses by the date specified above will not be processed. Official transcripts or GED scores from previously attended institutions, if applicable, must be on file in the Central Texas College Records Office by the above dates.

Any student who fails to meet the above listed graduation deadlines will be processed in the next degree order time frame. NO STUDENT will be denied a graduation appointment. The graduation date on the certificate or degree must conform with the dates listed above.

Replacing A Lost Certificate or Degree

If a certificate or degree has been lost, stolen or damaged, a Request For Replacement may be obtained. For more information, contact the Central Texas College representative. An appropriate fee is required for the replacement of a certificate or degree.

WHEN IS COMMENCEMENT HELD

Graduation

Central Texas College holds one graduation exercise annually for each branch campus. Degrees and certificates will be awarded three times a year for students who by virtue of military duties or other valid reasons, are unable to attend the annual graduation exercise.

HONORS

Graduation With Honors

Candidates for degrees from Central Texas College may graduate with HIGHEST HONORS or HONORS based upon the following criteria:

1. To graduate with HONORS a candidate must have a 3.5 grade point average on a 4.0 scale with no grades below "B" on all course work taken. In computing the candidate's grade point average for HONORS, the grades in all courses taken at Central Texas College, as well as courses transferred from other accredited institutions of higher learning, are included. A repeated course will not clear the graduate for HONORS; however, the GPA will reflect only the repeated course in the final GPA.
2. In any graduating class the student(s) with the highest grade point average and who meets all other requirements above will be designated as graduating with HIGHEST HONORS.
3. Public recognition for graduation with HONORS or HIGHEST HONORS is conferred only when the student participates in the formal commencement ceremonies.
4. To qualify for HONORS consideration, students must have earned a minimum of 30 semester hours of traditional study with Central Texas College.

EVALUATION OF PREVIOUS EDUCATION

Transfer Students

Transfer of credit from accredited colleges and universities may be accepted when the grade earned was "C" or better and the course work applies to the student's curriculum. Passing grades lower than "C" may be considered for transfer in accordance with current evaluation procedures

and curriculum requirements. A grade of "D" will not be accepted in transfer in major degree requirements. Students on suspension from other colleges must be eligible to return, on probation, to the suspending institution.

Due to the rapid changes taking place in the technological field today, course work taken in a major field of study or courses directly related to that major field may not be accepted in transfer to satisfy specific Associate in Applied Science degree requirements. Acceptance of course credit in transfer for the above mentioned programs must be approved by appropriate Departmental Managers when course work was completed seven years or longer before the student entered the Central Texas College program of study.

Non-Traditional Education

Central Texas College recognizes that each student's educational needs, goals and experiences are unique and that individuals are proficient in many areas of college work that are not formally documented on transcripts. It is the policy of the College to recognize non-traditional learning experiences and to award course credit in all cases where such credit is appropriate. In keeping with this policy, Central Texas College has established the Individualized Career Evaluation Process (ICEP).

The purpose of ICEP is to systematically correlate business, industry, government, and military education received by non-traditional methods with institutional curricular requirements.

All students, including military and former military personnel, are eligible for credit consideration based upon documentation of their previous learning experiences.

The non-traditional methods usually considered applicable toward a degree at Central Texas College are:

1. The Defense Activity for Non-Traditional Educational Support (DANTES) courses and Subject Standardized Tests (see NOTE below.)
2. College Level Examination Program (CLEP)—both the General Examination and Subject Examination (see NOTE below.)
3. Institutional Course Challenge Examinations—Students may request, through the appropriate Department Manager, permission to take challenge examinations for certain courses. Students must not have previously enrolled in the course for college level credit and must have completed a minimum of six semester hours in residence with Central Texas College with a minimum 2.0 grade point average. Those who do not make a grade of "A" or "B" will not be permitted to repeat the examination for that course at a later time. To obtain credit, the student must pass the examination with a grade of "A" or "B," have completed a minimum of 6 semester hours of course work at Central Texas College with a minimum 2.0 grade point average, and submit an application for credit award.
4. Credit for military schools attended, as recommended by the American Council on Education, earned through Community College of the Air Force and recognized by Central Texas College.
5. Credit for military service basic training.
6. MOS Training and Experience, as recommended by the American Council on Education and recognized by Central Texas College.
7. American College Testing Program-(ACT) (see NOTE below.)
8. College Board Admission Testing Program (see NOTE below.)
9. Correspondence Extension Courses offered by accredited institutions which are members of the National University Extension Association.
10. Other—To include certain types of civilian training and specialized testing.

NOTE: To obtain credit, the student must pass the exam, apply for credit, and have completed a minimum six semester hours of course work at Central Texas College with a minimum 2.0 grade point average. Tests taken in excess of seven years prior to the student's completion of six semester hours in residency with Central Texas College will not be eligible for credit consideration.

Evaluation Procedures

Curriculum plans outlining accepted transfer and non-traditional credit as well as remaining requirements are available from the College, Military Education Centers, or the Navy Campus advisors upon the student's request.

Evaluations and final degree plans are provided upon receipt of all official transcripts and documents. Evaluated credit must be validated through successful completion ("C" grade or higher) of a minimum of six semester hours of traditional credit earned at Central Texas College. Students on financial hold will not be eligible for evaluation of non-traditional educational experiences until the financial hold is cleared.

Application for a final degree plan may be made by submitting an Evaluation Request form to Evaluations, Central Texas College, at the administrative office serving your area. Addresses are listed in the front of this catalogue.

Evaluated credit awarded by Central Texas College applies to its programs of study and may transfer to other institutions according to the policies of the receiving institution. Students planning to transfer to other institutions should consult with those institutions regarding their policies on acceptance of evaluated credit.

SERVICEMEMBERS OPPORTUNITY COLLEGE—Because of its efforts to serve the educational needs of servicemembers, Central Texas College has been designated a Servicemembers Opportunity College. As a member of the Servicemembers Opportunity College Associate Degree (SOCAD and SOCNAV) program, Central Texas College has committed itself to fully support and comply with SOC Principles and Criteria. Through this commitment, Central Texas College ensures that:

- Servicemembers share in the postsecondary educational opportunities available to other citizens.
- Servicemembers are provided with appropriately accredited educational programs, courses, and services.
- Flexibility of programs and procedures, particularly in admissions, credit transfer, recognition of non-traditional learning experiences, scheduling, course format, and residency requirements, are provided to enhance servicemembers access to undergraduate educational programs.

SOC Criteria

In support of SOC criteria and service to its military students, Central Texas College:

- Has designed a transfer program which minimizes loss of credit, avoids duplication of credit, yet maintains program integrity.
- Has established guidelines which follow the general principles of good practice outlined in the JOINT STATEMENT ON TRANSFER AND AWARD OF ACADEMIC CREDIT.
- Accepts transfer credit earned from regionally accredited institutions consistent with servicemembers' degree programs.
- Requires only 15 semester hours of Central Texas College course work to meet residency requirements.
- Recognizes as study in residence all credit course work offered by the College, regardless of location.
- Allows students to satisfy residency requirements with courses taken at the College at any time during their course of study.
- Provides the Individualized Career Evaluation Process (ICEP) to assess learning equivalence and awards credit to qualified students for specialized military training and experience in accordance with the ACE GUIDE TO THE EVALUATION OF EDUCATIONAL EXPERIENCE IN THE ARMED FORCES.
 - Provides the Individualized Career Evaluation Process (ICEP) which reflects the principles and guidelines set forth in the statement on AWARDING CREDIT FOR EXTRA INSTITUTIONAL LEARNING, and awards credit for non-traditional learning assessment programs.

SOCAD/SOCNAV DEGREE COMPLETION AGREEMENT

All students can continue their Central Texas College degree programs regardless of location. Through the "credit bank" provisions of the Servicemembers Opportunity College, a student may study at any other regionally accredited college and apply the work toward Central Texas College degree requirements, as long as 15 semester hours with a minimum 2.0 GPA have been completed with Central Texas College, and the courses taken at other institutions satisfy the requirements of the Central Texas College degree program. Requests for SOCAD/SOCNAV agreements should be addressed to the SOCAD/SOCNAV Advisor at the administrative office serving the student's location. Addresses are listed in the front of this catalogue.

Students no longer attending Central Texas College who previously completed the minimum residency and GPA requirements may request a SOCAD/SOCNAV Agreement by writing to:

American Educational Complex
Director SOCAD/SOCNAV
P.O. Box 1800
Killeen, Texas 76540-9990

PROGRAMS OF STUDY

Program Offerings

Program requirements to earn a degree are listed alphabetically. Course descriptions for all courses offered are listed in numerical order, alphabetically by program.

ALTHOUGH ACADEMIC COUNSELING IS AVAILABLE, IT REMAINS THE RESPONSIBILITY OF EACH STUDENT TO DETERMINE THE MAJOR AREA OF STUDY, THE SENIOR COLLEGE OR UNIVERSITY TO WHICH THE STUDENT WISHES TO TRANSFER, AND THE REQUIRED COURSES AND THEIR PREREQUISITES.

Course Availability

Courses are offered to students at military installations which have sufficient student interest. However, not all courses are available every term due to the specialized nature of the course content, equipment requirements, and faculty availability.

Student need and interest are major factors in scheduling course sequences. Students should express their requirements to the local ESO or NCR. This will assist in scheduling courses which will aid the majority of students pursuing a program of study. The Central Texas College representative can furnish convenient planning brochures for most programs.

Prerequisite Courses

Students should be familiar with the course description. If the course description indicates a prerequisite, the prerequisite should be met prior to registering for the advanced course.

Example: ENGL 1302 Composition and Rhetoric II requires that ENGL 1301 Composition and Rhetoric I be successfully completed prior to registering for ENGL 1302.

Students who cannot schedule prerequisites must obtain prior approval to enroll in these courses from the appropriate College official. Failure to obtain approval could result in loss of credit toward degree.

Semester Credit Hours

One semester hour of credit represents 1 hour of lecture class time or usually 2 hours of laboratory class time per week for 16 weeks. Lecture and lab proportions may vary depending on the nature of the course. The relationship of lecture and lab is included, in parentheses, with each course description. For example, (3-0) for a 3-semester-hour course means there are 3 lecture hours per week for one 16-week semester and no lab hours required; (2-4) means there are 2

lecture hours and 4 lab hours per week for the same 16-week semester. This weekly requirement will be adjusted as necessary to compensate for courses with lengths other than 16 weeks.

Technical Electives

Technical Electives are courses designed to strengthen the major area of the student's program.

Approved Electives

Approved electives are courses which, although not specifically related to the major, are designed to broaden the student's exposure to various disciplines considered supportive of the program's objectives.

Special Electives

Many programs of study have Humanities/Fine Arts and Social/Behavioral Science elective courses that can be used to satisfy elective requirements. These electives are listed below.

Humanities/Fine Arts Electives

ANTH 2302 Cultural Anthropology
ART. (all Art. courses except ART. 2305, 2306 and 2319)
Foreign Language courses
GEOG 2302 Cultural Geography
Music courses
Literature courses
Philosophy courses to include Religion

Social/Behavioral Electives

ANTH 2301 Physical Anthropology
ECON 2301 Macroeconomics
ECON 2302 Microeconomics
CRIJ 1307 Crime in America
Geography courses (except for GEOG 2302)
Government courses
History courses
Psychology courses
Sociology courses

CONTINUING EDUCATION PROGRAM

The purpose of non-credit programs is to meet the current and changing educational requirements of a specific community. To achieve this purpose, instruction is provided in response to expressed needs. Classes generally provide training for the individual. However, special interest groups can also be accommodated within the scope and philosophy of the program. Classes are geared to the changing needs and requirements of the area being served. There are no limits to the number or variety of courses. Classes are offered in the vocational business fields as well as practical arts. Non-credit courses are offered in the following:

BUSINESS EDUCATION: Classes offered in business are the result of close and constant cooperation with, and are established on the basis of specific requests from, area agencies such as the board of Realtors, and Civilian Personnel Offices. The business courses, including secretarial and clerical courses, are developed to provide adult students pre-employment and in-service training in knowledge and skills to meet occupational requirements of employers.

SELF DEVELOPMENT EDUCATION: Classes offered in this group are designed for persons who wish to learn a new language, hobby or skill and who derive self satisfaction from learning and performing in new subjects.

SPECIAL REQUESTS

Other non-credit courses may be arranged to meet specific requests from interested groups. Central Texas College and its affiliated organizations are able to provide assistance for virtually every educational requirement.

Continental and International Programs

[illegible]

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ACCOUNTING TECHNOLOGY

A Two-Year Associate in Applied Science Degree

(Offered only at selected locations)

FIRST YEAR

First Semester	Credit	Second Semester	Credit
ACCT 1301 Financial Accounting	3	ACCT 1302 Managerial Accounting and Control	3
BUSS 1301 Introduction to Business	3	ELCT † Approved Elective	3
MATH 1301 Intermediate Algebra		MGMT 1305 Introduction to Management	3
or		MGMT 1309 Income Tax	3
MATH 1308 Elementary Statistics	3	SPCH 2303 Business and Professional Speaking	3
ENGL 1301 Composition and Rhetoric I	3	SPCH 2303 Business and Professional Speaking	3
COSC 1300 Computer Info Processing		PYED Physical Education	1
or			
MISC 1450 Microcomputers for Business	3-4		
PYED Physical Education	1		
PSYC 1101 College Orientation	1		
	17-18		16

SECOND YEAR

First Semester	Credit	Second Semester	Credit
ACCT 2309 Fundamentals of Accounting III	3	ACCT 2310 Fundamentals of Accounting IV	3
MGMT 2305 Business Law I	3	MGMT 2306 Business Law II	3
ACCT 2305 Basics of Managerial Accounting	3	ACCT †† Accounting Elective	3
ACCT 2311 Accounting and Financial Information Systems I	3	ENGL 2309 Technical Writing	3
ELCT Humanities/Fine Arts Elect	3	ELCT Social/Behavioral Science Elective	3
PYED Physical Education	1	PYED Physical Education	1
	16		16
		TOTAL HOURS	65-66

† Approved Electives BUSS 2301, 2302; ECON 2301, 2302; FIBA 2306; MGMT 1304, 1306, 1307, 2301, 2302; OADM 1309 or 2307.

†† Accounting Electives: ACCT 2306 and 2312.

ADMINISTRATIVE SECRETARIAL

A Two-Year Associate in Applied Science Degree

FIRST YEAR

First Semester	Credit	Second Semester	Credit
OADM 1301* Beginning Shorthand	3	WOPO 1304* Intermediate Information Processing Applications	3
WOPO 1303* Beginning Keyboarding/ Data Entry	3	OADM 1302 Intermediate Shorthand	3
OADM 1305 Records Management	3	OADM 1306 Office Functions	3
OADM 1309 Business Mathematics and Calculating Machines	3	OADM 1308 Business Correspondence	3
ENGL 1301 Composition and Rhetoric I	3	WOPO 1307 Word Processing/ Transcription	3
PSYC 1101 College Orientation	1	PYED Physical Education	1
	16		16

- Levels of shorthand and keyboarding will be determined by the student's previous training in these skills and/or by placement tests.
- Student may apply for Certificate of Completion upon satisfactory completion of courses listed above.

ADMINISTRATIVE SECRETARIAL (CONT)

SECOND YEAR

First Semester	Credit	Second Semester	Credit
MATH 1301 Intermediate Algebra	3	WOPO 2303 Office Automation	3
WOPO 2302 Advanced Information Processing Applications	3	OADM 2305 Office Accounting II	3
OADM 2304 Office Accounting I	3	OADM 2307 Automated Office Management	3
ELCT ** Elective	3	SPCH *** Speech Selection(s)	3
ELCT **** Humanities/Fine Arts Elective	3	ELCT **** Social/Behavioral Science Elective	3
ELCT Sophomore WOPO/MISC Elective	3		
	18		15
			TOTAL HOURS 65

** Electives or selections approved by appropriate College Official. Courses may be chosen leading toward general, medical, or legal secretarial programs upon department approval.

*** SPCH 1301 or 2303.

**** One selection must be sophomore level.

AIR CONDITIONING & REFRIGERATION

A Two-Year Associate in Applied Science Degree

FIRST YEAR

First Semester	Credit	Second Semester	Credit
INDU 1400 Industrial Fundamentals	4	AIRC 1403 Heating Systems	4
AIRC 1400 Basic Air Conditioning and Refrigeration Theory	4	AIRC 1406 Electricity for Air Conditioning & Refrigeration II	4
AIRC 1401 Electricity for Air Conditioning & Refrigeration I	4	AIRC 1407 Mechanical Refrigeration Systems	4
MATH 1301 Intermediate Algebra	3	ELCT * Computer Science/Microcomputer Technology Elective	3
PSYC 1101 College Orientation	1	ENGL 1309 Communications Skills	3
	16		18

SECOND YEAR

First Semester	Credit	Second Semester	Credit
AIRC 2400 Electricity for Air Conditioning & Refrigeration III	4	AIRC 2402 Commercial Refrigeration	4
AIRC 2401 Advanced Air Conditioning and Refrigeration Theory	4	AIRC 2403 Commercial Air Conditioning Systems	4
AIRC 2404 Troubleshooting Air Conditioning & Refrigeration Systems	4	AIRC 2405 Heat Pumps	4
ELCT Humanities/Fine Arts Elective	3	SPCH 2303 Business and Professional Speaking	3
GOVT 2301 State and Federal Govt I			
or			
GOVT 2302 State and Federal Govt II	3		
	18		15
			TOTAL HOURS 67

- * Computer Science selection (excluding COSC 1302) or microcomputer selections.
- Student may apply for Certificate of Completion upon satisfactory completion of PSYC 1101 and all AIRC and INDU prefix courses.

APPLIED MANAGEMENT

A Two-Year Associate in Applied Science Degree (Offered only at selected locations)

FIRST YEAR

First Semester			Credit	Second Semester			Credit
BUSS	1301	Introduction to Business	3	BUSS	1302	Consumer Economics	3
ENGL	*	English Selection(s)	3	ENGL	*	English Selection(s)	3
MATH	**	Mathematics Selection(s)	3	MGMT	****	Management Selection(s)	3
MGMT	1305	Introduction to Management	3	SPCH	*	Speech Selection(s)	3
MGMT	1306	Human Relations	3	ELCT	***	Computer Science/Microcomputer Technology Elective	3
PYED		Physical Education	1	PYED		Physical Education	1
PSYC	1101	College Orientation	1				16
			17				

SECOND YEAR

First Semester			Credit	Second Semester			Credit
ACCO	2301	Financial Accounting	3	ELCT	Social/Behavioral Science Elective		3
MGMT	2302	Personal Management	3				
MGMT	2309	Supervision	3	MGMT 2303	Law and Legal Assistance		3
ELCT		Humanities/Fine Arts Elective	3	MGMT 2310	Personnel Counseling		3
MGMT ****		Management Selection(s)	3	MGMT ****	Sophomore Management Selection(s)		3
PYED		Physical Education	1	MGMT ****	Sophomore Management Selection(s)		3
				PYED	Physical Education		1
			16				16
							TOTAL HOURS 65

- * ENGL 1301, 1302, 1309, 2309; SPCH 1301, 2303.
- ** MATH 1301 or higher.
- *** Computer Science selection(excluding COSC 1302) or microcomputer selections.
- **** MGMT 1158, 1201, 1202, 1203, 1204, 1205, 1206, 1207, 1208, 1209, 1301, 1302, 1303, 1304, 1307, 1308, 1309, 2101, 2102, 2151, 2152, 2161, 2162, 2164, 2201, 2202, 2203, 2204, 2205, 2206, 2260, 2300, 2301, 2304, 2305, 2306, 2307, 2312, 2314, 2315, 2351, 2354; BUSS 2306; COSC 1300, 1307, 1403, 1405; OADM 1308, 2307; PSYC 2301; REAE 1301, 2304 or 2305.

APPLIED MANAGEMENT WITH TECHNICAL OPTIONS

A Two-Year Associate in Applied Science Degree

OPTION 1. FOOD SERVICE OPERATIONS

(Offered only at selected locations)

FIRST YEAR

First Semester	Credit	Second Semester	Credit
FSMG 1302 Nutrition	3	FSMG 1304† Work Organization	3
FSOP 1303 Sanitation and Safety	3	FSOP 1305* Food Purchasing	3
ELCT Food Preparation Selection		FSOP 1306 Menu Planning	3
FSMG 1401, 1402 or 2355	3	ELCT ** Computer Science/	
ENGL 1301 or 1309	3	Microcomputer	
MATH ‡ Mathematics Selection(s)	3	Technology Elective	3
PYED Physical Education	1	ELCT FSMG/FSOP/HMMG/	
PSYC 1101 College Orientation	1	ACCO Selection(s)	3
		PYED Physical Education	1
	17		16

SECOND YEAR

First Semester	Credit	Second Semester	Credit
FSOP 2303 Cafeteria Management	3	FSMG Classical Preparation Selection	
ELCT FSMG/FSOP/HMMG		FSMG 2401, 2356 or 2452	3
Selection	3	FSMG Exhibition Work Selection	
ELCT Sophomore Level FSMG/		FSMG 2402, 2353 or 2306	3
FSOP/ACCO/BUSS/		ELCT MGMT/BUSS Selection(s)	3
MGMT Selection(s)	3	ELCT Sophomore Level FSMG/	
ELCT Humanities/Fine Arts Elect	3	FSOP/ACCO/BUSS/MGMT	
SPCH 2303 Business and Professional		Selection(s)	3
Speaking	3	ELCT Social/Behavioral Science	
PYED Physical Education	1	Elective	3
		PYED Physical Education	1
	16		16
			TOTAL HOURS 65

‡ MATH 1301 or higher.

† MGMT 1304 may be substituted.

* FSMG 1307 may be substituted.

** Computer Science selection (excluding COSC 1302) or microcomputer selections.

— Food Service Management Food Service Operations Selections:

— The appropriate FSMG courses will be accepted in place of the FSOP course:

FSMG 1300, FSMG 1301, FSMG 1307, FSMG 1308, FSMG 2304, FSMG 2305, FSMG 2307.

OPTION 2. COMPUTER SCIENCE

(Offered only at selected locations)

FIRST YEAR

First Semester	Credit	Second Semester	Credit
MGMT 1305 Introduction to Management	3	MGMT 1301 Organization & Management	3
COSC 1403 Introduction to Computer Science and Programming	4	MGMT 1304 Work Organization	3
COSC 1405 Computer Concepts and Analysis	4	COSC 1406 Computer Organization and Architecture	4
ENGL 1309 Communications Skills	3	COSC *** Computer Science/ Microcomputer Technology Elective	4
MATH ** Mathematics Selection(s)	3	SPCH 1301 Public Speaking	3
PSYC 1101 College Orientation	1	PYED Physical Education	1
PYED Physical Education	1		18
	19		

SECOND YEAR

First Semester	Credit	Second Semester	Credit
MGMT 2302 Personnel Management	3	MGMT 2312 Fundamentals of Systems Management	3
MGMT 2303 Law and Legal Assistance	3	COSC 1408 Interactive Programming	4
COSC 1404* COBOL Programming	4	ACCO 2302 Managerial Accounting and Control	3
COSC 22301 Computer Center Management	3	ELCT Social/Behavioral Science Elective	3
ACCO 2301 Financial Accounting	3	ELCT Humanities/Fine Arts Elective	3
	16		16
			TOTAL HOURS 69

* COSC 2409 may be substituted.

** MATH 1301, 1305, or 1308.

*** COSC 1401, 1407, 2404, 2405, 2407; MISC 1450, 1451, 1454 or 2453.

OPTION 3. MICROCOMPUTER TECHNOLOGY

(Offered only at selected locations)

FIRST YEAR

First Semester	Credit	Second Semester	Credit
MGMT 1305 Introduction to Management	3	MGMT 1301 Organization & Management	3
MISC 1420 Word Processing for Microcomputers	4	MGMT 1304 Work Organization	3
MISC 1450 Microcomputers for Business	4	MISC 1405 Computer Concepts and Analysis	4
ENGL 1309 Communications Skills	3	MISC 1451 Introduction to Microcomputer Programming	4
MATH † Mathematics Selection(s)	3	SPCH 2303 Business and Professional Speaking	3
PSYC 1101 College Orientation	1	PYED Physical Education	1
PYED Physical Education	1		18
	19		

† MATH 1301, 1302, or 1308.

(Continued on next page)

OPTION 3. MICROCOMPUTER TECHNOLOGY (CONT)

SECOND YEAR

First Semester	Credit	Second Semester	Credit
MGMT 2302 Personal Management	3	MGMT 1306 Human Relations	3
MGMT 2305 Business Law I	3	ELCT †† Computer Science/Microcom- puter Technology Elective	3
ACCO 2301 Financial Accounting	3	ACCO 2302 Managerial Accounting and Control	3
MISC 1430 Spreadsheets for Microcomputers	4	ELCT Sophomore Level Humanities/ Fine Arts Elective	3
MISC 1440 Database for Microcomputers	4	ELCT Social/Behavioral Science Elective	3
	17		15
		TOTAL HOURS	69

†† Any MISC or COSC course in which prerequisites are completed.

AUTOMOTIVE BODY REPAIR A Two-Year Associate Degree in Applied Science

FIRST YEAR

First Semester	Credit	Second Semester	Credit
INDU 1400 Industrial Fundamentals	4	ATBR 1408 Roughing and Alignment II	4
ATBR 1403 Roughing and Alignment I	4	ATBR 1409 Auto Body Welding II	4
ATBR 1405 Auto Body Welding I	4	ATBR 1410 Auto Body Painting Fundamentals	4
ATBR 1407 Auto Body Fundamentals	4	ATBR 1411 Automotive Glass	4
PSYC 1101 College Orientation	1	MATH 1301 Intermediate Algebra	3
	17		19

SECOND YEAR

First Semester	Credit	Second Semester	Credit
ATBR 2401 Panel Repair and Replacement	4	ATBR 2400 Major Vehicle Damage Repair	4
ATBR 2406 Frame Repair and Alignment	4	ATBR 2404 Advanced Auto Body Painting	4
AUTO 2405 Steering and Suspension Sys	4	ELCT * Computer Science/Microcom- puter Technology Elective	3
ENGL 1309 Communications Skills	3	ELCT Humanities/Fine Arts Elective	3
GOVT 2301 State and Federal Govt I or GOVT 2302 State and Federal Govt II	3	SPCH 2303 Business and Professional Speaking	3
	18		17
		TOTAL HOURS	71

- Computer Science selection (excluding COSC 1302) or microcomputer selections.
- Students may apply for a Certificate of Completion upon satisfactory completion of PSYC 1101 and all ATBR, AUTO and INDU prefix courses.

AUTOMOTIVE MECHANIC APPRENTICESHIP PROGRAM

A Two-Year Associate in Applied Science Degree
(Offered only at selected locations)

FIRST YEAR

First Semester			Credit	Second Semester			Credit
INDU	1400	Industrial Fundamentals	4	AUTO	1402	Basic Electrical and Test Equipment	4
AUTO	1401	Basic Engines	4	AUTO	1407	Brake Systems	4
ENGL	1309	Communications Skills	3	AUTO	1408	Standard Transmissions and Transaxles	4
PHYS	1303	Survey of Physics	3	MATH	1301	Intermediate Algebra	3
PSYC	1101	College Orientation	1				15
			15				15
Summer Semester			Credit				
AUTO	2404	Ignition, Starting and Charging	4				
AUTO	2408	Advanced Engine Service	4				
AUTO	2410	Fuel Systems and Injection	4				
			12				

SECOND YEAR

First Semester			Credit	Second Semester			Credit
AUTO	2403	Automatic Transmissions and Transaxles	4	AUTO	2402	Shop Organization and Management	4
AUTO	2405	Steering & Suspension Sys	4	AUTO	2406	Engine Diagnosis and Emission	4
ELCT	†	Computer Science/Microcomputer Technology Elective	3	AUTO	2409	Automotive Internship	4
PSYC	2301	Introduction to Psychology	3	ELCT		Humanities/Fine Arts Elective	3
			14				15
							TOTAL HOURS 71

† Computer Science selection (excluding COSC 1302) or microcomputer selections.

AUTOMOTIVE SERVICE AND REPAIR A Two-Year Associate in Applied Science Degree

FIRST YEAR

First Semester			Credit	Second Semester			Credit
INDU	1400	Industrial Fundamentals	4	AUTO	1405	Automotive Air Conditioning	4
AUTO	1401	Basic Engines	4	AUTO	1407	Brake Systems	4
AUTO	1402	Basic Electrical and Test Equipment	4	AUTO	1408	Standard Transmissions and Transaxles	4
MATH	1301	Intermediate Algebra	3	ENGL	1309	Communications Skills	3
PSYC	1101	College Orientation	1	ELCT	*	Computer Science/Microcomputer Technology Elective	3
			16				18

(Continued on next page)

AUTOMOTIVE SERVICE AND REPAIR (CONT)

SECOND YEAR

First Semester	Credit	Second Semester	Credit
AUTO 2404 Ignition, Starting & Charging	4	AUTO 2403 Automatic Transmissions and Transaxles	4
AUTO 2405 Steering & Suspension Sys	4	AUTO 2406 Engine Diagnosis and Emission	4
AUTO 2408 Advanced Engine Service	4	AUTO 2411 Automotive Advanced Technology	4
AUTO 2410 Fuel Systems & Injection	4	ELCT Humanities/Fine Arts Elective	3
GOVT 2301 State and Federal Govt I		SPCH 2303 Business and Professional Speaking	3
or			18
GOVT 2302 State and Federal Govt II	3		
	19		TOTAL HOURS 71

- * Computer Science selection (excluding COSC 1302) or microcomputer selections.
- Students may apply for a Certificate of Completion upon satisfactory completion of PSYC 1101 and all AUTO and INDU prefix courses.

AVIATION MAINTENANCE TECHNOLOGY

A Two-Year Associate in Applied Science Degree

FIRST YEAR

First Semester	Credit	Second Semester	Credit
AVMT 1201 Maintenance Publications-G	2	AVMT 1203 Aircraft Drafting-G	2
AVMT 1202 Weight and Balance-G	2	AVMT 1204 Airframe Materials and Corrosion Control-G	2
AVMT 1305 Basic Aircraft Electricity-G	3	AVMT 1306 Aircraft Finishes-A	3
ENGL 1309 Communications Skills	3	AVMT 1402 Sheet Metal Structures-A	4
PHYS 1303 Survey of Physics	3	AVMT 2303 Airframe Inspection-A	3
PSYC 1101 College Orientation	1	MATH 1301 Intermediate Algebra	3
	14		17

Summer Session	Credit
AVMT 2304 Aircraft Fuel Systems-A	3
AVMT 2402 Hydraulics and Pneumatics-A	4
	7

SECOND YEAR

First Semester	Credit	Second Semester	Credit
AVMT 2305 Aircraft Instrument Systems-A	3	AVMT 2404 Powerplant Maintenance-Reciprocating Engines-P	4
AVMT 2306 Engine Electrical Systems-P	3	AVMT 2405 Engine Fuel Systems-P	4
AVMT 2307 Engine Lubrication and Cooling Systems-P	3	AVMT 2406 Aircraft Propellers-P	4
AVMT 2403 Aircraft Electrical Systems-A	4	AVMT 2407 Powerplant Maintenance-Turbine Engines-P	4
	13		16

- AVMT courses are designated: G - General, A - Airframe, P - Powerplant.

(Continued on next page)

AVIATION MAINTENANCE TECHNOLOGY (CONT)

Summer Semester

ELCT	Social/Behavioral Science Elective	3
ELCT	Humanities/Fine Arts Elective	3
		6

TOTAL HOURS 73

BIOLOGY

A Two-Year Associate in Science Degree

FIRST YEAR

First Semester	Credit	Second Semester	Credit
BIOL 1401 General Biology I	4	BIOL 1402 General Biology II	4
CHEM 1401 General Chemistry I	4	CHEM 1402 General Chemistry II	4
HIST 1301 History of the U.S. to 1865	3	HIST 1302 History of the U.S. from 1865	3
ENGL 1301 Composition and Rhetoric I	3	ENGL 1302 Composition and Rhetoric II	3
MATH 1302 College Algebra	3	MATH 1303 Trigonometry	3
PYED Physical Education	1	PYED Physical Education	1
PSYC 1101 College Orientation	1		
	19		18

SECOND YEAR

First Semester	Credit	Second Semester	Credit
BIOL 2401 Invertebrate Zoology	4	BIOL 2402 Vertebrate Zoology	4
CHEM 2401 Organic Chemistry I	4	CHEM 2402 Organic Chemistry II	4
GOVT 2301 State and Federal Govt I	3	GOVT 2302 State and Federal Govt II	3
ENGL 2301 English Literature I	3	SPCH 1301 Public Speaking	3
PYED Physical Education	1	PYED * Physical Education	1
COSC 1403 Introduction to Computer Science and Programming	4	ELCT Humanities/Fine Arts Electives	3
	19		18

TOTAL HOURS 74

- Sophomore level.
- Students should check requirements of the institution to which they intend to transfer as requirements may vary.

BUSINESS ADMINISTRATION

A Two-Year Associate in Arts Degree

FIRST YEAR

First Semester	Credit	Second Semester	Credit
SCIE Biology, Chemistry, Physics or Geology	4	SCIE Biology, Chemistry, Physics or Geology	4
HIST 1301 History of the U.S. to 1865	3	HIST 1302 History of the U.S. from 1865	3
ENGL 1301 Composition and Rhetoric I	3	ENGL 1302 Composition and Rhetoric II	3
MATH * Approved Mathematics Selection(s)	3	BUSS 1301 Introduction to Business	3
PSYC 2301 Introduction to Psychology	3	or MGMT 1305 Introduction to Management	3
PYED Physical Education	1	ELCT Humanities/Fine Arts Elect	3
PSYC 1101 College Orientation	1	PYED Physical Education	1
	18		17

(Continued on next page)

BUSINESS ADMINISTRATION (CONT)

SECOND YEAR

First Semester	Credit	Second Semester	Credit
BUSS 2301 Macroeconomics		ACCO 2302 Managerial Accounting and Control	3
or		ACCO 2102 Managerial Accounting and Control Lab	1
ECON 2301 Macroeconomics	3	ELCT **** Computer Science/Microcomputer Technology Elective	4
ACCO 2301 Financial Accounting	3	GOVT 2302 State and Federal Govt II	3
ACCO 2101 Financial Accounting Lab	1	BUSS 2302 Microeconomics	
ENGL ** English Selection(s)	3	or	
GOVT 2301 State and Federal Govt I	3	ECON 2302 Microeconomics	3
ELCT *** Approved Elective	3	SPCH SPCH 1301 or 2303	3
PYED Physical Education	1	PYED Physical Education	1
	17		18
		TOTAL HOURS	70

- * Approved Mathematics courses include MATH 1302, MATH 1303, MATH 1304, MATH 1305, MATH 1308, MATH 1309, MATH 2301, MATH 2302 or MATH 2303. Since senior college math requirements vary widely, it is the student's responsibility to consult with the four-year institution he/she is planning to attend.
- ** Approved English courses include ENGL 2301, ENGL 2302, ENGL 2303, ENGL 2304, ENGL 2305, ENGL 2306.
- *** Approved Business, Management, Office Administration, Social Science or other related electives must be approved by the Business/Management Departments.
- **** Computer Science selection (excluding COSC 1302) or microcomputer selections.

BUSINESS MANAGEMENT

A Two-Year Associate in Applied Science Degree

FIRST YEAR

First Semester	Credit	Second Semester	Credit
MGMT 1306 Human Relations	3	MGMT 1304 Work Organization	3
ENGL 1301 Composition and Rhetoric I	3	MGMT 1308 Small Business Management	3
MATH 1301 Intermediate Algebra	3	OADM 1309 Business Math and Calculating Machines	3
SPCH SPCH 1301 or 2303	3	MISC 1450 Microcomputers for Business	4
ELCT BUSS 1301 or MGMT 1305	3	ELCT Elective	3
PSYC 1101 College Orientation	1	PYED Physical Education	1
PYED Physical Education	1		17
	17		

SECOND YEAR

First Semester	Credit	Second Semester	Credit
MGMT MGMT 2305 or MGMT 2306	3	MGMT 2309 Supervision	3
MGMT 2302 Personnel Management	3	MGMT 2317 Management Applications II	3
MGMT 2316 Management Applications I	3	BUSS 2302* Microeconomics	3
BUSS 2301* Macroeconomics	3	ACCO 2302 Managerial Accounting	3
ACCO 2301 Financial Accounting	3	ACCO 2102 Managerial Accounting Lab	1
ACCO 2101 Financial Accounting Lab	1	ELCT Humanities/Fine Arts Elect	3
	16		16
		TOTAL HOURS	66

- * ECON 2301 and ECON 2302 can be substituted.

CAREER PILOT

A Two-Year Associate in Applied Science Degree

FIRST YEAR

First Semester	Credit	Second Semester	Credit
CAPI 1200 Basic Flight	2	CAPI 1204 Intermediate Flight	2
CAPI 1301 Aircraft Science	3	CAPI 1302 Propulsion Systems	3
CAPI 1403 Air Navigation	4	CAPI 1306 Meteorology	3
ENGL 1301 Composition and Rhetoric I	3	PHYS 1303 Survey of Physics	3
MATH 1302 College Algebra	3	SPCH 1301 Public Speaking	3
PSYC 1101 College Orientation	1	ENGL 1302 Composition and Rhetoric II	3
	16		17

SECOND YEAR

First Semester	Credit	Second Semester	Credit
CAPI 2204 Advanced Flight	2	CAPI 2205 Commercial Flight	2
CAPI 2300 Commercial Aviation	3	CAPI 2303 Air Transportation	3
CAPI 2301 Aerodynamics	3	CAPI 2307 Instrument & Ground School	3
CAPI 2317 Advanced Air Navigation	3	MISC 1451 Intro to Microcomputer Programming	4
ELCT Humanities/Fine Arts Elective	3	ELCT Social/Behavioral Science Elective	3
ELCT Approved Elective	3		15
	17		15

TOTAL HOURS 65

— CAPI 2210 and CAPI 2211 are substitutes for CAPI 2204 and CAPI 2205 for Rotary Wing Transition students.

CHEMISTRY

A Two-Year Associate in Science Degree

FIRST YEAR

First Semester	Credit	Second Semester	Credit
CHEM 1401 General Chemistry I	4	CHEM 1402 General Chemistry II	4
MATH 1303† Trigonometry	3	MATH 1304 Analytic Geometry	3
HIST 1301 History of the U.S. to 1865	3	HIST 1302 History of the U.S. from 1865	3
ENGL 1301 Composition and Rhetoric I	3	ENGL 1302 Composition and Rhetoric II	3
PYED Physical Education	1	PYED Physical Education	1
PSYC 1101 College Orientation	1	COSC 1403 Introduction to Computer Science and Programming	4
SPCH 1301 Public Speaking	3		18
	18		18

SECOND YEAR

First Semester	Credit	Second Semester	Credit
CHEM 2401 Organic Chemistry I	4	CHEM 2402 Organic Chemistry II	4
MATH 2301 Calculus I	3	PHYS 2402 Modern Physics II	4
GOVT 2301 State and Federal Govt I	3	GOVT 2302 State and Federal Govt II	3
ENGL 2301 English Literature I	3	ELCT Humanities/Fine Arts Elect	3
PHYS 2401 Modern Physics I	4	MATH 2302 Calculus II	3
PYED Physical Education	1	PYED Physical Education	1
	18		18

TOTAL HOURS 72

† Students deficient in mathematics must take college algebra. This course should be taken during the summer term prior to the freshman year.

— Students should check requirements of the institution to which they intend to transfer as requirements may vary.

CHILD DEVELOPMENT

A Two-Year Associate in Applied Science Degree

FIRST YEAR

First Semester	Credit	Second Semester	Credit
CHDV 1303 Learning Programs	3	CHDV 1302 Infant and Toddler Care	3
CHDV 1308 Creative Expression	3	CHDV 1304 Developmental Language	3
CHDV 1310 Growth and Development of Children	3	CHDV 1305 Instructional Aids	3
ENGL 1309 Communications Skills	3	CHDV 1309 Child Guidance and Classroom Techniques	3
MISC 1420 or MISC 1450	4	MATH * Mathematics Selection(s)	3
PSYC 1101 College Orientation	1	PYED Physical Education	1
PYED Physical Education	1		
	18		16

* MATH 1301 or higher.

— Students may apply for a Certificate of Completion upon satisfactory completion of all first year requirements.

SECOND YEAR

First Semester	Credit	Second Semester	Credit
CHDV 2301 The Exceptional Child	3	CHDV 2101 Child Development Seminar	1
CHDV 2303 Managing Child Care Centers	3	CHDV 2302 Parent-Child Relationship	3
SOCI 2301 Introduction to Sociology	3	CHDV 2305 Methods of Teaching Math & Science in Early Childhood	3
ELCT ** Approved Elective	3	CHDV 2304 Management Techniques for Directors	3
ELCT ** Approved Elective	3	ELCT Humanities/Fine Art Elective	3
	15	ELCT Elective	3
			16
			TOTAL HOURS 65

** CHDV 1301, 1306, 1307; BUSS 1301, FSMG 1302, 1306; MGMT 1305; SOCI 2306; PYED 2302 or other courses approved by the appropriate College Official.

COMMUNICATIONS ELECTRONICS TECHNOLOGY

A Two-Year Associate in Applied Science Degree

FIRST YEAR

First Semester	Credit	Second Semester	Credit
CMET 1400† Electronics & Computer Skills	4	CMET 1403 Computer Systems and Operational Programming	4
CMET 1401 Digital Circuits	4	MATH 1303 Trigonometry	3
MATH 1301 Intermediate Algebra or		ELTE 1402 Electrical Circuits II	4
MATH 1302 College Algebra	3	ELTE 1403 Solid State Electronics	4
ELTE 1401 Electrical Circuits I	4	ELCT Humanities/Fine Arts Elect	3
ENGL 1309 Communications Skills	3		
PSYC 1101 College Orientation	1		
	19		18

† The appropriate College Official may substitute ELTE 1303 for CMET 1400.

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COMMUNICATIONS ELECTRONICS TECHNOLOGY (CONT)

SECOND YEAR

First Semester	Credit	Second Semester	Credit
CMET 1409 CRT Systems	4	ELTE 2407 Communications Circuits II	4
ELTE 1404 Communications Circuits I	4	CMET 2403* Interfacing Techniques	4
ELTE 2406 Integrated Devices	4	ELTE 2409 Electronic Systems Troubleshooting	4
CMET 2401 Microprocessors and Microcomputers	4	ELCT ** Computer Maintenance/Electronics Selections(s)	4
ELCT Social/Behavioral Science Elective	3		16
	19		TOTAL HOURS 72

* If student desires, ELTE 2103 and 2303 may be substituted.

** Selected course approved by the appropriate College Official or authorized Central Texas College personnel according to the student need. ELTE 2301, 2402, 2408, 2405, 2410; CMET 2407 or 2408.

COMPUTER ELECTRONICS TECHNOLOGY A Two-Year Associate in Applied Science Degree

FIRST YEAR

First Semester	Credit	Second Semester	Credit
CMET 1400 Electronics & Computer Skills	4	CMET 1403 Computer Systems and Operational Programming	4
CMET 1401 Digital Circuits	4	MATH 1303 Trigonometry	3
MATH 1301 Intermediate Algebra or		ELTE 1402 Electrical Circuits II	4
MATH 1302 College Algebra	3	ELTE 1403 Solid State Electronics	4
ELTE 1401 Electrical Circuits I	4	ELCT Humanities/Fine Arts Elect	3
ENGL 1309 Communications Skills	3		
PSYC 1101 College Orientation	1		18
	19		

SECOND YEAR

First Semester	Credit	Second Semester	Credit
CMET 1409 CRT Systems	4	CMET 2403† Interfacing Techniques	4
CMET 2401 Microprocessors and Microcomputers	4	CMET 2404 Computer Sys Diagnosis and Maintenance	4
CMET 2402 Computer Circuit Analysis	4	ELTE 2409 Electronic Systems Troubleshooting	4
ELTE 2406 Integrated Devices	4	ELCT †† Technical Elective	4
ELCT Social/Behavioral Science Elective	3		16
	19		TOTAL HOURS 72

† If student desires, ELTE 2103 and 2303 may be substituted.

†† Technical Electives: ELTE 2402, CMET 2407 or 2408.

COMPUTER SCIENCE BUSINESS PROGRAMMER/ANALYST

A Two-Year Associate in Applied Science Degree

FIRST YEAR

First Semester	Credit	Second Semester	Credit
COSC 1403 Introduction to Computer Science and Programming	4	COSC 1404 COBOL Programming	4
COSC 1405 Computer Concepts and Analysis	4	COSC 1406 Computer Organization and Architecture	4
ENGL 1301 Composition and Rhetoric I	3	COSC/MISC Technical Elective	4
MATH † Mathematics Selection(s)	3	MATH † Mathematics Selection(s)	3
PSYC 1101 College Orientation	1	ELCT Social/Behavioral Science Elective	3
	15		18

† MATH 1301, 1302, 1304, 1305, 1308, 2301, 2302 or 2303.

SECOND YEAR

First Semester	Credit	Second Semester	Credit
COSC 2403 Operating Systems and Job Control Language	4	COSC 2401 Advanced COBOL	4
COSC 2404 Assembler Language Programming	4	COSC 2402 Systems in the MIS Environment	4
COSC/MISC Technical Elective	4	COSC Sophomore Technical Elective	4
ACCO 2301 Financial Accounting	3	SPCH 2303 Business and Professional Speaking	3
ACCO 2101 Financial Accounting Lab	1	ACCO 2302 Managerial Accounting and Control	3
ELCT Humanities/Fine Arts Elect	3	ACCO 2102 Managerial Accounting and Control Lab	1

19

19

TOTAL HOURS 71

CONSUMER ELECTRONICS TECHNOLOGY

A Two-Year Associate in Applied Science Degree

(Offered only at selected locations)

FIRST YEAR

First Semester	Credit	Second Semester	Credit
CMET 1400* Electronics and Computer Skills	4	CMET 1403 Computer Systems and Operational Programming	4
CMET 1401 Digital Circuits	4	MATH 1303 Trigonometry	3
MATH 1301 Intermediate Algebra		ELTE 1402 Electrical Circuits II	4
or		ELTE 1403 Solid State Electronics	4
MATH 1302 College Algebra	3	ELCT Humanities/Fine Arts Elect	3
ELTE 1401 Electrical Circuits I	4		
ENGL 1309 Communications Skills	3		
PSYC 1101 College Orientation	1		
	19		18

* The appropriate College Official may substitute ELTE 1303 for CMET 1400.

(Continued on next page)

CONSUMER ELECTRONICS TECHNOLOGY (CONT)

SECOND YEAR

First Semester	Credit	Second Semester	Credit
CMET 1409 CRT Systems	4	COES 2409 Advanced TV Servicing	4
COES 2408 CATV & Audio Distribution Systems	4	CMET 2403† Interfacing Techniques	4
ELTE 2406 Integrated Devices	4	ELTE 2409 Electronic Systems Troubleshooting	4
CMET 2401 Microprocessors and Microcomputers	4	ELCT †† Computer Maintenance/Electronics Selection(s)	4
ELCT Social/Behavioral Science Elective	3		
	19		16

TOTAL HOURS 72

† If student desires, ELTE 2103 and ELTE 2303 may be substituted.

†† Selected course approved by the appropriate College Official or authorized Central Texas College personnel according to the student need: ELTE 2301, 2402, 2405, 2408; CMET 2407 or 2408.

CRIMINAL JUSTICE

A Two-Year Associate in Applied Science Degree

FIRST YEAR

First Semester	Credit	Second Semester	Credit
CRIJ 1301 Introduction to Criminal Justice	3	CRIJ 1201 Defensive Tactics	2
CRIJ 1304 The Courts and Criminal Procedures	3	CRIJ * Criminal Justice Selections (three courses)	9
CRIJ 1307 Crime in America	3	ENGL ** English Elective	3
CRIJ 1308 Fundamentals: Criminal Law	3	ELCT Criminal Justice Elective	3
ENGL 1301 Composition and Rhetoric I	3		
PSYC 1101 College Orientation	1		
PYED 2108 Physical Conditioning	1		
	17		17

SECOND YEAR

First Semester	Credit	Second Semester	Credit
CRIJ 2101 Emergency Medical Aid	1	CRIJ 2201 Firearms	2
CRIJ 2304 Juvenile Procedures	3	PSYC 2301 Introduction to Psychology	3
GOVT 2301 State and Federal Govt I or GOVT 2302 State and Federal Govt II	3	SPCH 2303 Business and Professional Speaking	3
SOCI 2301 Introduction to Sociology	3	ELCT † Humanities/Fine Arts Elect	3
MATH *** Mathematics Selection(s)	3	ELCT † Computer Science/Microcomputer Technology Elective	3
PYED Physical Education	1	ELCT Elective	3
ELCT Criminal Justice Elective	3		
	17		17

TOTAL HOURS 68

* Criminal Justice Selections:

Students planning to major in Law Enforcement may take the first three courses listed and those planning to major in Corrections may take the last two on the list plus one other course from the list. Those who prefer a more general Criminal Justice curriculum may take any three of the five courses listed.

1. CRIJ 1309 Police Systems and Practices
2. CRIJ 1302 Criminal Investigation I
3. CRIJ 1303 Legal Aspects of Law Enforcement
4. CRIJ 1306 Correctional Systems and Practices
5. CRIJ 1314 Community Resources in Corrections

(Footnotes continued on next page)

** ENGL 1302 or 2309 (Technical Writing)

*** Three semester hours of computational skills from Mathematics 1301 level or higher.

† Computer Science selection (excluding COSC 1302) or microcomputer selections.

— Students planning to complete a baccalaureate degree in Criminal Justice/Law Enforcement should declare a major and develop a degree plan which will meet the transfer requirements of the college of their choice, as soon as it can be determined.

DIESEL MECHANICS

A Two-Year Associate in Applied Science Degree

FIRST YEAR

First Semester	Credit	Second Semester	Credit
INDU 1400 Industrial Fundamentals	4	DIEM 1404 Standard Power Trains	4
DIEM 1401 Diesel Engine Fundamentals	4	DIEM 1406 Diesel Starting and Charging Systems	4
DIEM 1405 Diesel Engine Auxiliary Systems	4	AUTO 1407 Brake Systems	4
ELCT * Computer Science/Microcomputer Technology Elective	3	MATH 1301 Intermediate Algebra	3
ENGL 1309 Communications Skills	3		
PSYC 1101 College Orientation	1		
	19		15

SECOND YEAR

First Semester	Credit	Second Semester	Credit
DIEM 2400 Hydraulic Systems Fundamentals and Service	4	DIEM 2403 Diesel Engine Overhaul	4
DIEM 2406 Diesel Fuel Injection Systems	4	DIEM 2404 Automatic Power Trains	4
DIEM 2407 Diesel Engine Cylinder Head Service	4	DIEM 2405 Advanced Diesel Engine Service	4
SPCH 2303 Business and Professional Speaking	3	AUTO 2406 Steering and Suspension Systems	4
ELCT Humanities/Fine Arts Elect	3	GOVT 2301 State and Federal Govt I or	
	18	GOVT 2302 State and Federal Govt II	3
			19
			TOTAL HOURS 71

* Computer Science selection (excluding COSC 1302) or microcomputer selections.

— Students may apply for a Certificate of Completion upon satisfactory completion of PSYC 1101 and all DIEM, AUTO and INDU prefix courses.

DIESEL MECHANICS APPRENTICESHIP PROGRAM

A Two-Year Associate in Applied Science Degree

(Offered only at selected locations)

FIRST YEAR

First Semester	Credit	Second Semester	Credit
DIEM 1401 Diesel Engine Fundamentals	4	DIEM 1405 Engine Auxiliary Systems	4
DIEM 1404 Standard Power Trains	4	DIEM 1406 Diesel Starting and Charging Systems	4
INDU 1400 Industrial Fundamentals	4	AUTO 1407 Brake Systems	4
ENGL 1309 Communications Skills	3	ELCT Humanities/Fine Arts Elective	3
PSYC 1101 College Orientation	1	MATH 1301 Intermediate Algebra	3
	16		18

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DIESEL MECHANIC APPRENTICESHIP PROGRAM (CONT)

Summer Semester

DIEM 2400	Hydraulic Systems Fundamentals and Service	4
DIEM 2406	Diesel Fuel Injection Systems	4
		8

SECOND YEAR

First Semester		Credit	Second Semester		Credit
DIEM 2403	Diesel Engine Overhaul	4	DIEM 2404	Diesel Automatic Power Trains	4
DIEM 2407	Diesel Engine Cylinder Head Service	4	DIEM 2405	Advanced Diesel Engine Service	4
PHYS 1303	Survey of Physics	3	DIEM 2409	Diesel Internship	4
PSYC 2301	Introduction to Psychology	3	ELCT †	Computer Science/Microcomputer Technology Elective	3
		14			15
					TOTAL HOURS
					71

† Computer Science selection (excluding COSC 1302) or microcomputer selections.

DRAFTING & DESIGN A Two-Year Associate in Applied Science Degree

FIRST YEAR

First Semester		Credit	Second Semester		Credit
ENGR 1301*	Engineering Graphics	3	ENGR 1302*	Descriptive Geometry	3
DRDS 1401	Pictorial Drafting	4	DRDS 1403	Machine Drawing	4
DRDS 1402	Technical Illustration	4	DRDS 1404	Structural Drafting	4
MATH 1301	Intermediate Algebra	3	ENGL 1309	Communications Skills	3
PSYC 1101	College Orientation	1	TMTH 1301	Technical Mathematics	3
		15			17

SECOND YEAR

First Semester		Credit	Second Semester		Credit
DRDS 2401	Pipe Drafting	4	DRDS 2403	Electronic Drafting	4
DRDS 2402	Architectural Drafting	4	DRDS 2406	Civil Design Drafting	4
DRDS 2410	Computer-Aided Drafting I	4	DRDS 2411	Computer-Aided Drafting II	4
ELCT *	Approved Elective	3-4	ELCT	Social/Behavioral Science Elective	3-4
ELCT	Humanities/Fine Arts Elective	3			15-16
		18-19			TOTAL HOURS
					66-67

* DRDS 1405 may be substituted for ENGR 1301 and DRDS 1406 may be substituted for ENGR 1302.

** Electives: DRDS 1302, 1303, 1400, 2404, 2406; MATH 1302, 1303; ART 1301; OPRT 1301 or other elective approved by the appropriate College Official.

— Continental and International sites may substitute DRDS 2404 for DRDS 2410 and a computer science or microcomputer course for DRDS 2411.

ELECTRICIAN/LINEMAN APPRENTICESHIP PROGRAM

A Two-Year Associate in Applied Science Degree

(Offered only at selected locations)

FIRST YEAR

First Semester	Credit	Second Semester	Credit
ELTE 1400† Basic Electricity	4	ELEC 1301 Electrical Codes	3
ENGL 1301 Composition and Rhetoric I	3	ELEC 1401 Low Voltage & Appliance Circuits	4
DRDS 1303 Architectural Blueprint Reading	3	MTNT 1402 Electricity	4
TMTH 1301 Technical Mathematics	3	SPCH 1301 Public Speaking	3
MGMT 1302 Safety (OSHA)	3	ELEC 1402 Commercial Wiring	4
PSYC 1101 College Orientation	1		
	17		18
Summer Semester	Credit		
ELTE 1403 Solid State Electronics	4		
	4		

SECOND YEAR

First Semester	Credit	Second Semester	Credit
ELEC 2401 Lineman Fundamentals I	4	ELEC 2402 Lineman Fundamentals II	4
ELEC 2403 Control Circuits	4	ELEC 2408 Lineman Internship	4
ELEC 2404 Single and Three-Phase Transformers	4	ELCT Humanities/Fine Arts Elective	3
PHYS 1303 Survey of Physics	3	PSYC 2301 Introduction to Psychology	3
		ELCT †† Computer Science/Microcomputer Technology Elective	3
	16		17
			TOTAL HOURS 71

† ELTE 1401 and ELTE 1402 may be substituted.

†† Computer Science selection (excluding COSC 1302) or microcomputer selections.

EMERGENCY MEDICAL TECHNICIAN

Certificate of Completion
(Offered only at selected locations)

LEVEL I

First Semester	Credit	
EMET 1402 Emergency Medical Technician-Ambulance		
or		
EMET 1403 Emergency Medical Technician-Recertification	4	
ELCT * Approved Elective	11	
	15	
		TOTAL HOURS 16

- EMET 1201, 1302, 1303, 1304, 1305, 2101, 2301, 2302 or 2303.
For this certificate, only six hours will be accepted as evaluated credit.

EMERGENCY MEDICAL TECHNICIAN

A Two-Year Associate in Applied Science Degree

(Offered only at selected locations)

LEVEL II

FIRST YEAR

First Semester		Credit	Second Semester		Credit
EMET 1201	Emergency Medical Technician Supplemental	2	MGMT 1306	Human Relations	3
EMET 1402	Emergency Medical Technician-Ambulance	4	EMET 1302†	Military Medicine	3
ENGL 1301	Composition and Rhetoric I	3	ELCT ††	Computer Science/Micro-computer Technology	3
MGMT 1305	Introduction to Management	3		Elective	3
MATH *	Mathematics Selection(s)	3	PYED	Physical Education	1
PYED	Physical Education	1	ELCT	Humanities/Fine Arts	3
PSYC 1101	College Orientation	1	ELCT **	Approved Elective	3
		17			16

— Students may apply for a Certificate of Completion upon satisfactory completion of the first year requirements.

SECOND YEAR

First Semester		Credit	Second Semester		Credit
EMET 2101	Introduction to Paramedic	1	EMET 2302	Emergency Medical Center Management	3
EMET 2301	Disaster Planning	3	EMET 2303	Psychology of Emergencies	3
ACCO 2301†	Financial Accounting	3	ENGL 2309	Technical Writing	3
MGMT 2302	Personnel Management	3	ACCO 2302†	Managerial Accounting and Control	3
MGMT 2309	Supervision	3	ELCT	Social/Behavioral Science	3
SPCH	SPCH 1301 or 2303	3		Elective	3
		16	ELCT **	Approved Elective	3
					18

TOTAL HOURS 67

* MATH 1301, 1302, or 1305

** EMET 1303, 1304, 1305, 1403, PSYC 2301, MGMT 1301 or BIOL 1405.

† OADM 2304 and 2305 may be substituted.

†† Computer Science selection (excluding COSC 1302) or microcomputer selections.

‡ Non-Military students may select an EMET elective.

ENGINEERING

A Two-Year Associate in Science Degree

FIRST YEAR

First Semester		Credit	Second Semester		Credit
ENGR 1301	Engineering Graphics	3	ENGR 1302	Descriptive Geometry	3
MATH 1304	Analytic Geometry	3	MATH 2302	Calculus II	3
MATH 2301	Calculus I	3	ENGL 1302	Composition and Rhetoric II	3
ENGL 1301	Composition and Rhetoric I	3	SCIE †	Biology, Chemistry, Physics or Geology	4
SCIE †	Biology, Chemistry, Physics or Geology	4	PYED	Physical Education	1
PYED	Physical Education	1	COSC/MISC	COSC 1403 or MISC 1451	4
PSYC 1101	College Orientation	1			18
		18			18

(Footnote continued on next page)

ENGINEERING (CONT)

SECOND YEAR

First Semester			Credit	Second Semester			Credit
HIST	1301	History of the U.S. to 1865	3	HIST	1302	History of the U.S. from 1865	3
ENGL	2301†	English Literature I	3	SPCH	SPCH 1301 or 2303		3
GOVT	2301	State and Federal Govt I	3	GOVT	2302	State and Federal Govt II	3
ELCT		Humanities/Fine Arts Elective	3	PHYS	2402	Modern Physics II	4
PHYS	2401	Modern Physics I	4	ELCT		Elective	3
PYED		Physical Education	1	PYED		Physical Education	1
			17				17
							TOTAL HOURS 70

- † Students should check the senior college catalogue of the institution to which they plan to transfer for specific Science and English requirements. Variations occur with different institutions.

ENGLISH

A Two-Year Associate in Arts or in Science Degree

FIRST YEAR

First Semester		Credit	Second Semester		Credit
ENGL	1301 Composition and Rhetoric I	3	ENGL	1302 Composition and Rhetoric II	3
MATH	1302 College Algebra	3	MATH	1301 Trigonometry	3
LANG	1401* Beginning French I, German I or Spanish I	4	LANG	1402* Beginning French II, German II or Spanish II	4
SCIE	Biology, Chemistry, Physics or Geology	4	SCIE	Biology, Chemistry, Physics or Geology	4
HIST	1301 History of the U.S. to 1865	3	HIST	1302 History of the U.S. from 1865	3
PYED	Physical Education	1	PYED	Physical Education	1
PSYC	1101 College Orientation	1			18
		19			

- * Check particular foreign language and science requirements of institution where student wishes to transfer.

SECOND YEAR

First Semester			Credit	Second Semester			Credit
ENGL	2301	English Literature I		ENGL	2302	English Literature II	
or				or			
ENGL	2303‡	World Literature I	3	ENGL	2304‡	World Literature II	3
LANG	2301	Intermediate French I, German I or Spanish I	3	LANG	2302	Intermediate French II, German II or Spanish II	3
SPCH	1301	Public Speaking	3	MISC	1450	Microcomputers for Business	4
GOVT	2301	State and Federal Govt I	3	GOVT	2302	State and Federal Govt II	3
ELCT		Humanities/Fine Arts Elective	3	ELCT		Elective	3
PYED		Physical Education	1	PYED		Physical Education	1
			16				17
							TOTAL HOURS 70

- ‡ Check sophomore literature requirements at senior institution where student wishes to transfer. Most senior institutions will grant only lower-level credit for these courses, ENGL 2301-2302. Though department majors may elect any pair of courses, in any order, they must take both courses in the pair to fulfill department degree requirements.

EQUIPMENT MAINTENANCE MECHANIC APPRENTICESHIP PROGRAM

A Two-Year Associate in Applied Science
(Offered at only select locations)

FIRST YEAR

First Semester	Credit	Second Semester	Credit
INDU 1400 Industrial Fundamentals	4	EQMT 1402 Machine Tools	4
EQMT 1401 Fundamentals of Machinery	4	MTNT 1402 Electricity	4
ENGL 1301 Composition and Rhetoric I	3	ELCT * Computer Science/Microcom- puter Technology Elective	3
SPCH 1301 or 2303	3	WELD 1401 Beginning Gas Welding	4
MATH 1301 Intermediate Algebra	3		
PSYC 1101 College Orientation	1		
	18		15

Summer Session	Credit
EQMT 1403 Maintenance of Valves and Pumps	4
EQMT 1404 Maintenance of Galley Equipment and Fans	4
	8

SECOND YEAR

First Semester	Credit	Second Semester	Credit
EQMT 2401 Maintenance of air Compressors	4	EQMT 2403 Maintenance of Power Plants Equipment II	4
EQMT 2402 Maintenance of Power Plant Equipment I	4	EQMT 2409 Equipment Maintenance Mechanic Internship	4
MTNT 2403 Pumping I	4	ELCT Humanities/Fine Arts Elective	3
WELD 1402 Beginning Arc Welding	4	PSYC 2301 Introduction to Psychology	3
	16		14
		TOTAL HOURS	71

* Computer Science selection (excluding COSC 1302) or microcomputer selection.

EQUIPMENT MAINTENANCE ENGINEER OPTION APPRENTICESHIP PROGRAM

A Two-Year Associate in Applied Science Degree
(Offered only at selected locations)

FIRST YEAR

First Semester	Credit	Second Semester	Credit
INDU 1400 Industrial Fundamentals	4	EQMT 1402 Machine Tools	4
EQMT 1401 Fundamentals of Machinery	4	MTNT 1402 Electricity	4
ENGL 1309 Communications Skills	3	EQMT 1352 Trade Drawing IIA	2
EQMT 1250 Trade Drawing IA	2	APPH 1350 Applied Physics I	3
MATH 1301 Intermediate Algebra	3	MGMT 1306 Human Relations	3
PSYC 1101 College Orientation	1		
	17		16

(Continued on next page)

EQUIPMENT MAINTENANCE ENGINEER OPTION APPRENTICESHIP PROGRAM (CONT)

Summer Session	Credit
EQMT 1403 Maintenance of Valves and Pumps	4
EQMT 1404 Maintenance of Galley Equipment and Fans	4
	8

SECOND YEAR

First Semester	Credit	Second Semester	Credit
EQMT 2401 Maintenance of Air Compressors	4	EQMT 2403 Maintenance of Power Plant Equipment II	4
EQMT 2402 Maintenance of Power Plant Equipment I	4	DRDS 2351 Applied Statics II	3
APPH 1351 Applied Physics II	3	ELCT Social/Behavioral Science Elective	3
DRDS 2350 Applied Statics I	3	ELCT Humanities/fine arts Elective	3
ELCT * Computer Science/Microcom- puter Technology Elective	3		
	17		13

TOTAL HOURS 71

- * Computer Science selection (excluding COSC 1302) or microcomputer selection.

FINANCE AND BANKING

A Two-Year Associate in Applied Science Degree

FIRST YEAR

First Semester	Credit	Second Semester	Credit
ENGL 1301 Composition and Rhetoric I	3	FIBA 1301 Banking Principles	3
MATH 1301 Intermediate Algebra	3	FIBA 1302 Money and Banking	3
SPCH SPCH 1301 or 2303	3	FIBA 1305 Law & Banking Principles	3
ELCT BUSS 1301 or MGMT 1305	3	MISC 1450 Microcomputers for Business	4
ELCT MGMT 1304 or MGMT 1306	3	ELCT FIBA Elective	3
PSYC 1101 College Orientation	1	PYED Physical Education	1
PYED Physical Education	1		
	17		17

(Continued on next page)

FINANCE AND BANKING (CONT)

SECOND YEAR

First Semester	Credit	Second Semester	Credit
FIBA 2303 Marketing for Bankers	3	FIBA 2304 Consumer Lending	3
ACCO 2301 Financial Accounting	3	ACCO 2302 Managerial Accounting and Control	3
ACCO 2101 Financial Accounting Lab	1	ACCO 2102 Managerial Accounting and Control Lab	1
MGMT 2305 or 2306	3	BUSS * BUSS 2301 or 2302	3
MGMT 2316 Management Application I	3	MGMT 2317 Management Applications II	3
ELCT FIBA/REAE Elective	3	ELCT Humanities/Fine Arts Selection	3
	16		16
		TOTAL HOURS	66

- * ECON 2301 or ECON 2302 may be substituted.

FIRE PROTECTION TECHNOLOGY

A Two-Year Associate in Applied Science Degree
(Offered only at selected locations)

FIRST YEAR

First Semester	Credit	Second Semester	Credit
FPRT 1301 Fundamentals of Fire Protection	3	FPRT 1302 Fire Prevention	3
FPRT 1303 Fire Protection Systems	3	FPRT 1305 Fire Administration II	3
FPRT 1304 Fire Administration I	3	FPRT 1308 Fire Service Chemistry II	3
FPRT 1307 Fire Service Chemistry I	3	MATH 1301 Intermediate Algebra	3
ENGL 1301 Composition and Rhetoric I	3	SPCH 1301 Public Speaking	3
PSYC 1101 College Orientation	1	PYED Physical Education	1
PYED Physical Education	1		
	17		16

SECOND YEAR

First Semester	Credit	Second Semester	Credit
FPRT 2301 Industrial Fire Protection I	3	FPRT 2302 Industrial Fire Protection II	3
FPRT 2303 Hazardous Material I	3	FPRT 2306 Fire & Arson Investigation	3
FPRT 2305 Building Codes & Construction	3	FPRT 2404 Fire Fighting Tactics and Strategy	4
ELCT Humanities/Fine Arts Elective	3	ELCT * Computer Science/Microcomputer Technology Elective	3
GOVT 2301 State and Federal Govt I	3	FPRT ** Elective	3
or			
GOVT 2302 State and Federal Govt II	3		
ENGL 2309 Technical Writing	3		
	18		16
		TOTAL HOURS	67

- * Computer Science selection (excluding COSC 1302) or microcomputer selections.
 ** FPRT 2304, 2308, 2309, 2310, 2314; CHEM 1401 or 1402 may be substituted for FPRT 1307 and 1308.

FOOD SERVICE MANAGEMENT

A Two-Year Associate in Applied Science Degree (Offered only at selected locations)

FIRST YEAR

First Semester	Credit	Second Semester	Credit
FSMG 1302 Nutrition	3	FSMG 1301 Supervising Kitchen Administration	3
FSMG 1303 Sanitation and Safety	3	FSMG 1305 Food Purchasing	3
FSMG 1401 Food Preparation and Serving	4	FSMG 1306 Menu Planning	3
ELCT * MGMT/FSMG Selection(s)	3	MATH MATH 1301 or 1308	3
ENGL *** English Selection(s)	3	ELCT * ACCO/FSMG/HMMG/MGMT Selection(s)	3
PSYC 1101 College Orientation	1	SPCH *** SPCH selection(s)	3
	17		18

SECOND YEAR

First Semester	Credit	Second Semester	Credit
FSMG 1307 Meat Science	3	FSMG 2303 Cafeteria Management	3
FSMG 2304 Hospitality Industry Sales Promotion	3	HMMG 2304 Financial Management	3
HMMG 2301 Hospitality Industry Law	3	HMMG 2309 Hospitality Industry Computer Systems	3
ELCT ** Computer Science/Microcomputer Technology Elective	3	ELCT Humanities/Fine Arts Elect	3
ELCT * Sophomore MGMT/FSMG/ACCO Selection(s)	3	ELCT Social/Behavioral Science Elective	3
	15	ELCT * FSMG Selection(s)	3
			18

TOTAL HOURS 68

* Elective options:

Food Service Management Selections:

FSMG 1300, 1304, 1308, 2150, 2151, 2201, 2250, 2251, 2252, 2306, 2353, 2355, 2356, 2401, 2402, 2452 or 2453.

Accounting, Hotel/Motel Management and Management Selections:

ACCO 2301, 2101, 2302, 2102; HMMG 1300, 1302, 1303, 1305, 1308, 2306, MGMT 1305, 1308, 2101, 2164, 2302, 2304 or 2309.

** Computer Science selection (excluding COSC 1302) or microcomputer selections.

*** ENGL 1301 or 1309; SPCH 1301 or 2303

— Students planning to complete a baccalaureate degree should take ENGL 1301 and SPCH 1301.

FOOD SERVICE MANAGEMENT

A Two-Year Associate in Applied Science Degree (Europe only)

FIRST YEAR

First Semester	Credit	Second Semester	Credit
FSMG 1302 Nutrition	3	FSMG 1301 Supervising Kitchen Administration	3
FSMG 1303 Sanitation and Safety	3	FSMG 1305 Food Purchasing	3
FSMG 1401 Food Preparation and Serving	4	FSMG 1306 Menu Planning	3
ELCT * MGMT/FSMG Selection(s)	3	MATH MATH 1301 or 1308	3
ENGL *** ENGL Selection(s)	3	ELCT * ACCO/FSMG/HMMG/MGMT Selection(s)	3
PSYC 1101 College Orientation	1	SPCH *** SPCH Selection(s)	3
	17		18

(Footnotes continued on next page)

FOOD SERVICE MANAGEMENT (CONT)

SECOND YEAR

First Semester	Credit	Second Semester	Credit
FSMG 1307 Meat Science	3	FSMG 2303 Cafeteria Management	3
FSMG 2304 Hospitality Industry Sales Promotion	3	FSMG 2401 Classical Food Preparation	4
HMMG 2301 Hospitality Industry Law	3	HMMG 2304 Financial Management	3
ELCT ** Computer Science/Micro- computer Technology Elect	3	HMMG 2309 Hospitality Industry Computer Systems	3
ELCT • Sophomore MGMT/FSMG/ACCO Selection(s)	3	ELCT Humanities/Fine Arts Elect	3
	15	ELCT Social/Behavioral Science Elective	3
			19
		TOTAL HOURS	69

• Elective options:

Food Service Management Selections:

FSMG 1300, 1304, 1308, 2150, 2151, 2201, 2250, 2251, 2252, 2306, 2353, 2355, 2356, 2402, 2452, or 2453.

Accounting, Hotel/Motel Management and Management Selections:

ACCO 2301, 2101, 2302, 2102; HMMG 1300, 1302, 1303, 1305, 1308, 2306; MGMT 1305, 1308, 2101, 2164, 2302, 2304, or 2309.

** Computer Science selection (excluding COSC 1302) or microcomputer selections.

*** ENGL 1301 or 1309, SPCH 1301 or 2303.

— Students planning to complete a baccalaureate degree should take ENGL 1301 and SPCH 1301.

FOOD SERVICE OPERATION OPTION

A One-Year Certificate of Completion

(Offered only at selected locations)

First Semester	Credit	Second Semester	Credit
FSMG 1302 Nutrition	3	FSMG 1309 Short Order Food Production	3
FSMG 1303 Sanitation and Safety	3	FSMG 1402 Basic Baking and Pastry Production	4
FSMG 1401 Food Preparation and Serving	4	FSMG 2401 Classical Food Preparation	4
OADM 1309 Business Mathematics and Calculating Machines	3	ELCT Elective	3
ENGL 1309 Communications Skills	3		
PSYC 1101 College Orientation	1		
	17		14
		TOTAL HOURS	31

FOREIGN LANGUAGE

A Two-Year Associate in Arts Degree

FIRST YEAR

First Semester			Credit	Second Semester			Credit
ENGL	1301	Composition and Rhetoric I	3	ENGL	1302	Composition and Rhetoric II	3
LANG	1401	Beginning French I, German I or Spanish I	4	HIST	1302	History of the U.S. from 1865	3
MATH	1302	College Algebra	3	LANG	1402	Beginning French II	
HIST	1301	History of the U.S. to 1865	3			German II or Spanish II	4
SCIE		Biology, Chemistry, Physics or Geology	4	ELCT		Humanities/Fine Arts Elective	3
PYED		Physical Education	1	SCIE		Biology, Chemistry, Physics or Geology	4
PSYC	1101	College Orientation	1	PYED		Physical Education	1
			19				18

SECOND YEAR

First Semester			Credit	Second Semester			Credit
ENGL	2301	English Literature I	3	ENGL	2302	English Literature II	3
LANG	2301	Intermediate French I, German I or Spanish I	3	LANG	2302	Intermediate French II, German II or Spanish II	3
GOVT	2301	State and Federal Govt I	3	GOVT	2302	State and Federal Govt II	3
SPCH	1301	Public Speaking	3	MISC	1450	Microcomputers for Business	4
LANG	•	Second Language	4	LANG	•	Second Language	4
PYED		Physical Education	1	PYED		Physical Education	1
			17				18
							TOTAL HOURS 72

- Second language requirement varies with senior colleges. Check senior college catalogue carefully. Check senior college catalogue for specific math requirements.

GENERAL STUDIES

A Two-Year Associate in General Studies Degree.

See Page 19

GEOLOGY

A Two-Year Associate in Science Degree

FIRST YEAR

First Semester			Credit	Second Semester			Credit
GEOL	1401	Physical Geology	4	GEOL	1402	Historical Geology	4
MATH	1303†	Trigonometry	3	MATH	1304	Analytic Geometry	3
HIST	1301	History of the U.S. to 1865	3	HIST	1302	History of the U.S. From 1865	3
CHEM	1401	General Chemistry I	4	CHEM	1402	General Chemistry II	4
ENGL	1301	Composition and Rhetoric I	3	ENGL	1302	Composition and Rhetoric II	3
PYED		Physical Education	1	PYED		Physical Education	1
PSYC	1101	College Orientation	1				18
			19				

- † Students deficient in mathematics must take College Algebra. This course should be taken during the summer term prior to the freshman year.

(Continued on next page)

GEOLOGY (CONT)

FIRST YEAR (CONT)

Summer Session

GEOL 2403 Geologic Field Methods 4

SECOND YEAR

First Semester		Credit	Second Semester		Credit
BIOL	2401 Invertebrate Zoology	4	GEOL	2301 Geomorphology	3
GOVT	2301 State and Federal Govt I	3	GOVT	2302 State and Federal Govt II	3
MATH	2301 Calculus I	3	MATH	2302 Calculus II	3
ENGL	2301 English Literature I	3	SPCH	1301 Public Speaking	3
PYED	Physical Education	1	PYED	Physical Education	1
COSC	1403 Introduction to computer Science and Programming	4	ELCT	Humanities/Fine Arts Elective	3
		18			16
					TOTAL HOURS 71

— Students should check the catalogue of the institution to which they plan to transfer as requirements may vary.

HOTEL-MOTEL MANAGEMENT

A Two-Year Associate in Applied Science Degree

FIRST YEAR

First Semester		Credit	Second Semester		Credit
HMMG	1305 Energy Management	3	HMMG	1300 Food and Beverage Management	3
HMMG	1302 or HMMG 1307	3	HMMG	1303 Front Office Procedures	3
FSMG	1401 Food Preparation & Serving	4	FSMG	1301 Supervising Kitchen Administration	3
ENGL	*** English Selection(s)	3	FSMG	1303 Sanitation and Safety	3
MATH	MATH 1301 or MATH 1308	3	FSMG	1305 Food Purchasing	3
PSYC	1101 College Orientation	1	ELCT	* Hotel/Motel or Food Service Management Elective	3
		17			18

SECOND YEAR

First Semester		Credit	Second Semester		Credit
FSMG	2304 Hospitality Industry Sales Promotion	3	HMMG	2301 Hospitality Industry Law	3
ELCT	* Sophomore HMMG or FSMG Elective	3	HMMG	2304 Financial Management	3
ELCT	Humanities/Fine Arts Elective	3	HMMG	2309 Hospitality Industry Computer Systems	3
ELCT	** Computer Science/ Microcomputer Technology	3	ELCT	* Sophomore Hotel/Motel Management Elective	3
SPCH	*** SPCH Selection(s)	3	ELCT	* Sophomore Hotel/Motel Management Elective	3
		15	ELCT	Social/Behavioral Science Elective	3
					18
					TOTAL HOURS 68

(Footnotes continued on next page)

- HMMG 1306, 1308, 2302, 2305, 2306, 2307, 2308; FSMG 1300, 1302, 1304, 1306, 1307, 1308, 2201, 2303, 2306, 2401, 2402; MGMT 1305, 1308.
- Students pursuing emphasis in specific areas must take the electives shown below:
 Front Office Procedures HMMG 1306.
 Marketing and Sales Promotion HMMG 1306 and HMMG 2307.
 Food and Beverage Management HMMG 2308.
 Housekeeping HMMG 2302.
 Engineering and Facility Mgmt HMMG 2305 and HMMG 2302.
- ** Computer Science selection (excluding COSC 1302) or microcomputer selections.
- *** ENGL 1301 or 1309; SPCH 1301 or 2303.
- Students planning to complete a baccalaureate degree should take ENGL 1301 and SPCH 1301.

LAW ENFORCEMENT

A Two-Year Associate in Applied Science Degree (Offered only at selected locations)

FIRST YEAR

First Semester	Credit	Second Semester	Credit
LAWE 1301 Introduction to Criminal Justice	3	LAWE 1201 Defensive Tactics	2
LAWE 1304 The Courts and Criminal Procedures	3	LAWE 1302 Criminal Investigation I	3
LAWE 1307 Crime in America	3	LAWE 1303 Legal Aspects of Law Enforcement	3
LAWE 1308 Fundamentals of Criminal Law	3	LAWE 1309 Police Systems & Practices	3
ENGL 1301 Composition and Rhetoric I	3	ENGL * English Selection(s)	3
PSYC 1101 College Orientation	1	ELCT Law Enforcement Elective	3
PYED 2108 Physical Conditioning	1		
	17		17

SECOND YEAR

First Semester	Credit	Second Semester	Credit
LAWE 2101 Emergency Medical Aid	1	LAWE 2201 Firearms	2
LAWE 2304 Juvenile Procedures	3	PSYC 2301 Introduction to Psychology	3
GOVT 2301 State and Federal Govt I or		SPCH 2303 Business and Professional Speaking	3
GOVT 2302 State and Federal Govt II	3	ELCT Humanities/Fine Art Elective	3
SOCI 2301 Introduction to Sociology	3	ELCT Law Enforcement Elective	3
MATH ** Mathematics Selection(s)	3	ELCT † Computer Science/Microcomputer Technology Elective	3
PYED Physical Education	1		
ELCT Law Enforcement Elective	3		
	17		17
			TOTAL HOURS 68

- ENGL 1302 or 2309 (Technical Writing).
- ** Three semester hours of computational skilled from Mathematics, 1301 level or higher.
- † Computer Science selection (excluding COSC 1302) or microcomputer selections.
- Law Enforcement options:
 Students majoring in corrections may substitute LAWE 1306 and 1314 for any two of the following courses: LAWE 1302, 1303 or 1309.
- EMET 1402 may be taken in place of a LAWE elective.
- Elective: Courses listed above not used in curriculum or LAWE 1305, 1310, 1315, 2301, 2303, 2306, 2307, 2308, 2309, 2310, 2311, 2312, 2313, 2314 and 2315.
- Students planning to complete a baccalaureate degree in Criminal Justice/Law Enforcement should declare a major and develop a degree plan which will meet the transfer requirements of the college of their choice, as soon as it can be determined.

LEGAL ASSISTANT

A Two-Year Associate in Applied Science Degree

FIRST YEAR

First Semester	Credit	Second Semester	Credit
LEGA 1301 Introduction to Legal Assistant	3	LEGA 1306 Criminal Law	3
LEGA 1304 Principles of Family Law	3	LEGA 1307 Civil Litigation	3
LEGA 1402 Legal Office Ethics and Management	4	MATH 1301 Intermediate Algebra	3
ENGL 1301 Composition and Rhetoric I	3	MISC 1420 Word Processing for Microcomputers	4
GOVT 2301 State and Federal Govt I	3	ENGL 1302 Composition and Rhetoric II	3
PSYC 1101 College Orientation	1	PYED Physical Education	1
PYED Physical Education	1		
	18		17

SECOND YEAR

First Semester	Credit	Second Semester	Credit
LEGA 2302 Contract Law	3	LEGA 2405 Wills, Trust & Probate	4
LEGA 2306 Techniques of Legal Research	3	LEGA * Approved Elective	3
LEGA * Approved Elective	3	LEGA * Approved Elective	3
ACCO 2301 Financial Accounting	3	SPCH SPCH 1301 or 2303	3
ACCO 2101 Financial Accounting Lab	1	ELCT Humanities/Fine Arts Elective	
GOVT 2302 State and Federal Govt II	3	Arts Elective	3
	16		16
		TOTAL HOURS	67

- LEGA 1305, LEGA 1308, LEGA 2301, LEGA 2303, LEGA 2402, or LEGA 2404.

MAINTENANCE TECHNOLOGY

A Two-Year Associate in Applied Science Degree

FIRST YEAR

First Semester	Credit	Second Semester	Credit
INDU 1400 Industrial Fundamentals	4	AIRC 1403 Heating Systems	4
AIRC 1400 Basic Air Conditioning & Refrigeration Theory	4	MTNT 1402 Electricity	4
MTNT 1401 Carpentry I	4	ENGL 1309 Communications Skills	3
MATH 1301 Intermediate Algebra	3	WELD 1401 Beginning Gas Welding	4
PSYC 1101 College Orientation	1	ELCT Humanities/Fine Arts Elective	3
	16		18

SECOND YEAR

First Semester	Credit	Second Semester	Credit
MTNT 2402 Carpentry II	4	MTNT 2404 Painting & Refinishing	4
MTNT 2403 Plumbing I	4	MTNT 2410 Plumbing II	4
AIRC 1407 Mechanical Refrigeration Systems	4	DRDS 1303 Architectural Blueprint Reading	3
ELCT * Computer Science/Microcomputer Technology Elective	3	WELD 1402 Beginning Arc Welding	4
GOVT 2301 State and Federal Govt I		SPCH 2303 Business and Professional Speaking	3
or			
GOVT 2302 State and Federal Govt II	3		
	18		18
		TOTAL HOURS	70

- Computer Science selection (excluding COSC 1302) or microcomputer selections.
- Students may apply for a Certificate of Completion upon satisfactory completion of PSYC 1101 and all MTNT, AIRC, DRDS, WELD and INDU prefix courses.

MATHEMATICS

A Two-Year Associate in Arts or Science Degree

FIRST YEAR

First Semester		Credit	Second Semester		Credit
MATH 1302	College Algebra	3	MATH 1304	Analytic Geometry	3
MATH 1303	Trigonometry	3	ELCT *	Science or Language	
ELCT *	Science or Language			Elective Selected from	
	1401-1402 Sequence	4	COSC 1403	Introduction to Computer	4
ENGL 1301	Composition and Rhetoric I	3		Science and Programming	4
HIST 1301	History of the U.S. to 1865	3	ENGL 1302	Composition and Rhetoric II	3
PYED	Physical Education	1	HIST 1302	History of U.S. from 1865	3
PSYC 1101	College Orientation	1	PYED	Physical Education	1
		18			18

SECOND YEAR

First Semester		Credit	Second Semester		Credit
MATH 2301	Calculus I	3	MATH 2302	Calculus II	3
ENGL 2301	English Literature I	3	SPCH	SPCH 1301 or 2303	3
GOVT 2301	State and Federal Govt I	3	GOVT 2302	State and Federal Govt II	3
SCIE *	Science Elective	3-4	SCIE *	Science Elective	3-4
ELCT	Humanities/Fine Arts Elective	3	ELCT	Elective	3
PYED	Physical Education	1	PYED	Physical Education	1
		16-17			16-17
				TOTAL HOURS 68-70	

- Choice of elective determines the degree.
- To meet the requirement for 18 hours of sophomore courses, student must take a sophomore level speech or elective.
- This curriculum is recommended for students pursuing either an Associate in Arts degree or an Associate of Science degree from Central Texas College. Freshman with adequate background may enroll in MATH 2301 (Calculus I) during the Fall semester with the permission of the appropriate College Official.
- Students should consult the catalogue of the institution to which they plan to transfer for required or recommended courses.

MICROCOMPUTER TECHNOLOGY INFORMATION MANAGEMENT OPTION

A Two-Year Associate in Applied Science Degree

FIRST YEAR

First Semester		Credit	Second Semester		Credit
MISC 1420	Word Processing for Microcomputers	4	MISC 1440	Database for Microcomputers	4
MISC 1430	Spreadsheets for Microcomputers	4	MISC 1451	Introduction to Micro-computer Programming	4
MISC 1450	Microcomputers for Business	4	MATH †	Mathematics Selection(s)	3
ENGL 1301	Composition and Rhetoric I	3	MGMT 1305	Introduction to Management	3
PSYC 1101	College Orientation	1	ELCT	Humanities/Fine Arts Elect	3
		16			17

† MATH 1301, 1302, 1304, 1305, 1308, 2301, 2302 or 2303.

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MICROCOMPUTER TECHNOLOGY (CONT) INFORMATION MANAGEMENT OPTION

SECOND YEAR

First Semester	Credit	Second Semester	Credit
MISC 2451 Operating Systems	4	MISC 2301 Information Center Management	3
MISC/COSC Technical Elective	4	MISC 2402 Systems In The MIS Environment	4
ACCO 2301 Financial Accounting	3	MISC 2454 Data Communications and Networking	4
ACCO 2101 Financial Accounting Lab	1	MISC/COSC Technical Elective	4
ELCT Social/Behavioral Science Elective	3	SPCH 2303 Business and Professional Speaking	3
	15		18
		TOTAL HOURS	66

MICROCOMPUTER TECHNOLOGY PROGRAMMER/ANALYST OPTION

A Two-Year Associate in Applied Science Degree

FIRST YEAR

First Semester	Credit	Second Semester	Credit
MISC 1405 Computer Concepts and Analysis	4	MISC 1404 COBOL Programming	4
MISC 1451 Introduction to Microcomputer Programming	4	MISC 1406 Computer Organization and Architecture	4
ENGL 1301 Composition and Rhetoric I	3	MISC 1454 PASCAL Programming	4
MATH † Mathematics Selection(s)	3	MATH † Mathematics Selection(s)	3
PSYC 1101 College Orientation	1	ELCT Social/Behavioral Science Elective	3
	15		18

SECOND YEAR

First Semester	Credit	Second Semester	Credit
MISC 2451 Operating Systems	4	MISC 2402 Systems In The MIS Environment	4
MISC 2456 C Language Programming	4	MISC 2454 Data Communications and Networking	4
MISC Technical Elective	4	MISC/COSC Technical Elective	4
ELCT †† ACCO/BUSS/ECON Selection(s)	3-4	ELCT Humanities/Fine Arts Elective	3
	15-16	SPCH 2303 Business and Professional Speaking	3
			18
		TOTAL HOURS	66-67

† MATH 1301, 1302, 1304, 1305, 1308, 2301, 2302 or 2303.

†† ACCO 2301 and 2101, 2302 and 2102; BUSS 1301, 2301, 2302; ECON 2301 or 2302.

OFFICE MANAGEMENT

A Two-Year Associate in Applied Science Degree

FIRST YEAR

First Semester	Credit	Second Semester	Credit
WOPO 1303* Beginning Keyboarding/ Data Entry	3	WOPO 1304* Intermediate Information Processing Applications	3
OADM 1309 Business Mathematics and Calculating Machines	3	WOPO 1307 Word Processing and Transcription	3
MGMT 1304 Work Organization	3	OADM 1305 Records Management	3
MGMT 1305 Introduction to Management	3	OADM 1308 Business Correspondence	3
ENGL 1301 Composition and Rhetoric I	3	MATH 1301 Intermediate Algebra	3
PSYC 1101 College Orientation	1	PYED Physical Education	1
	16		16

- Students may apply for a Certificate of Completion upon satisfactory completion of courses listed above.

SECOND YEAR

First Semester	Credit	Second semester	Credit
OADM 2304 Office Accounting I	3	OADM 2305 Office Accounting II	3
MGMT 2305 Business law I	3	OADM 2307 Automated Office Administration	3
SPCH 2303 Business and Professional Speaking	3	MGMT 2302 Personnel Management	3
ELCT Social/Behavioral Science Elective	3	MGMT 2306 Business Law II	3
ELCT ** OADM/WOPO/MGMT Selection(s)	3	ELCT Humanities/Fine Arts Elective	3
PYED Physical Education	1	ELCT ** OADM/WOPO/MGMT Selection(s)	3
	16		18
		TOTAL HOURS	66

- Levels of keyboarding will be determined by the student's previous training in these skills and/or by placement test.
- ** Electives of selections approved by the appropriate College Official.

PHOTOGRAPHY

A One-year Certificate of Completion

First Semester	Credit	Second Semester	Credit
PHOT 1401 Introduction to Photography	4	PHOT 1403 Advanced Photography	4
PHOT 1402 Portrait Photography	4	PHOT 1404 Commercial Photography	4
TELE 1406 Television Film	4	PHOT 1405 Advanced Print Making	4
ENGL 1309 Communications Skills	3	PHOT 2406 Color Photography I	4
PSYC 1101 College Orientation	1		
	16		16
		TOTAL HOURS	32

PHOTOGRAPHY

A Two-Year Associate in Applied Science Degree (Offered only at selected locations)

FIRST YEAR

First Semester	Credit	Second Semester	Credit
PHOT 1401 Introduction to Photography	4	PHOT 1403 Advanced Photography	4
PHOT 1402 Portrait Photography	4	PHOT 1404 Commercial Photography	4
ENGL 1309 Communications Skills	3	PHOT 1405 Advanced Print Making	4
MATH 1301 Intermediate Algebra	3	ELCT Social/Behavioral Science	
PSYC 1101 College Orientation	1	Elective	3
PYED Physical Education	1	PYED Physical Education	1
	16		16

SECOND YEAR

First Semester	Credit	Second Semester	Credit
PHOT 2403 Portrait Retouching	4	PHOT 2404 Photographic Production	4
PHOT 2406 Color Photography I	4	PHOT 2407 Color Photography II	4
JOUR 1301 Communications Media	3	OADM 2304 Office Accounting I	3
ELCT Humanities/Fine Arts	3	MISC 1450 Microcomputers for	
Elective		Business	4
BUSS 1301 Introduction to Business	3	ELCT • Approved Elective	3
PYED Physical Education	1	PYED Physical Education	1
	18		19

TOTAL HOURS 69

- Approved Electives: SPCH 1301; OPRT 1302; TELE 1406; MGMT 1305, 2302, 2305, 2309; or MISC 1405.

PHYSICAL EDUCATION

A Two-Year Associate in General Studies Degree

FIRST YEAR

First Semester	Credit	Second Semester	Credit
ENGL 1301 Composition and Rhetoric I	3	ENGL 1302 Composition and Rhetoric II	3
BIOL 1401 General Biology I	4	BIOL 1402 General Biology II	4
HIST 1301 History of the U.S. to 1865	3	HIST 1302 History of the U.S. from	
PSYC 1101 College Orientation	1	1865	3
PYED 1301 Foundations of Physical		SPCH 1301 Public Speaking	3
Education	3	PYED 1302 Foundations of Health	3
PYED Physical Education	1	PYED Physical Education	1
	15		17

SECOND YEAR

First Semester	Credit	Second Semester	Credit
ENGL 2301 English Literature I	3	ENGL 2302 English Literature II	3
BIOL 1405 Human Anatomy	4	MATH 1301 Intermediate Algebra	3
GOVT 2301 State and Federal Govt I	3	GOVT 2302 State and Federal Govt II	3
PYED 2301 Sports Officiating	3	PYED 2302 Safety and First Aid	3
COSC 1300 Computer Information		ELCT Humanities/Fine Arts	
Processing	3	Elective	3
PYED Physical Education	1	PYED Physical Education	1
	17		16

TOTAL HOURS 65

PLUMBER APPRENTICESHIP PROGRAM

A Two-Year in Applied Science Degree

(Offered only at selected locations)

FIRST YEAR

First Semester		Credit	Second Semester		Credit
INDU	1400 Industrial Fundamentals	4	PLUM	1402 Principles of Plumbing II	4
PLUM	1401 Principles of Plumbing I	4	PLUM	1403 Residential Plumbing I	4
DRDS	1303 Architectural Blueprint Reading	3	ENGL	1309 Communications Skills	3
MATH	1301 Intermediate Algebra	3	WELD	1401 Beginning Gas Welding	4
PSYC	1101 College Orientation	1			
		15			15

Summer Semester

PLUM	1404 Residential Plumbing II	4
PLUM	1405 Commercial Plumbing	4
DRDS	1400 Fundamentals of Drafting	4
		12

SECOND YEAR

First Semester		Credit	Second Semester		Credit
PLUM	2401 Plumbing Layout, Codes and Estimating	4	PLUM	2403 Heating and Air Conditioning Plumbing	4
PLUM	2402 Plumbing Repair and Maintenance	4	PLUM	2409 Plumbing Internship	4
ELCT	* Computer Science/Microcomputer Technology Elective	3	ELCT	Humanities/Fine Arts Elective	3
PSYC	2301 Introduction to Psychology	3	SMTL	1401 Sheet Metal I	4
		14			15

TOTAL HOURS 71

* Computer Science selection (excluding COSC 1302) or microcomputer selections.

REAL ESTATE

A Two-Year Associate in Applied Science Degree

FIRST YEAR

First Semester		Credit	Second Semester		Credit
MGMT	MGMT 1304 or 1306	3	REAE	1301 Real Estate Fundamentals	3
ENGL	1301 Composition and Rhetoric I	3	REAE	1302 Real Estate Marketing	3
MATH	1301 Intermediate Algebra	3	REAE	REAE Elective	3
SPCH	SPCH 1301 or 2303	3	REAE	REAE Elective	3
ELCT	BUSS 1301 or MGMT 1305	3	MISC	1450 Microcomputers for Business	4
PSYC	1101 College Orientation	1	PYED	Physical Education	1
PYED	Physical Education	1			
		17			17

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REAL ESTATE (CONT)

SECOND YEAR

First Semester	Credit	Second Semester	Credit
REAE 2302 Residential Real Estate Appraisal	3	REAE 2304 Real Estate Finance	3
REAE 2305 Real Estate Law	3	BUSS • BUSS 2301 or BUSS 2302	3
MGMT 2305 or MGMT 2306	3	MGMT 2317 Management Applications II	3
MGMT 2316 Management Applications I	3	ACCO 2302 Managerial Accounting	3
ACCO 2301 Financial Accounting	3	ACCO 2102 Managerial Accounting Lab	1
ACCO 2101 Financial Accounting Lab	1	ELCT Humanities/Fine Arts Elective	3
	16		16
		TOTAL HOURS	66

- ECON 2301 and ECON 2302 may be substituted

RESIDENTIAL/COMMERCIAL ELECTRICIAN

A Two-Year Associate in Applied Science Degree

(Offered only at selected locations)

FIRST YEAR

First Semester	Credit	Second Semester	Credit
ELTE 1400* Basic Electricity	4	ELEC 1301 Electrical Codes	3
MTNT 1402 Electricity	4	ELEC 1401 Low Voltage and Appliance Circuits	4
MGMT 1302 Safety (OSHA)	3	ELTE 1403 Solid State Electronics	4
TMTH 1301 Technical Mathematics	3	ENGL 1301 Composition and Rhetoric I	3
PSYC 1101 College Orientation	1	SPCH 1301 Public Speaking	3
	15		17

Summer Semester

ELEC 1402 Commercial Wiring	4
ELEC 2403 Control Circuits	4
	8

SECOND YEAR

First Semester	Credit	Second Semester	Credit
ELEC 2404 Single and Three-Phase Transformers	4	ELEC 2406 Electrical Planning	4
ELEC 2405 Motors and Motor Codes	4	ELEC 2409 Electrician Internship	4
DRDS 1303 Architectural Blueprint Reading	3	ELCT Humanities/Fine Arts Elective	3
PHYS 1403 Survey of Physics	3	PSYC 2301 Introduction to Psychology	3
	14	ELCT ** Computer Science/Microcomputer Technology Elective	3
			17
		TOTAL HOURS	71

- ELTE 1401 and ELTE 1402 may be substituted.
- ** Computer Science selection (excluding COSC 1302) or microcomputer selections.

SHEET METAL APPRENTICESHIP PROGRAM

A Two-Year Associate in Applied Science Degree

(Offered only at selected locations)

FIRST YEAR

First Semester	Credit	Second Semester	Credit
SMTL 1401 Sheet Metal I	4	SMTL 1303 Insulation and Sheet Metal	
DRDS 1302 Blueprint Reading	3	Standards and Materials	3
WELD 1401 Beginning Gas Welding	4	SMTL 1402 Plumbing and Heating	
WELD 1402 Beginning Arc Welding	4	Insulation	4
PSYC 1101 College Orientation	1	DRDS 1400 Fundamentals of Drafting	4
		MATH 1301 Intermediate Algebra	3
		MGMT 1302 Safety (OSHA)	3
	16		17
Summer Semester			
SMTL 2401 Sheet Metal II	4		
FPRT 2305 Building Codes and Construction	3		
	7		

SECOND YEAR

First Semester	Credit	Second Semester	Credit
SMTL 2302 Sheet Metal Layout and Planning	3	SMTL 2402 Duct Work	4
PHYS 1303 Survey of Physics	3	SMTL 2409 Sheet Metal Internship	4
PSYC 2301 Introduction to Psychology	3	ELCT Humanities/Fine Arts Elective	3
WELD 2408 GMAW Welding (MIG)	4	ENGL 1309 Communications Skills	3
ELCT † Computer Science/Microcomputer Technology Elective	3		
	16		14
			TOTAL HOURS 70

† Computer Science selection (excluding COSC 1302) or microcomputer selections.

SMALL GAS ENGINE REPAIR

A Two-Year Associate in Applied Science Degree

(Offered only at selected locations)

FIRST YEAR

First Semester	Credit	Second Semester	Credit
SGER 1401 Gas Engine Fundamentals	4	SGER 1407 Small Gas Engine Service	4
INDU 1400 Industrial Fundamentals	4	MATH 1301 Intermediate Algebra	3
ENGL 1309 Communications Skills	3	WELD 1402 Beginning Arc Welding	4
WELD 1401 Beginning Gas Welding	4	SGER * SGER Selection(s)	4
PSYC 1101 College Orientation	1	ELCT Humanities/Fine Arts Elective	3
	16		18

(Continued on next page)

SECOND YEAR

First Semester	Credit	Second Semester	Credit
SGER 2402 Chain Saw Service and Repair	4	SGER 2311 Shop Organization and Management	3
SGER 2410 Lawn and Garden Equipment Service	4	SGER 2408 Outboard Motor Service and Repair	4
WELD 2407 GTAW Welding (TIG)	4	OADM 2304 Office Accounting I	3
GOVT 2301 or GOVT 2302	3	ELCT ** Computer Science/Microcomputer Technology Elective	3
SPCH 2303 Business and Professional Speaking	3	ELCT Elective	3
	18		16
		TOTAL HOURS	68

* SGER 1409, SGER 2407, or SGER 2409.

** Computer Science selection (excluding COSC 1302) or microcomputer selections.

— Students may apply for a Certificate of Completion upon satisfactory completion of all PSYC 1101 and SGER, OADM, WELD, and INDU prefix courses.

SOCIAL SCIENCE

A Two-Year Associate in Arts Degree

FIRST YEAR

First Semester	Credit	Second Semester	Credit
ENGL 1301 Composition and Rhetoric I	3	ENGL 1302 Composition and Rhetoric II	3
HIST 1301 History of the U.S. to 1865	3	HIST 1302 History of the U.S. from 1865	3
LANG 1401 Beginning French I, German I or Spanish I	4	LANG 1402 Beginning French II, German II or Spanish II	4
SCIE Biology, Chemistry, Physics or Geology	4	SCIE Biology, Chemistry, Physics or Geology	4
MATH 1302 College Algebra	3	ELCT Humanities/Fine Arts Elective	3
PYED Physical Education	1	PYED Physical Education	1
PSYC 1101 College Orientation	1		18
	19		

SECOND YEAR

First Semester	Credit	Second Semester	Credit
ENGL 2301 English Literature I	3	SPCH Speech Elective	3
GOVT 2301 State and Federal Govt I	3	GOVT 2302 State and Federal Govt II	3
PSYC 2301 Introduction to Psychology	3	SOCI 2301 Introduction to Sociology	3
COSC Computer Science Elective	4	ELCT Social Science Elective	3
ELCT Sophomore Social Science course	3	ELCT Elective	3
PYED Physical Education	1	PYED Physical Education	1
	17		16
		TOTAL HOURS	70

SPEECH

A Two-Year Associate in Arts Degree

FIRST YEAR

First Semester			Credit	Second Semester			Credit
ENGL	1301	Composition and Rhetoric I	3	ENGL	1302	Composition and Rhetoric II	3
HIST	1301	History of the U.S. to 1865	3	HIST	1302	History of the U.S. from 1865	3
LANG	1401	Beginning French I, German I or Spanish I	4	LANG	1402	Beginning French II, German II or Spanish II	4
SPCH	1301	Public Speaking	3	ELCT		Elective	3
ELCT		SPCH 1302 or 1303	3	MATH	1302	College Algebra	3
PYED		Physical Education	1	PYED		Physical Education	1
PSYC	1101	College Orientation	1				
			18				17

SECOND YEAR

First Semester			Credit	Second Semester			Credit
ENGL	2301	English Literature I	3	ENGL	2302	English Literature II	3
GOVT	2301	State and Federal Government I	3	GOVT	2302	State and Federal Govt II	3
SPCH	2304	Discussion	3	SPCH	2305	Interpersonal Communications	3
SCIE		Biology, Chemistry, Physics or Geology	4	MISC	1450	Microcomputers for Business	4
ELCT		Humanities/Fine Arts Elective	3	SCIE		Biology, Chemistry, Physics or Geology	4
PYED		Physical Education	1	PYED		Physical Education	1
			17				18
							TOTAL HOURS 70

TELECOMMUNICATIONS

A Two-Year Associate in Applied Science Degree

FIRST YEAR

First Semester			Credit	Second Semester			Credit
TELE	1301	Introduction to Broadcasting	3	TELE	1305	Broadcast Writing	3
TELE	1402	Beginning Radio Production	4	TELE	1406	Television Film	4
TELE	1403	Beginning Television Production	4	TELE	1407	Advanced Radio Production	4
ENGL	1301	Composition and Rhetoric I	3	TELE	1408	Advanced Television Production	4
SPCH	1301	Public Speaking	3	MATH *		Mathematics Selection(s)	3
PSYC	1101	College Orientation	1				
			18				18

(Continued on next page)

SECOND YEAR

First Semester	Credit	Second Semester	Credit
TELE 1405 Radio-Television Announcing	4	TELE 2301 Technical Aspects of Broadcasting	3
TELE 2304 Broadcast Sales	3	TELE 2306 Telecommunications Seminar	3
TELE 2407 Electronic Field Production	4	JOUR 1301 Communications Media	3
ELCT *** Social Science/Behavioral Science Elective	3	MISC 1450 Microcomputers for Business	4
ELCT *** Humanities/Fine Arts Elect	3	ELCT ** Elective	3
	17		16
		TOTAL HOURS	69

- * MATH 1301 or higher.
- ** TELE 2307 or 2410
- *** One of these electives must be at the sophomore level

TRAINING MANAGEMENT SYSTEMS

A Two-Year Associate in Applied Degree
(Offered only at selected locations)

FIRST YEAR

First Semester	Credit	Second Semester	Credit
MGMT 1201 Management of Performance Oriented Training	2	MGMT 1205 Analysis of Training Requirements	2
MGMT 1202 Briefing Techniques, Aids and Devices	2	MGMT 1206 Professional Resource Management	2
MGMT 1203 Evaluation of Instruction & Training	2	MGMT 1207 Professional Development of the Manager	2
MGMT 1204 Setting Objectives and Goals	2	MGMT 1208 The Training System Management	2
ENGL 1309 Communications Skills	3	MGMT 1209 Managerial Theories	2
MATH 1301 Intermediate Algebra	3	ELCT * Approved Elective	3
PSYC 1101 College Orientation	1	ELCT ** Computer Science/Microcomputer Technology Elective	3
PYED Physical Education	1	PYED Physical Education	1
	16		17

SECOND YEAR

First Semester	Credit	Second Semester	Credit
MGMT 2201 Job Performance & Motivation	2	MGMT 2204 Assessing of Training Standards, Goals Objectives	2
MGMT 2202 Individual Orientation Techniques	2	MGMT 2205 Management Training Theory	2
MGMT 2203 Group Orientation Techniques	2	MGMT 2206 Management Learning Strategies	2
ELCT *** Sophomore Management Elective	3	SPCH 2303 Business and Professional Speaking	3
ELCT Humanities/Fine Arts Elective	3	HIST **** History Selection(s)	3
ELCT * Elective	3	ELCT * Approved Electives	3
PYED Physical Education	1	PYED Physical Education	1
	16		16
		TOTAL HOURS	65

(Footnotes continued on next page)

- * Approved electives: MGMT 2150, 2151, 2152, 2161, 2162, 2255, 2256, 2257, 2258, 2259, 2351 or 2358.
- ** Computer Science selection (excluding COSC 1302) or microcomputer selections.
- *** MGMT 2302, 2310; or BUSS 2306.
- **** HIST 1301, 1302, 2350 or 2351.

WELDING

A Two-Year Associate in Applied Science Degree

FIRST YEAR

First Semester		Credit	Second Semester		Credit
INDU 1400	Industrial Fundamentals	4	WELD 1403	Intermediate Arc Welding	4
WELD 1401‡	Beginning Gas Welding	4	WELD 1405	Advanced Gas Welding	4
WELD 1401†	Beginning Arc Welding	4	WELD 1406	Blueprint For Welders	4
MATH 1301	Intermediate Algebra	3	ENGL 1309	Communications Skills	3
PSYC 1101	College Orientation	1			
		16			15

SECOND YEAR

First Semester		Credit	Second Semester		Credit
WELD 2401	Advanced Arc Welding	4	WELD 2404	Pipe II	4
WELD 2402	Pipe I	4	WELD 2406	Welding Fabrication and Layout	4
WELD 2407	GTAW Welding (TIG)	4	WELD 2408	GMAW Welding (MIG)	4
GOVT 2301	State and Federal Govt I		ELCT	Humanities/Fine Arts Elective	3
or			SPCH 2303	Business and Professional Speaking	3
GOVT 2302	State and Federal Govt II	3			
ELCT ††	Computer Science/Microcomputer Technology Elective	3			
		18			18
					TOTAL HOURS 67

- ‡ WELD 1301 may be substituted.
- † WELD 1302 may be substituted.
- †† Computer Science selection (excluding COSC 1302) or microcomputer selections.
- Students may apply for a Certificate of Completion upon satisfactory completion of PSYC 1101 and all WELD and INDU prefix courses.

WORD PROCESSING SPECIALIST

A Two-year Associate in Applied Science Degree

FIRST YEAR

First Semester	Credit	Second Semester	Credit
WOPO 1303* Beginning Keyboarding/ Data Entry	3	WOPO 1304* Intermediate Information Processing Applications	3
ENGL 1301 Composition and Rhetoric I	3	WOPO 1307 Word Processing and Transcription	3
MATH 1301 Intermediate Algebra	3	SPCH 1301 or 2303	3
OADM 1305 Records Management	3	ELCT ** Science/Microcom- puter Technology Elective	4
ELCT ** Computer Science/Microcom- puter Technology Elective	4	OADM 1308 Business Correspondence	3
PSYC 1101 College Orientation	1		16
	17		

— Students may apply for a Certificate of Completion, Word Processing Operator, upon satisfactory completion of the courses listed above.

SECOND YEAR

First Semester	Credit	Second Semester	Credit
WOPO 2302 Advanced Information Processing Applications	3	WOPO 2303† Office Automation	3
OADM 1306 Office Functions	3	WOPO 2304 Automated Accounting	3
OADM 2304 Office Accounting I	3	OADM 2305 Office Accounting II	3
ELCT Humanities/Fine Arts Electives	3	OADM 2307 Automated Office Management	3
ELCT ** Elective	3	ELCT Social/Behavioral Science Elective	3
PYED Physical Education	1	PYED Physical Education	1
	16		16

TOTAL HOURS 65

- Levels of keyboarding will be determined by the student's previous training in these skills and/or by placement test. Students who receive advanced standing in keyboarding may select an approved elective to fulfill hour requirements.

** Electives or selections approved by the appropriate College Official.

† WOPO 2306 may be substituted.

COURSE DESCRIPTIONS

Accounting (ACCO)

ACCO 2301 Financial Accounting (3-0) Credit: 3
Analysis of financial transactions during an accounting cycle for proprietor-ships, partnerships, and corporations. Topics include merchandise operations, manual and electronic systems, investments, accounts and notes receivable, inventory methods, plant assets and depreciation, payroll and other current liabilities, organization and operations of corporations, long-term investments, statement of cash flow in financial position, and analysis of financial statements.

ACCO 2101 Financial Accounting Lab (0-3) Credit: 1
The laboratory course to accompany ACCO 2301.

ACCO 2302 Managerial Accounting & Control (3-0) Credit: 3
The origination, processing, reporting, and use in business operations of accounting information for management purposes; integrates topics in cost and financial control, and behavioral science. Prerequisites: ACCO 2301 and MATH 1301 or equivalent.

ACCO 2102 Managerial Accounting & Control Lab (0-3) Credit: 1
The laboratory course to accompany ACCO 2302.

ACCO 2303 Principles of Accounting I (3-0) Credit: 3
Analysis and recording of financial transactions, use of journals and ledgers, internal control of cash transactions, income statement and balance sheet, payroll records and reports, depreciation systems, inventory methods, sale and exchange of assets, special journals and voucher systems, accounting for inflation, generally accepted accounting principles.

ACCO 2103 Accounting I Lab (0-3) Credit: 1

ACCO 2304 Principles of Accounting II (3-0) Credit: 3
Continues Accounting I. Partnership and corporate accounting methods and procedures, statement of cash flow in financial position, consolidated financial statements, departments and branches, manufacturing systems, cost accounting systems, capital budgeting, break even analysis, financial statement analysis, income tax accounting and business decisions.

ACCO 2104 Accounting II Lab (0-3) Credit: 1

Accounting Technology (ACCT)

ACCT 1301 Financial Accounting (3-0) Credit: 3
Analysis of financial transactions during an accounting cycle for proprietor-ships, partnerships, and corporations. Topics include merchandise operations, manual and electronic systems, investments, accounts and notes receivable, inventory methods, plant assets and depreciation, payroll and other current liabilities, organization and operations of corporations, long-term investments, statement of changes in financial position, and analysis of financial statements.

ACCT 1302 Managerial Accounting & Control (3-0) Credit: 3
The origination, processing, reporting, and use in business operations of accounting information for management purposes; integrates topics in cost and financial control, and behavioral science. Prerequisites: ACCT 1301 and MATH 1301 or equivalent.

ACCT 2305 Basics of Managerial Accounting (3-0) Credit: 3
A study of the methods by which accounting data are used by management in planning, coordination, and controlling the operations of a business. Measurement of financial position; analysis of financial statements; cost accumulation and analysis; budgeting; product costing; and quantitative decision techniques. Prerequisite: ACCT 1302.

ACCT 2306 Cost Accounting (3-0) Credit: 3
An introduction to the objectives and procedures of cost accounting and control for business firms. It covers the principles & methods of accounting for materials, direct labor, & the distribution of overhead expenses, as well as cost records, operating reports & budgetary control. Prerequisite: ACCT 1302.

ACCT 2309 Fundamentals of Accounting III (3-0) Credit: 3
A detailed study of financial accounting with emphasis on financial statements, current assets, current liabilities, property, plant and equipment, present value concepts, short-term investments, and intangible assets. Prerequisite: ACCT 1302 with a minimum grade of C.

ACCT 2310 Fundamentals of Accounting IV (3-0) Credit: 3
Continuation of ACCT 2309. Long-term liabilities; corporate capital; accounting for leases and pensions; analysis of financial statements; sources and uses of funds; Long-term investments; and pricelevel impact on financial statements. Prerequisite: ACCT 2309.

ACCT 2311 Accounting & Financial Information Systems I (3-0) Credit: 3
Study of overall flow systems emphasizing financial data & computerized systems. It covers flow and logic concepts, developing meaningful control concepts and data reporting techniques. Prerequisite: ACCT 1302

ACCT 2312 Accounting & Financial Information Systems II (3-0) Credit: 3
This course is a continuation of ACCT 2311. Prerequisite: ACCT 2311.

Air Conditioning and Refrigeration (AIRC)

AIRC 1201 Air Conditioning & Refrigeration Theory & Application I (1-2) Credit: 2
This course deals with the basic physical principles of air conditioning and refrigeration equipment. Introduction to basic thermodynamics and physics that pertain to heat, temperatures, pressures, fluids and refrigerants. Mechanics that pertain to piping and the specialized tools needed for piping.

AIRC 1202 Air Conditioning & Refrigeration Theory & Application II (1-2) Credit: 2
Continuation of Air Conditioning And Refrigeration Theory and Application I. Contents of this course include the identification of various types of air conditioning systems, compressors, metering devices and a service procedure for basic air conditioning and refrigeration systems. Prerequisite: AIRC 1201.

AIRC 1400 Basic Air Conditioning & Refrigeration Theory (3-3) Credit: 4
This course introduces the student to basic thermodynamics-heat transfer, temperature-pressures, and characteristics of refrigerants; pressure-temperature relationships of refrigerants; the refrigeration cycle; major components of refrigeration systems and their relationship to each other. The use of temperature recording devices, special tools-manifold gauge set, charging station, vacuum and vacuum pump, and micron gauges is covered. Prerequisite or Corequisite: INDU 1400.

AIRC 1401 Electricity for Air Conditioning and Refrigeration I (3-3) Credit: 4
This course introduces the student to the basic concepts of electricity as they apply to air conditioning and refrigeration. It includes quantities, units, circuits, laws, measurement, alternating current fundamentals, magnetism, electromagnetism, instruments, power, inductance, capacitance and transformers. Prerequisite or Corequisite: INDU 1400.

AIRC 1403 Heating Systems (3-3) Credit: 4
This course introduces the student to residential heating systems, natural gas, liquefied petroleum, electrical oil hydronic and special applications; emphasis will be placed on natural gas and electrically forced air systems, heat exchangers, gas circuits, air side, cabinet construction, sequencers, limits and heating elements. Prerequisite: AIRC 1401.

AIRC 1406 Electricity for Air Conditioning & Refrigeration II (3-3) Credit: 4
This course reviews the alternating current fundamentals, simple alternating current circuits, single-phase air conditioning circuits, three-phase circuits, single and three-phase transformers, three-phase induction motors, single-phase motors and motor control, generation, transmission, and distribution of electrical energy. Prerequisite: AIRC 1401.

AIRC 1407 Mechanical Refrigeration Systems (3-3) Credit: 4
This course provides the student with an in-depth study of mechanical refrigeration systems. The major components of a refrigeration system are examined to include compressors, evaporators, condensers, refrigerant flow control devices, interconnecting lines, driers, receivers and accumulators. The charging with refrigerants, the household refrigeration and air conditioning systems and refrigerant piping, the use of pressures in diagnosis of refrigeration circuit malfunctions are covered. Corequisites: AIRC 1400 and 1401.

AIRC 2400 Electricity for Air Conditioning & Refrigeration III (3-3) Credit: 4
This course provides the student with the fundamentals of electrical testing and electrical troubleshooting of air conditioning and refrigeration circuits, circuit analysis and the repair or replacement of circuit components. Emphasis will be placed on household refrigeration and air conditioning electrical systems. An overview of the single family residential wiring to include the construction of main and branch circuits is presented. Prerequisite: all AIRC 1400 courses.

AIRC 2401 Advanced Air Conditioning & Refrigeration Theory (3-3) Credit: 4
This course will provide the student with an in-depth study of the basic principles of air conditioning design, heat load calculation, air distribution design, building component composition, and insulation. The student will construct ducts to include flex ducts and will install galvanized round pipe and equipment. Prerequisite: all AIRC 1400 courses.

AIRC 2402 Commercial Refrigeration (3-3) Credit: 4
This course introduces the student to the different types of commercial refrigeration units and systems. Instruction is provided in controls and control circuits for commercial refrigeration. Heat loss and heat gain calculations for commercial application, equipment selection, locating and piping procedures, and service procedures for different systems will be covered. Prerequisites: all AIRC 1400 courses.

AIRC 2403 Commercial Air Conditioning Systems (3-3) Credit: 4
This course is designed to cover heat transfer, heat loss and heat gain calculations as they apply to commercial heating and air conditioning. Instruction includes psychometrics of conditioned air, duct design and layout, equipment selection and location, shop drawings, controls and control circuits for automatic conditioning or air. Prerequisites: all AIRC 1400 courses.

AIRC 2404 Troubleshooting Air Conditioning & Refrigeration Systems (3-3) Credit: 4
This course will provide the student with an in-depth study of schematic wiring diagrams and electrical troubleshooting using the diagrams. Prerequisite: all AIRC 1400 courses.

AIRC 2405 Heat Pumps (3-3) Credit: 4
This course will introduce the student to heat pumps; heating, cooling and defrost cycles, components, reversing valves, flow controls, accumulator piping, heat pump controls, system design, heat pump installation and troubleshooting. Prerequisite: all AIRC 1400 courses.

Anthropology (ANTH)

ANTH 2301 Physical Anthropology (3-0) Credit: 3
Principles of physical anthropology, human evolution, race, heredity, the organic basis of culture, cultural history through the Paleolithic stage.

ANTH 2302 Cultural Anthropology (3-0) Credit: 3
Study of the human behavior (nations and societies) the world over, comparing and describing the cultural patterns of westernized industrial nations; Asiatic people; the Middle East, and today, the cultures of the emerging Third World nations. Also a study is made of the relationship of Cultural Anthropology to the other social sciences (Psychology, Sociology, History, etc).

Applied Management

(See Mgmt.)

Applied Music

(See Music)

Applied Physics (APPH)

APPH 1350 Applied Physics I (3-0) Credit: 3
This course is designed for students in technical areas who must be able to apply certain basic principles of physics to their career field. The course considers only certain areas of physics; especially mechanics, heat, fluids and the nature of matter. Prerequisite: TMTH 1301 or equivalent.

APPH 1351 Applied Physics II (3-0) Credit: 3
This is a continuation of Applied Physics I for students in technical areas who must be able to apply certain basic principles of physics to their career field. This course covers wave motion, light, electricity and magnetism, applied electronics and an introduction to nuclear energy. Prerequisite: APPH 1350.

Art (ART.)

ART. 1301,1302 Drawing I & II (2-4) Credit: 3, 3
These courses involve a study of the basic drawing skills including both abstraction and expressive drawing in charcoal, pencil, pen, wash, conte, and mixed media.

ART. 1303,1304 Creative Design I & II (2-4) Credit: 3, 3
These courses give basic instruction in the elements and principles of design, with emphasis on the study of form and color theory. Design I is a study of design in two dimensions, while Design II is a study of three dimensional design problems.

ART. 1305,1306 Figure Drawing I & II (2-4) Credit: 3, 3
These are life drawing courses which emphasize structure and action of the human figure.

ART. 1307 History & Appreciation of Art I (3-0) Credit: 3
This course is a survey of the major and minor arts from prehistoric times to the 14th century.

- ART. 1308 History & Appreciation of Art II** (3-0) Credit: 3
This course is a survey of the major and minor arts from the 14th century to the present.
- ART. 2301 Printmaking** (2-4) Credit: 3
This introductory course covers the fundamentals and creative experimentation in etching, serigraphy, and other printmaking media.
- ART. 2302 Oil Techniques** (2-4) Credit: 3
This course is an introduction to the techniques and materials of oil painting.
- ART. 2303 Advanced Oil Painting** (2-4) Credit: 3
This course is a continued exploration of the medium with emphasis on individual expression. Prerequisite: ART. 2302.
- ART. 2304 Watercolor Painting** (2-4) Credit: 3
This course covers various techniques of painting in watercolor. It stresses color and composition in application of the medium.
- ART. 2307 Drawing & Painting Media** (2-4) Credit: 3
This is an introduction to materials and techniques of drawing and painting for non-Art majors.
- ART. 2308 Acrylic Painting** (2-4) Credit: 3
This course covers the properties of color, theory of color and form, and technical procedures of the medium.
- ART. 2309 Ceramics I** (2-4) Credit: 3
This course is an introduction to making pottery by hand and/or wheel methods. Glazing and decoration techniques are also covered.
- ART. 2310 Ceramics II** (2-4) Credit: 3
This course is a continuation of techniques of pottery making. Prerequisite: ART. 2309.
- ART. 2311 Fiberarts I** (2-4) Credit: 3
This course involves a study of weaving, rug making, dying, and paper making. Emphasis will vary from one semester to another.
- ART. 2312 Fiberarts II** (2-4) Credit: 3
This course is a continuation of ART. 2311. Emphasis will vary from semester to semester.
- ART. 2313 Jewelry & Art Metals I** (2-4) Credit: 3
An introduction to jewelry making and metal working techniques. Basic fabrication techniques are stressed.
- ART. 2314 Jewelry & Art Metals II** (2-4) Credit: 3
A continuation of jewelry making and metal working techniques. Lost wax casting and surface treatments are emphasized. Prerequisite: ART. 2313.
- ART. 2315 Problems In Contemporary Art I** (3-0) Credit: 3
This course is an examination of current concerns and practices in contemporary visual art. Recent historical influences, modern aesthetics, contemporary media and techniques, and public accessibility will be covered in classroom lectures and on site examination of art and art production.
- ART. 2316 Problems in Contemporary Art II** (3-0) Credit: 3
This course is a continuation of Contemporary Art I. Prerequisite: ART. 2315 or Departmental Approval.
- ART. 2317 Sculpture I** (2-4) Credit: 3
This course is an introduction to sculpture making techniques including assemblage, carving and lost wax casting.
- ART. 2318 Sculpture II** (2-4) Credit: 3
This course is a continuation of ART. 2317, with emphasis on personal expression. Prerequisite: ART. 2317.
- ART. 2319 Presentation and Exhibition of Art** (2-4) Credit: 3
This is an applied art course. It provides an introduction to theories and practices of presenting two dimensional art through matting, framing and mounting. It also provides theory and practice in installing art exhibitions and in the conducting or managing public relations need connected with art exhibitions.

Astronomy (ASTR)

- ASTR 1301 Survey of Astronomy** (3-0) Credit: 3
A non mathematical approach to the solar system. Beginnings of astronomy, motions of celestial bodies, minor members of the solar system, atoms and light are studied. Planetarium and observatory used in class.

ASTR 1302 Descriptive Astronomy (3-0) Credit: 3
A non mathematical approach to the analysis of star light, stellar characteristics, stellar evolution, the sun, galactic characteristics, and cosmology are included. Planetarium and observatory used in class.

Automotive Body Repair (ATBR)

ATBR 1403 Roughing & Alignment I (3-3) Credit: 4

This course is designed to provide the student with a fundamental working knowledge of the theory and application of damage analysis and reversal as it applies to minor body damage. Emphasis will be placed on damage classification and identification; proper tool selection and use for specific repairs; heat shrinking; metal finishing techniques; and the alignment of moveable body panels. Prerequisites or Corequisites: INDU 1400, ATBR 1407 or ATBR 1405.

ATBR 1405 Auto Body Welding I (3-3) Credit: 4

This course is designed to provide the student with a working knowledge and practical skill development in the use of oxyacetylene welding equipment as it relates to auto body repair procedures. Emphasis will be placed on safety; equipment construction and function; types and preparation of joints; and welding procedures on body steel. Prerequisite or Corequisite: INDU 1400.

ATBR 1407 Auto Body Fundamentals (3-3) Credit: 4

This course is designed to provide the student with basic skills in general body shop safety; hand and power tools use; measurement techniques; selection and use of repair materials; and nonmetal parts repair. Also covered in the course are details of both conventional and unitized body construction including parts nomenclature and methods of attachment. The student will also be introduced to general shop operation and to the methods of collision repair estimation. Prerequisite or Corequisite: INDU 1400.

ATBR 1408 Rouging & Alignment II (3-3) Credit: 4

This is an advanced course designed to provide the student with further practical skill development in the correction of minor body damage and is an introduction to the repair of body structural damage. Emphasis will be placed on proper analysis and correction through the use of measurement techniques and hydraulic repair equipment. Prerequisites: ATBR 1403, ATBR 1405, ATBR 1407, and ATBR 1409.

ATBR 1409 Auto Body Welding II (3-3) Credit: 4

This course is designed to provide the student with a working knowledge and practical skill development in the use of GMAW (MIG), resistance spot welder, and shielded metal arc welder as the relate to auto body repair. Emphasis will be placed on safety, equipment construction and function joint preparation, welding procedures on both mild and HSLA body steel. Prerequisite: ATBR 1405.

ATBR 1410 Auto Body Painting Fundamentals (3-3) Credit: 4

This course is designed to provide the student with the basic knowledge and skills required in the painting of body panels. Emphasis will be placed on the proper use and care of the spray gun; surface preparation for different repair materials; sanding; masking; cleaning; compounding; preparation of refinished material, and recognition and correction of pain problems. Prerequisites or Corequisites: INDU 1400, ATBR 1407.

ATBR 1411 Automotive Glass (3-3) Credit: 4

This course is designed to provide the student with a knowledge of the types of glass and weather sealing devices and service, and various types of power assist and minor electrical repair. Prerequisite or Corequisite: INDU 1400.

ATBR 2400 Major Vehicle Damage Repair (3-3) Credit: 4

This course is a continuation of ATBR 2401 and 2406, and places emphasis on developing the skills involved in major vehicle damage repairs utilizing the latest techniques and equipment including body sectioning and the use of recycled parts. Prerequisite: All first year courses, ATBR 2401 and ATBR 2406.

ATBR 2401 Panel Repair & Replacement (3-3) Credit: 4

This course places heavy emphasis on straightening and fitting panels and employs welding, dinging, bumping, and alignment procedures. The use of body fillers; contour finishing and metal preparation are also included. Prerequisite: All first year courses.

ATBR 2404 Advanced Auto Body Painting (3-3) Credit: 4

This course is designed to increase the students knowledge and skills in auto body refinishing. Emphasis will be placed on the techniques and materials used in the spot repair of both enamels and lacquers; the use of color coat/clear coat systems; tinting and blending of spot repairs; stripe and accent painting; and complete vehicle refinishing. Prerequisites: ATBR 1407 and ATBR 1410.

ATBR 2406 Frame Repair & Alignment (3-3) Credit: 4

This course is designed to provide the student with a working knowledge of the types of body frames, mis-alignment, alignment straightening, repair and the use of special equipment and measuring devices. Prerequisite: ATBR 1405, ATBR 1407 and ATBR 1408.

Automotive Service and Repair (AUTO)

AUTO 1150 Auto Maintenance Procedures (Elec & Body) (0.3-1) Credit: 1
Designed to teach the student to perform maintenance and troubleshooting on the electrical systems and body maintenance.

AUTO 1151 Auto Maintenance Procedures (Brakes) (0.3-1) Credit: 1
Provides the student with the knowledge and skills to maintain and troubleshoot the brake system as detailed in the service manual.

AUTO 1253 Operational Maintenance Course (.5-2) Credit: 2
Course is designed to teach vehicle operators to perform maintenance and operate the M809 series 5-ton and unit generators.

AUTO 1254 Operators Training & Maintenance (2-2) Credit: 2
This course is designed to teach operators proper operation of vehicles and maintenance of vehicles, includes forms, safety, accident forms, PMCS, and use of publications and includes NSC Defensive Driving.

AUTO 1255 Motor Sergeant's Maintenance Management (1.5-1) Credit: 2
Provides training in procedures and techniques of establishing, conducting, and evaluating standard maintenance programs for unit vehicles. Includes maintenance operations, organization management, controls, requirements, training and records.

AUTO 1401 Basic Engines (3-3) Credit: 4
This course is designed to provide the student with a knowledge of the fundamentals of internal combustion engines, emission controls & engine systems to include identification of components and basic operation. This course will place heavy emphasis on basic engine troubleshooting, repair and testing to determine engine mechanical condition. Prerequisite or Corequisite: INDU 1400.

AUTO 1402 Basic Electrical & Test Equipment (3-3) Credit: 4
This course will provide the student with a good understanding of basic electrical principles, electrical circuits, electrical diagrams, wiring repairs, lighting systems and electrical troubleshooting through the use of hands-on training. Emphasis will be placed on usage and interpretation of common test equipment. The student will also be able to test and diagnose the lead acid storage battery. Prerequisite or Corequisite: INDU 1400.

AUTO 1405 Automotive Air Conditioning (3-3) Credit: 4
A course designed to provide an understanding of the principles, design, construction, installation, and service procedures involved in automotive air conditioning, with special emphasis on system recharging and compressor service. Prerequisite or Corequisite: INDU 1400.

AUTO 1406 Engine Tune Up (2-4) Credit: 4
This course is designed to provide the beginning student with basic automotive skills involved in performing minor engine tune ups. Emphasis will be placed upon the procedures to diagnose, adjust, and replace electrical, carburetor, and ignition system components.

AUTO 1407 Brake Systems (3-3) Credit: 4
A course designed to provide an understanding of the nomenclature, theory of operation and service procedures involved in the brake system. The use of the brake drum lathe, bleeder, and other equipment necessary to effect brake repairs will be taught, with emphasis on power brake and dual brake systems. Training will also include principles of anti-skid brake systems and heavy duty systems. Prerequisite or Corequisite: INDU 1400.

AUTO 1408 Standard Transmissions & Transaxles (3-3) Credit: 4
A course designed to provide an understanding of function, construction, operation, and maintenance of manual shift transmission, transaxles, clutches, drive lines and differentials. Prerequisite or Corequisite: INDU 1400.

AUTO 2250 Operational Maintenance (.5-2) Credit: 2
To familiarize the student with basic theories and principles of operational maintenance of military vehicles.

AUTO 2251 Power Generator Mechanics Course (1.5-4.5) Credit: 2
This course is designed to teach wheel vehicle mechanics the skills necessary to perform organizational maintenance on power generators. 1.5 KW through 10 KW.

AUTO 2402 Shop Organization & Management (3-3) Credit: 4
A course designed to provide information and actual experiences in shop management, customer relations, warranty provisions, service salesmanship, organization and layout, general business practices and in the use of time, rate, and parts manual. This course places special emphasis on established business principles and preparations for employment. Prerequisite: Sophomore standing.

- AUTO 2403 Automatic Transmissions & Transaxles** (3-3) Credit: 4
A study of the theory of operation, construction and maintenance of automatic transmissions and transaxles, including locking torque converters and automatic overdrive. This course emphasizes the diagnosis, repair and overhaul techniques used in rebuilding transmissions. Prerequisite: AUTO 1408.
- AUTO 2404 Ignition, Starting & Charging** (3-3) Credit: 4
Provides a review of the basic electrical system. Course content includes the ignition system theory and service for the conventional, transistor, and computer controlled systems. Starting motor and charging systems theory, testing and service will also be included. Prerequisites: AUTO 1402.
- AUTO 2405 Steering & Suspension Systems** (3-3) Credit: 4
This course is designed to provide the student with an understanding of the function, theory of operation, maintenance, diagnosis and service procedures involved in the automotive steering and suspension systems. It includes wheels, tires, steering gears and linkages, wheel alignment factors, diagnosis, repair and alignment procedures on live automobiles. The course will also include principles of heavy duty suspension systems. Prerequisite or Corequisite: INDU 1400.
- AUTO 2406 Engine Diagnosis & Emission** (3-3) Credit: 4
A course designed to provide an understanding of engine troubleshooting procedures, utilizing conventional test equipment, engine oscilloscopes, exhaust gas analyzers and computer engine analyzers. Diagnostic adjustment and repair of engine emission control is included. Prerequisites: AUTO 1401, 1402, 2404, 2408, and 2410.
- AUTO 2408 Advanced Engine Service** (3-3) Credit: 4
This course covers a brief review of basic engines. Hands-on work will involve valve train and cylinder head service including valve grinding and guide repair. Included in this course will be the procedures necessary for the replacement of an engine shortblock assembly including necessary testing and adjustments. Prerequisite: AUTO 1401.
- AUTO 2409 Automotive Internship** (1-20) Credit: 4
This course consists of on-the-job automotive training that utilizes the principles, knowledge and skills gained in the classroom and laboratory. The student is employed at an approved work site under the supervision of a College instructor/coordinator.
- AUTO 2410 Fuel Systems & Injection** (3-3) Credit: 4
A course designed to provide an understanding of the principles, design and operation of automotive fuel systems. Carburetors, fuel pumps, fuel injection and computer controlled units will be covered. Hands-on work will include troubleshooting, repair and adjustment of these systems as well as emission control devices. Prerequisite: AUTO 1401.
- AUTO 2411 Automotive Advanced Technology** (3-3) Credit: 4
Course is designed to provide the student with the information and knowledge to perform service on the new and emerging technology in the automotive field. As new product technology is introduced by the manufacturers, this course will be updated to include these developments. Special emphasis will be placed upon computerized control developments and other vehicle design changes. Prerequisite: Sophomore standing and approval of the Department Manager.

Aviation Maintenance Technology (AVMT)

- AVMT 1201 Maintenance Publications-G** (2-2) Credit: 2
The basis of all maintenance is the proper use and interpretation of technical publication. This course deals with Federal Aviation Administration and manufacturers' publications. The student will be given instruction on the privileges and limitations of a mechanic according to FAR Part 65 and will also be given practical work with descriptions of aircraft work performed and the completion of required maintenance forms and records.
- AVMT 1202 Weight & Balance-G** (2-2) Credit: 2
Since weight and balance of an aircraft are critical areas in maintenance, the student will be instructed on the weighing and computation of weight and balance of an aircraft. This course will also include basic physics principles and basic ground operations and servicing of aircraft to include starting, moving, securing aircraft and other service procedures.
- AVMT 1203 Aircraft Drafting-G** (2-2) Credit: 2
Since the beginning of any aircraft originates on the drafting board, the technician must be able to use drawings, blueprints, diagrams, charts, and graphs. This course prepares the student to draw sketches and finished drawings of repairs and alterations. In addition, instruction will be given on fabrication and installation of rigid and flexible lines and fittings.

- AVMT 1204 Airframe Materials & Corrosion Control—G** (2-2) Credit: 2
The course involves the proper use of cleaning and corrosion control materials that are used in aviation. Instruction will include the areas of identifying and selecting appropriate nondestructive testing methods; performing penetrant, chemical etching and magnetic particle inspection; performing basic heatbreaking processes; identifying and selecting aircraft hardware and materials; identifying and selecting cleaning materials; and actually performing aircraft cleaning and corrosion control.
- AVMT 1305 Basic Aircraft Electricity—G** (2-4) Credit: 3
This course is designed to introduce the student to the theory and practical applications of electricity. Topics of instruction include measuring voltage, current, resistance, continuity, leakage, capacitance, inductance and special applications of aircraft electrical circuits problems.
- AVMT 1306 Aircraft Finishes—A** (2-4) Credit: 3
This course covers the principles involved in service and repair of wood structures, selecting, testing, inspection, repairing and applying materials from fabric to fiberglass. In addition, painting, doping, applying trim and letters to the airframe of an aircraft are included.
- AVMT 1320 A & P Mechanic General Course** (3-0) Credit: 3
This course introduces an experienced mechanic to the very basics of aircraft maintenance. The course will include applying the principles of mathematics, physics and electricity to aircraft maintenance; solving weight and balance problems; selecting and using specification from FAA Regulations; and identifying and properly employing materials and hardware commonly used in aircraft maintenance. Prerequisites: 18 months aircraft maintenance experience and FAA evaluation certification that the student is qualified to take the course to obtain the FAA powerplant or airframe rating.
- AVMT 1402 Sheet Metal Structures—A** (2-6) Credit: 4
This course covers the theory and practical applications of aircraft sheet metal structures. Instructional topics include sheet metal layout, hand forming, machine forming and bending, and the use of conventional and special rivets and fasteners. Inspection techniques and procedures of bonded structures, plastics, honeycomb structures, laminated sections, doors, and aircraft interior furnishings are covered in the course. Soldering, brazing, gas welding, and arc welding of all materials used in aircraft structures including magnesium, titanium, stainless steel and aluminum are included in this course. Prerequisite: Successful completion of the general Aviation Maintenance Technology Courses.
- AVMT 2303 Airframe Inspection—A** (2-4) Credit: 3
The objective of this course is to prepare the student to perform uniform conformity and airworthiness inspection of both rotary and fixed wing aircraft. This course also covers the alignment check of structures, assembling aircraft, balancing and rigging moveable surfaces, and the jacking of aircraft. Prerequisite: Successful completion of the general Aviation Maintenance Technology courses.
- AVMT 2304 Aircraft Fuel Systems—A** (2-4) Credit: 3
This course covers the theory and practical experiences inspection, repair, and service of aircraft fuel systems that include fuel dump systems, fluid quantity indicators, fluid pressure and temperature indicators. Heating, cooling, pressurization systems, and oxygen equipment are also covered. Prerequisite: Successful completion of the general Aviation Maintenance Technology courses.
- AVMT 2305 Aircraft Instrument Systems—A** (2-4) Credit: 3
This course is designed to instruct the student in the repair, inspection, servicing, and installation of heading, speed, altitude, time, temperature, pressure and position indicating systems, ice and rain control systems and the maintenance of fire protection systems. Prerequisite: Successful completion of the general Aviation Maintenance Technology courses.
- AVMT 2306 Engine Electrical Systems—P** (2-4) Credit: 3
This course is designed to give instruction in the troubleshooting, repair, installation, and inspection of engine fluid rate of flow meters, temperature, pressure, and RPM indicators, fire detection and extinguishing systems, and the engine electrical systems that include wiring, controls, switches, indicators and protective devices. Prerequisite: Successful completion of the general Aviation Maintenance Technology courses.
- AVMT 2307 Engine Lubrication & Cooling Systems—P**
This course includes the identification and selection of lubricants as well as the repair, inspection, and troubleshooting of the components. It also covers the theory and practical applications of the repair, inspection, troubleshooting and servicing of cooling exhaust systems. Prerequisite: Successful completion of the general Aviation Maintenance Technology courses.
- AVMT 2308 Aircraft Airframe Course** (3-0) Credit: 3
The Airframe course has been established to teach qualified aircraft mechanics the fundamentals of aircraft airframe maintenance. The course is sequenced to give the student instruction in all areas of aircraft structures and their components. Evaluation examinations will be administered periodically throughout the

course. Prerequisites: 18 months aircraft maintenance experience and FAA evaluation certification that the student is qualified to take the course to obtain the FAA airframe rating, and AVMT 1301.

AVMT 2309 Aircraft Powerplant & Systems (3-0) Credit: 3

The powerplant course has been established to teach qualified aircraft mechanics the fundamentals of aircraft powerplant maintenance. The course is sequenced to give the student instruction in all areas of powerplants and their components. Evaluation examinations will be administered periodically throughout the course. Prerequisites: 18 months aircraft maintenance experience and FAA evaluation certification that the student is qualified to take the course to obtain the FAA powerplant rating, and AVMT 1301.

AVMT 2402 Hydraulics & Pneumatics-A (2-6) Credit: 4

This course includes the repair, inspection and servicing of hydraulic and pneumatic power systems. Practical experiences include the inspection, servicing, and repair of landing gear retraction systems, shock struts, brakes, wheels, tires, and steering systems. Prerequisite: Successful completion of the general Aviation Maintenance Technology courses.

AVMT 2403 Aircraft Electrical Systems-A (2-6) Credit: 4

This course is designed to prepare the student to perform inspection, maintenance, and repair of aircraft electrical systems, including wiring, controls, switches, and indicators both involved with alternating and direct current circuits. Also covered is the inspection and repair of the aircraft position and warning systems. Prerequisite: Successful completion of the general Aviation Maintenance Technology courses.

AVMT 2404 Powerplant Maintenance Reciprocating Engines-P (2-6) Credit: 4

This course is designed to prepare the student to maintain, overhaul, repair, and inspect reciprocating engines from small, opposed powerplants to large, radial engines. Prerequisite: Successful completion of the general Aviation Maintenance Technology courses.

AVMT 2405 Engine Fuel Systems-P (2-8) Credit: 4

This course covers the inspection, repair, servicing, and troubleshooting of fuel metering systems, fuel systems components, engine, ice and rain control systems, heat exchangers, superchargers, and overhauling carburetors. Prerequisite: Successful completion of the general Aviation Maintenance Technology courses.

AVMT 2406 Aircraft Propellers-P (2-8) Credit: 4

Propellers are an integral part of the majority of aircraft, therefore, a great deal of study is devoted to this area. This course covers the repair, inspection, service, and troubleshooting of propeller synchronizing and ice controls, propeller control systems, fixed pitch, constant speed and propeller feathering and governing systems, removal & installation of propellers, balancing propellers and identifying and selecting proper propeller lubricants. Prerequisite: Successful completion of the general Aviation Maintenance Technology courses.

AVMT 2407 Powerplant Maintenance Turbine Engines-P (2-6) Credit: 4

Designed to prepare the student in maintaining, repairing, rigging, overhauling and inspecting turbine engines. Prerequisite: Successful completion of the general Aviation Maintenance Technology courses.

Aviation Technology

(See Career Pilot)

Banking

(See Finance and Banking)

Behavioral Science

(See Psychology)

Biology (BIOL)

BIOL 1301 Biological Science (3-0) Credit: 3

A study of selected topics of biological science for the non science major. Topics include the cell concept, systems of the human body, aging, and introduction to genetics, evolution and ecology. (This course may be offered via television.)

BIOL 1401 General Biology I (3-3) Credit: 4

Fundamental principles of living organisms, including chemical and physical properties of life, tissue organization and function, cellular processes, and genetics.

- BIOL 1402 General Biology II** (3-3) Credit: 4
Fundamental concepts and mechanisms of the organ systems of both plants and animals. Includes ecology, adaptation, natural selection, and classification.
- BIOL 1405 Human Anatomy** (3-3) Credit: 4
Basic human anatomy designed for nursing and pre-med students. Laboratory includes anatomical models and displays, audio-visual materials, experiments, and taped instructional material.
- BIOL 1406 Human Physiology** (3-3) Credit: 4
Fundamental study of the chemical interrelationships of human systems. Digestion, respiration, excretion, muscular activities, reproduction, and metabolism are included. Basic physiological instruments and techniques are included in the lab. Prerequisite: BIOL 1405.
- BIOL 2303 Genetics** (3-0) Credit: 3
The study of the physical basis of inheritance and the laws of heredity and variations. Genetic problems are emphasized. Human genetic dysfunctions and modern research in genetic control is discussed. Prerequisites: BIOL 1401 and 1402 or consent of instructor.
- BIOL 2401 Invertebrate Zoology** (3-3) Credit: 4
Classification, anatomy, physiology and ecology of the invertebrates. Dissection and identification of structures are included in the laboratory. Field trips for the collection of invertebrates are required at minimal student expense. Prerequisite: BIOL 1401, 1402 or consent of the instructor.
- BIOL 2402 Vertebrate Zoology** (3-3) Credit: 4
Structure, development, physiology, and natural history of the vertebrate animals; emphasis will be placed on North American forms; field trips are required at minimal student expense. Prerequisite: BIOL 1401, 1402, or consent of the instructor.
- BIOL 2404 Microbiology** (3-3) Credit: 4
Fundamental principles of microbiology; includes study of morphology, physiology, and classification of microbes and their relations to soil, food, water, disease, and immunology. Designed for nursing and pre-med students.

Business (BUSS)

- BUSS 1301 Introduction to Business** (3-0) Credit: 3
Provides overall picture of business operations; includes analysis of specialized fields within business organizations; identifies role of business in modern society.
- BUSS 1302 Consumer Economics** (3-0) Credit: 3
A study of consumer goods and services as related to the home and family, problems and pitfalls associated therewith. This includes a study of family purchasing, advertising, commodity information, sales approaches from a consumer viewpoint and includes sources of advice and counseling. A course to permit the supervisor to better advise subordinates on economic problems.
- BUSS 2301 Macroeconomics** (3-0) Credit: 3
Introduction to economic analysis; price-level changes; the creation of money; the Federal Reserve System and monetary policy; the national accounts; the consumption function; taxation; fiscal policy; public debts; the theory of economic growth and population problems.
- BUSS 2302 Microeconomics** (3-0) Credit: 3
Determination of relative prices; consumer demand analysis; the competitive firm; agricultural policy; the monopolistic firm; imperfect competition; business organization and government regulation; determinants of demand; the economic view of taxation and public expenditure; regional economics; international trade and finance; foreign economic policy.
- BUSS 2306 Personal Finance** (3-0) Credit: 3
Personal and family accounts budgets, budgetary control, bank accounts, charge accounts, borrowing, investing, insurance, standards of living, renting, home ownership, wills, trust plans.

Career Pilot (CAPI)

- CAPI 1200 Basic Flight** (1-3) Credit: 2
Flight training for completion of the Private Pilot Certificate. A minimum of 64 hours of instruction is provided, including 25 hours of dual flight, of which two hours will be in the simulator, 20 hours of solo flight and 19 hours of oral instruction and briefings. The instruction in the course more than meets the requirements for a Private Pilot Certificate. Prerequisite: CAPI 1403 or concurrent enrollment.

- CAPI 1204 Intermediate Flight** (1-3) Credit: 2
First phase of Commercial Pilot training. A minimum of 64 hours of instruction is provided, including 15 hours of dual flight of which 2 hours will be in the simulator. Thirty-five hours of solo flight and fourteen hours of oral instruction and briefings.
- CAPI 1301 Aircraft Science** (3-0) Credit: 3
This course serves as an introduction to the study of several basic sciences in the aeronautical field, as applied to their theoretical and practical use in aircraft construction and design.
- CAPI 1302 Propulsion Systems** (3-0) Credit: 3
Aircraft engine theory and principles of operation of various types of aircraft reciprocating engines. Consideration is also given to thermal, mechanical and volumetric efficiencies, superchargers, engine accessories, controls and instrumentation.
- CAPI 1306 Meteorology** (3-0) Credit: 3
Aviation meteorological phenomena affecting aircraft flight, interpretation of the basic concepts of temperature, pressure, moisture, stability, clouds, air masses, fronts, thunderstorms, icing and fog. Analysis and use of weather data for flight planning and safe flying.
- CAPI 1403 Air Navigation** (4-0) Credit: 4
The principles of flight, basics of air traffic control, weather facts, navigational procedures and airplane operation as are pertinent for the Private Pilot. Upon successful completion of this course, the student has sufficient knowledge to pass the FAA written examination of the Private Pilot Certificate.
- CAPI 2204 Advanced Flight** (1-3) Credit: 2
Commercial and instrument flight training. A minimum of 64 hours of instruction is provided, including 20 hours of dual flight with 4 hours in the simulator, 35 hours of solo, and 9 hours of oral briefings. Prerequisites: CAPI 1204 and CAPI 2300, or concurrent enrollment.
- CAPI 2205 Commercial Flight** (1-3) Credit: 2
Commercial and instrument flight training to prepare the student for the FAA Commercial Pilot Certificate with Instrument Rating. A minimum of 64 hours of instruction is provided, including 30 hours of dual flight of which 5 hours will be in the simulator. Twenty hours of solo flight and fourteen hours of oral instruction and briefings. Prerequisite: CAPI 2204 and CAPI 2307, or concurrent enrollment.
- CAPI 2206 Multi-Engine Flight** (1-1) Credit: 2
This course of flight training leads to the FAA Multi-Engine Pilot Rating. This course is designed to give the advanced pilot a greater depth of aircraft experience. A minimum of 32 hours of instruction is provided, including 12 hours of dual flight, and 20 hours of oral instruction and briefings. Prerequisite: CAPI 2205 or a Commercial Pilot Certificate.
- CAPI 2208 Instructor Rating** (2-2) Credit: 2
This flight course prepares the experienced pilot for the FAA Certified Flight Instructor Certificate for airplane. Includes 25 hours of dual flight and 39 hours of oral instruction and briefings. Prerequisite: Commercial Pilot Certificate.
- CAPI 2209 Airline Transport Pilot** (1-2) Credit: 2
The Airline Transport Pilot Rating is the most comprehensive issued by the Federal Aviation Administration. Flight and ground training to qualify for instruction is provided, which includes 25 hours of dual flight, two flight hours for the FAA Check Flight, and 21 hours of oral instruction and briefings. Prerequisites: First Class FAA Medical Certificate; Age 23; 1,500 hours of approved flight time; and Instrument Rating.
- CAPI 2210 Commercial Transition Flight I** (1-3) Credit: 2
This is the first half of two courses to transition Commercial Rotorcraft Helicopter Pilots to Commercial Airplane Single Engine Land Rated Pilots. The course covers 64 hours of instruction which includes 20 hours of dual flight with one hour in the simulator, 30 hours of solo flight, and 14 hours of oral instruction and briefings. Prerequisites: FAA Commercial Rotorcraft Helicopter Rating, Class II FAA Medical and CAPI 2300 or concurrent enrollment.
- CAPI 2211 Commercial Transition Flight II** (1-3) Credit: 2
A continuation of Commercial Transition Flight I to complete the requirements for a Commercial Single Engine Land Aircraft Rating. The course consists of 64 hours of instruction, which includes 30 hours of dual flight, of which 5 will be in the simulator and 5 hours in a complex aircraft; 20 hour of solo flight with 5 hours in a complex aircraft; and 14 hours of oral instruction and briefings. Prerequisite: CAPI 2210.
- CAPI 2212 Instrument Flight Instructor** (1-2) Credit: 2
A program of advanced flight training to prepare the experienced Instrument Pilot to pass the FAA requirements for the Instrument Flight Instructor Certificate for airplane. A minimum of 48 hours of instruction is

provided, including 20 hours of dual flight and two hours of FAA check flight and 26 hours of oral instruction and briefings. Prerequisite: Certified Flight Instructor Certificate and Instrument Rating.

CAP1 2213 Multi-Engine Flight Instructor (1-2) Credit: 2

This course is designed to prepare an applicant for the FAA Multi-Engine Flight Instructor Flight Test. A minimum of 48 hours of instruction is provided, including 20 hours of dual flight instruction and two hours of FAA check flight and 26 hours of oral instruction and briefings. Prerequisite: FAA Multi-Engine Rating and FAA Flight Instructor Single-Engine Land Rating.

CAP1 2214 Commercial Helicopter Rating (1-3) Credit: 2

Additional Category Commercial Helicopter Rating Course. A minimum of 64 hours solo, and 13 hours oral instruction and briefings; and one hour for the FAA check flight. Prerequisite: FAA Commercial Pilot Rating Single-Engine Land.

CAP1 2215 Helicopter Instructor Rating (2-2) Credit: 2

Course prepares a pilot that is helicopter rated for the FAA Certified Flight Instructor Certificate for helicopter. This course includes 39 hours of ground training and 25 hours of instructor training, which involves 20 hours of a dual flight in a helicopter, and 5 hours of practice ground instruction by the student. Prerequisite: Commercial Pilot Certificate with a helicopter category rating.

CAP1 2300 Commercial Aviation (3-0) Credit: 3

This course covers air traffic control procedures pertaining to Commercial Pilot, aviation weather and advanced navigational procedures. Advanced flight maneuvers, low altitude enroute charts, approach plates, and Airman's Information Manual. Also, airplane performance factors on a high performance aircraft with retractable gear and flaps and constant speed propeller. Prerequisite: CAP1 2317.

CAP1 2301 Aerodynamics (3-0) Credit: 3

This course covers the physical properties of air, airflow, standard atmosphere, forces on solids moving through air, lift, drag, planform, air foil selection, and performance factors.

CAP1 2303 Air Transportation (3-0) Credit: 3

The development and present status of air transportation, federal legislation, characteristics and classification of air carrier; the organization and functions of the FAA and the Civil Aeronautics Board are reviewed.

CAP1 2307 Instrument & Ground School (3-0) Credit: 3

Basic radio fundamentals used by the pilot. A description and practical use of various radio aids to safe aerial navigation, including Very High Frequency Omni Direction Range (VOR), Instrument Landing System (ILS), Direction Finding (DF), & others. Charts and approach plates as adapted to the radio navigation, including the use of the Flight Information Manual and ATC procedures. Prerequisite: CAP1 2300.

CAP1 2317 Advanced Air Navigation (3-0) Credit: 3

The Federal Aviation Regulations covering the privileges, limitations and operations of a commercial pilot. Basic Aerodynamics and the principles of flight which apply to airplanes. Inspection and certification requirements will be covered and operating limitations, high altitude operations, physiological considerations, weight and balance computations, significance of the use of airplane performance speeds, cruise control, the Airman's Information Manual will be emphasized. Prerequisite: CAP1 1403.

Child Development (CHDV)

CHDV 1301 Introduction to Child Development (3-0) Credit: 3

This course covers the history, philosophy, and ethics of child care, types of child care, facilities, laws and standards that are applicable to child care centers. Emphasis is placed on the responsibilities and duties of the child care worker. Experiences are gained in how to provide for the child's health needs and how to make the child care center a safe place for children.

CHDV 1302 Infant and Toddler Care (2-2) Credit: 3

This course emphasizes the skills required to care for children from birth to three years of age. It shows how the relationship of the primary caregiver to the child influences the physical, emotional, social, and cognitive development of the child. It will also include a study of the infant during the neonatal period and birth, infant stimulation, and the years of the turbulent toddler.

CHDV 1303 Learning Programs (2-2) Credit: 3

This course provides the student with knowledge of methods of planning a curriculum and daily schedule for young children by providing opportunities for young children to actively participate in experimental and problem solving activities and by using material to provide the greatest scope of experiences and learning.

- CHDV 1304 Developmental Language** (2-2) Credit: 3
The objective of this course is to provide the student the knowledge and skills to develop the language ability of young children. Practical experiences are gained in teaching language activities in a child care center. Emphasis is placed on developing special materials and techniques for bilingual and multi-cultural children.
- CHDV 1305 Instructional Aids** (2-2) Credit: 3
This course is designed to instruct child care personnel and teachers' aids in the proper operation of various types of audiovisual equipment and the handling of associated materials. Students will also become familiar with resources for free materials and how to construct simple training aids such as bulletin boards, mobiles, picture mounting and laminating.
- CHDV 1306 Physical Development & Disorders in Children** (2-2) Credit: 3
Normal motor development and techniques for screening young children for motor skills development. Methods and materials for assisting children with physical disabilities; and for promoting activities of daily living.
- CHDV 1307 Techniques for Child Guidance for the Special Child** (2-2) Credit: 3
Normal development of emotional responses in children; understanding emotional behavior disorders in children; techniques for screening children for emotional difficulties; methods and materials for assisting children with emotional disabilities.
- CHDV 1308 Creative Expression** (2-2) Credit: 3
Creative activities, both structured and unstructured, in arts, crafts, music, dance, literature, storytelling, dramatic play and recreational play, are covered in this course. Practical experiences are gained by working with the young in a child care center.
- CHDV 1309 Child Guidance & Classroom Techniques** (2-2) Credit: 3
This course provides a survey of current practices, techniques and innovations in child guidance (discipline), and classroom management as they apply to early childhood behavior. Direct and indirect methods of managing the individual child or group of children in a classroom setting includes behavior modification and other strategies of intervention and prevention.
- CHDV 1310 Growth & Development of Children** (3-0) Credit: 3
The study of the relationship of the physical, emotional, social and mental factors of growth and development from birth to adolescence.
- CHDV 2101 Child Development Seminar** (1-0) Credit: 1
A course that deals with trends and advancements in Child Development. When used in the Child Development Associate Program, this course will provide instruction on preparing a portfolio and preparing for assessment.
- CHDV 2301 The Exceptional Child** (2-2) Credit: 3
This course is designed to provide a basic knowledge of the child with behavioral problems. The special problems of mental retardation and conditions such as autism are included. Practical experiences at a child care center will cover etiology, diagnosis, characteristics and the daily and Long-term management of the exceptional child. Prerequisite: CHDV 1310 or approval of the Department Manager.
- CHDV 2302 Parent-Child Relationships** (3-0) Credit: 3
This course is a study in Parent-Child experiences and responsibilities and how they affect child behavior and development. Emphasis placed on experiences to stimulate a positive identification for family and self-concept, through thinking and reasoning skills, and a positive attitude toward behavior management at each age and stage of development. Included is a study of the abused and neglected child.
- CHDV 2303 Managing Child Care Centers** (2-2) Credit: 3
This course covers the practical aspects of managing a day care center. The main emphasis is placed on developing a management system of a child development center that would include budgeting, record keeping, planning for effective facility and equipment management, development of admission policies and procedures, assuring the health and safety of children in care, managing a center's food service and nutrition program, staffing for quality child care, understanding the legal aspects of child care; planning for staff development and evaluation and encouraging parent-staff relationships. Prerequisite: CHDV 1310 or approval of the Department Manager.
- CHDV 2304 Management Techniques for Directors** (2-2) Credit: 3
This course covers the theoretical aspects of managing an early childhood program. The main emphasis is placed on formulating and implementing goals and objectives, problem solving, delegation and decentralization, leadership styles, time management, supervising change, increasing staff morale and motivation, preventing burnout, personnel counseling handling conflict, and theories and functions which are essential to running a child care center. Prerequisite: CHDV 2303 or approval of the Department Manager.

CHDV 2305 Methods of Teaching Math &**(2-2) Credit: 3****Science in Early Childhood**

Emphasis is placed on strategies, activities, materials for teaching mathematical and science concepts, and skills for early childhood. This course includes identifying, classifying, sequencing, ordering and predicting cause/effect relationship skills for preschool children. Science activities as presented will stimulate the child's cognitive growth. Methods are presented that will assist three to five year olds to discover information about their natural and manmade world. Prerequisite: CHDV 1303 or approval of the Department Manager.

CHDV 2401 Learning Theories Seminar & Internship**(1-15) Credit: 4**

This course includes on-the-job experiences with opportunities for direct involvement in an approved program activity for the child development major. In addition to the practicum, seminar time is spent with community resource persons. Prerequisite: Sophomore standing in the Child Development program.

CHDV 2402 Special Projects**(1-15) Credit: 4**

This course is designed to allow the advanced Child Development student the opportunity to undertake a project that involves working with preschool age children. The area of specialization would be selected and performed under the supervision of the instructor. Prerequisite: Sophomore standing in the Child Development program.

Chemistry (CHEM)**CHEM 1401 General Chemistry I****(3-4) Credit: 4**

The first of two courses for science related majors, this course covers the basics of atomic and molecular structure, bonding, states of matter, solutions, and some descriptive chemistry. Emphasis is placed on solutions to chemical problems. Prerequisite: MATH 1302 or consent of instructor.

CHEM 1402 General Chemistry II**(3-4) Credit: 4**

The second of two courses for science related majors, this course covers equilibrium processes, acid-base concepts, elementary thermodynamics and kinetics, electrochemistry, nuclear chemistry, and descriptive chemistry of some families of elements. Chemistry 1401 is a prerequisite.

CHEM 1404 Introduction to General Chemistry**(3-3) Credit: 4**

This course is designed primarily to satisfy the requirements of nursing students seeking a B.S. degree or background for physiology. The course covers the fundamentals of general and descriptive chemistry with applications from medicine, modern living, agriculture, etc. It is also suitable for non-science majors who need a laboratory science credit. It also serves as background for those who have no chemical background.

CHEM 2401, 2402 Organic Chemistry I & II**(3-4) Credit: 4, 4**

This course provides a thorough foundation in organic chemistry. A mechanistic approach is used. The student is introduced to planning of synthesis in lecture. The laboratory introduces students to basic techniques, synthesis of compounds and instrumental analysis. A course designed for science majors and minors. Prerequisite: CHEM 1401, 1402, or consent of the instructor. CHEM 2402 has a prerequisite of CHEM 2401.

CHEM 2404 Physiological Chemistry**(3-3) Credit: 4**

A study of organic and physiological chemistry for nursing students interested in the processes of life. Basic principles, nomenclature, principal reactions and methods of synthesis and the major classes of physiologically important compounds are studied. Prerequisite: CHEM 1404.

Communications**(See English)****Computer Electronics Technology (CMET)****CMET 1400 Electronics & Computer Skills****(2-4) Credit: 4**

A study of modern electronic construction techniques, including the use of hand tools and fabrication equipment. The course will also include an introduction to basic computer hardware and programming.

CMET 1401 Digital Circuits**(3-3) Credit: 4**

A study of basic gates and gating networks used in digital circuits, and an intensive study of Boolean Algebra, as well as the theory and operation of flip-flop, registers, and counter circuits. The course also covers numbering systems, arithmetical circuitry, and elements of control circuits.

CMET 1403 Computer Systems & Operational Programming (3-3) Credit: 4
The study of theory of the operation of several computer systems, to include instructions, an introduction to their logic diagrams, and circuit schematic, programming as a troubleshooting tool, and operational characteristics.

CMET 1409 CRT Systems (3-3) Credit: 4
A study of the vertical and horizontal scanning circuits, video amplifiers and other related circuits encountered in the most common video display systems. The course includes theory of circuit operations and practical laboratory exercises in troubleshooting. Prerequisite: ELTE 1403.

CMET 2401 Microprocessors & Microcomputers (3-3) Credit: 4
A study of modern day microcomputer techniques includes eight and sixteen bit machines. Both the S-100 and 6800 bus structure will be studied as well as the use of emulation in the design and repair of a micro-computer system. Prerequisite: CMET 1401.

CMET 2402 Computer Circuit Analysis (3-3) Credit: 4
A comprehensive study of the clock and pulse generation circuit, wave-shaping circuits, trigger and control circuits, and synchronization and counting circuits, as well as other circuits used in modern day computers. Prerequisite: CMET 1401 and CMET 1403.

CMET 2403 Interfacing Techniques (3-3) Credit: 4
The study of selected machine interfacing techniques, to include CRT, printer and other electronic apparatus. Prerequisites: ELTE 1403 and ELTE 2406 and approval of the Department Manager.

CMET 2404 Computer System Diagnosis & Maintenance (3-3) Credit: 4
The operation, preventive maintenance procedures, and troubleshooting of modern day computer equipment, to include the study of advanced diagnostic programming, including the finding, documenting, and repairing of computer malfunctions. The course gives the student the much needed practical experience that can only be gained in a live computer atmosphere. Prerequisite: CMET 2402 or equivalent.

CMET 2407 Data Communications (3-3) Credit: 4
An introductory course dealing with all aspects of modern data communication including networking, interfacing (to include RS232-C, MIL standard 188-C 100/114, RS-449, RS-422, RS-423), data transmission (synchronous, asynchronous), modems and modulation techniques, data codes (EBCDIC, ASCII, BAUDIOT) protocols, and multiplexer. Prerequisites: CMET 1401 and ELTE 1402, Prerequisite or Corequisite: ELTE 1403.

CMET 2408 Digital Communications (3-3) Credit: 4
This course is designed to allow the student to become proficient in all aspects of digital communications. It will begin with a concentrated investigation of digital modulation and digital transmission. The most common modulation schemes used in modern systems—FSK, PSK, and Quadrature Amplitude Modulation (Eight and Sixteen) will be covered in-depth. Also included is a study of the numerous data communications concepts, including transmission methods, circuits, topologies, error control mechanisms, and data formats. Included is an in-depth study of local area networks, digital transmissions techniques, including PCM, sampling encoding and commanding. Time division multiplexing, adaptive delta modulation PCM, and differential PCM are covered in detail. The North American Digital Hierarchy for digital transmissions is outlined, including line encoding schemes, error detection/correction methods, and synchronization techniques. Prerequisite for this course is CMET 2407.

Consumer Electronics Technology (COES)

COES 2301 TV Shop Practices (1-6) Credit: 3
In-depth study of basic procedures used in the modern TV shop, includes record keeping, stocking and ordering procedures, shop management, and advanced techniques of TV repair. Prerequisite: CMET 1409 or equivalent.

COES 2408 CATV and Audio Distribution Systems (3-3) Credit: 4
A two-part course consisting of a study of commercial P.A. or sound reinforcement systems, and a study of large scale T.V. Cable systems and small scale antenna distribution systems. This course includes some on-the-job training with commercial companies. Prerequisite: ELTE 1403.

COES 2409 Advanced Television Servicing (2-4) Credit: 4
The operation and servicing of the more complicated television receiver circuits are covered in this course. Special attention is given to the use of techniques and equipment for the most economical solutions to difficult problems. Includes an introduction to transistorized and color television. Prerequisite: CMET 1409.

Computer Science (COSC)

- COSC 1300 Computer Information Processing** (3-0) Credit: 3
An up-to-date survey of computer hardware and software systems and developments that will provide the basis for further advancements in information processing. Provides a comprehensive overview of the computer, what it is, what it can and cannot do; how it operates; and how it may be instructed to solve problems. Covers terminology and examines the application of a broad range of organizational settings and social environments. An overview of BASIC programming is provided. Prepares non-computer majors to understand and utilize computers in both their personal and professional lives.
- COSC 1302 Data Entry/Terminal** (2-3) Credit: 3
A course designed to train terminal data entry operator. Actual on-the-job type data entry will be performed by the student using on-line video display terminals. Accuracy and speed are stressed. Also covered are different types of data entry systems and the design of source documents and screen formats. Prerequisite: Typing speed of 30 WPM.
- COSC 1306 Introduction to BASIC** (2-1) Credit: 3
Offers an introduction to the basic concepts and constructs of programming in BASIC for the student interested in using a computer at home, in a small business or as a tool in a subject area such as math or science. Applications will illustrate personal computing techniques.
- COSC 1401 Computer Operations & Library Management** (3-3) Credit: 4
Provides the student with knowledge of duties and responsibilities of a computer operator and tape librarian. Training is provided to develop the student's ability to work in a computer center.
- COSC 1402 Advanced Operations Lab** (1-15) Credit: 4
This course consists of supervised work in a computer center. The students learn to operate the computer and peripheral equipment. Prerequisite: COSC 1401. Corequisite: COSC 2403 and approval of the Department Manager.
- COSC 1403 Introduction to Computer Science & Programming** (3-3) Credit: 4
Introductory programming course for Computer Science major. No prior knowledge of computers or programming assumed. Problem solving, algorithm development, pseudo code, and flowcharting. A high-level language is covered in-depth through programming assignments.
- COSC 1404 COBOL Programming** (3-3) Credit: 4
Provides the student with skills and fundamentals in solving business data processing problems using COBOL. The student becomes effective in COBOL programming techniques involving sequential files. Single and double dimension table handling, control breaks, and an introduction to VSAM (Indexed) file handling. Prerequisite: COSC 1403.
- COSC 1405 Computer Concepts and Analysis** (3-3) Credit: 4
Introduces the student to digital computer systems with emphasis on current technology and terminology. Historical development of computing machinery, number systems, data representation, hardware and software are discussed. Methods of identifying business problems best suited for computer solutions and the analysis techniques to develop systems which implement these applications are presented.
- COSC 1406 Computer Organization & Architecture** (3-3) Credit: 4
A study of hardware and software characteristics of digital computers, designed to give the student an understanding of how the fundamental principles by which computers work affect and govern programming techniques. Topics include data representation, machine instruction types, fetch and execution cycles, interrupt schemes, metaprograms, I/O handling, & assembler concepts. Prerequisites: COSC 1403 and COSC 1405.
- COSC 1407 RPG Programming** (3-3) Credit: 4
Report Program Generator, a problem oriented language involving fixed program logic, file description, input calculation, output of practical business oriented problems on card, tape, and disk systems. Prerequisite: COSC 1403.
- COSC 1408 Interactive Programming** (3-3) Credit: 4
Provides a general background in conversational computing and a detailed study of the BASIC language. Algorithm development, programming efficiencies, and file organization for the interactive/conversational environment are stressed. Prerequisite: COSC 1403.
- COSC 2110 Topics in Computer Science Laboratory** (0-3) Credit: 1
Laboratory for COSC 2310 when topic has a laboratory required. Prerequisite: Concurrent enrollment in COSC 2310.
- COSC 2301 Computer Center Management** (3-0) Credit: 3
Planning, organizing, and controlling data processing installations. Managerial aspects in the introduction and use of computer systems and management concepts. Prerequisite: 12 hours of Computer Science.

- COSC 2310 Topics in Computer Science** (3-0) Credit: 3
Study of recent developments and topics of current interest in computer science. Prerequisite: 12 hours computer science or the approval of the Department Manager.
- COSC 2401 Advanced COBOL** (3-3) Credit: 4
Offers the student of COBOL programming an in-depth study of the theory, programming techniques, and programming efficiencies that will be required of the commercial COBOL programmer. A thorough coverage is given to file design and the special features of ANSI COBOL language. Emphasis is placed on multi-dimensional table handling, searching and sorting techniques, and VSAM (Indexed) file manipulation. Structured design and programming will be stressed. Programming assignments will require detailed knowledge of necessary Job Control Language (JCL) for program execution. Prerequisites: COSC 1404, COSC 2403, and COSC 2404.
- COSC 2402 Systems In The MIS Environment** (3-3) Credit: 4
This course examines advanced systems including data base, distributed processing, teleprocessing, local area networks, management information systems and decision support systems. Emphasis will be placed on database management systems through the development of a data base project. Prerequisite: 16 semester hours Computer Science including COSC 1405.
- COSC 2403 Operating Systems and Job Control Language** (3-3) Credit: 4
A study of computer operating system concepts including major software components and their functions. An in-depth coverage of Job Control Language and/or command language. Use of utilities for data set maintenance and manipulation of system control information. Prerequisites: COSC 1404 and COSC 1406 or COSC 1401 and concurrent enrollment in COSC 1406.
- COSC 2404 Assembler Language Programming** (3-3) Credit: 4
Assembler Language programming for current college system.. Programming of business oriented problems. Emphasis on use of assembler tools forabend resolution. Prerequisites: COSC 1404 and COSC 1406.
- COSC 2405 Information Structures** (3-3) Credit: 4
Advanced programming techniques to include two and three dimensional arrays, linked lists, index structures, binary search, sorting techniques, direct access processing and subroutines. Programs will be written in a high-level language. Prerequisite: Eight semester hours programming.
- COSC 2407 PL/1 Programming** (3-3) Credit: 4
Business and scientific computer applications are developed using PL/1. Emphasis is placed on advanced programming concepts. Prerequisite: COSC 1404.
- COSC 2408 CICS Programming** (3-3) Credit: 4
An introduction to programming for the teleprocessing environment under CICS. Applications will be written and tested on-line. Prerequisites: COSC 1404 and 2404.
- COSC 2409 Field Projects** (1-9) Credit: 4
This course provides the student with an opportunity to utilize the knowledge acquired in his/her academic program by designing, planning, developing, and implementing an activity directly associated with a real computing/data processing environment. Prerequisite: Consent of Instructor.
- COSC 2410 Systems Analysis and Design** (3-3) Credit: 4
Study of structured systems development. Emphasis on tools and techniques of systems analysis and design for producing logical methodologies for dealing with complexity in the development of information systems. Prerequisite: COSC 1405 and eight semester hours of programming.
- COSC 2414 Data Communications and Networking** (3-3) Credit: 4
A study of the methods and criteria used to define and implement data communications and networking of present day computer systems. Topics include data transfer, communications hardware and software, security, local area networks, micro to mainframe interfaces, current and future applications of data communications. Prerequisite: COSC 2403 and COSC 2404.

Criminal Justice (CRIJ)

- CRIJ 1201 Defensive Tactics** (1-2) Credit: 2
This course is designed to provide the student with defensive and protective philosophies to better protect the public and criminal justice personnel against illegal force. Techniques of self-defense, safe arrest procedures, citizen contact, and proper prisoner transportation techniques, along with humane methods of handling disturbed persons, will be presented. The legal and humane use of limited force will be stressed at all times.

- CRIJ 1301 Introduction to Criminal Justice** (3-0) Credit: 3
History, development, and philosophy of law enforcement and criminal justice in a democratic society. Introduction and career orientation to the multifaceted agencies involved in the administration of criminal justice.
- CRIJ 1302 Criminal Investigation I** (3-0) Credit: 3
Investigative theory; collection and preservation of evidence; sources of information; interviewing and interrogation techniques, uses of forensic sciences; case and trial preparation.
- CRIJ 1303 Legal Aspects of Law Enforcement** (3-0) Credit: 3
Police authority; responsibilities; constitutional constraints; law of arrest; search and seizure; police liability; examples of case law that currently affect police decisions will be reviewed.
- CRIJ 1304 The Courts and Criminal Procedures** (3-0) Credit: 3
The judiciary in the criminal justice system; structure of American Court System; prosecution; right to counsel; pre-trial release; grand juries; adjudication process; types and rules of evidence, sentencing.
- CRIJ 1305 Traffic Law** (3-0) Credit: 3
This course is designed to cover all laws pertaining to the control and enforcement of traffic. The officer is taught the use of spot maps and charts, the techniques of enforcement, and the maintenance of good public relations. An analysis of the Model Motor Vehicle Code is given.
- CRIJ 1306 Correctional Systems and Practices** (3-0) Credit: 3
Corrections in the criminal justice system; organization of correctional systems; correctional role, institutional operations; alternate to institutionalization; treatment and rehabilitation; current and future issues.
- CRIJ 1307 Crime in America** (3-0) Credit: 3
American crime problems in historical perspective; social and public policy factors affecting crime; impact and crime trends; social characteristics of specific crimes; prevention of crime.
- CRIJ 1308 Fundamentals of Criminal Law** (3-0) Credit: 3
A study of the nature of criminal law; philosophical and historical development; major definitions and concepts; classification of crime; elements of crimes and penalties using Texas statutes as illustrations; criminal responsibility.
- CRIJ 1309 Police Systems and Practices** (3-0) Credit: 3
The police profession; organization of law enforcement systems; the police role; police discretion; ethics; police-community interaction; current and future issues.
- CRIJ 1310 Criminal Investigation II** (3-0) Credit: 3
Modern methods and skills required for criminal investigation, to include discovery methods, development and lifting of latent fingerprints; criminal scene sketches; the use of plaster and silicone rubber for reproducing evidence at crime scene; use of modern investigation aids; and techniques of criminal interview. Prerequisite: CRIJ 1302.
- CRIJ 1311 Basic Polygraph Techniques** (3-0) Credit: 3
Designed to orient law enforcement students on the basics of polygraph techniques as they apply to case research and preparation; pretest procedures; polygraph usage in criminal investigations; legality concerning polygraph; and avenues of polygraphist career. Prerequisite: CRIJ 1302, 1303 or 1304.
- CRIJ 1312 Commissioned Security Officer Course** (2.5-5) Credit: 3
This course is designed to have the student meet the requirements specifically identified in the state of Texas *Commissioned Security Officer Training Manual and the Provisions of the Private Investigators and Private Security Agencies Act, Article 4413 (29b) V.A.C.S. as amended by 65th Texas Legislature.*
- CRIJ 1314 Community Resources in Corrections** (3-0) Credit: 3
An introductory study of the role of the community in corrections; community programs for adults and juveniles; administration of community programs, legal issues, future trends in community treatment.
- CRIJ 2101 Emergency Medical Aid** (1-1) Credit: 1
This course will focus on the first aid fundamentals that will be helpful to patrol officers in the event of a first aid emergency situation. Procedures recommended by the American Red Cross will be used as guidelines for this course.
- CRIJ 2201 Firearms** (1-2) Credit: 2
This course is designed to introduce the student to the skills and techniques of firearms used in the protection of the public and criminal justice personnel. Students will fire various weapons under precision and police combat conditions. The importance of safe weapons handling and adopting a mature attitude towards firearms will be stressed at all times. The intelligent, legal, and moral use of the police firearms will be emphasized at all stages of teaching and firing.

- CRJ 2301 Probation and Parole** (3-0) Credit: 3
 Course will provide the student with understanding of the evolution of criminal corrections and explore with the student the many avenues which the corrections field branches into. Develop in each student a basic understanding of the various methods of corrections so that they can function efficiently in the field.
- CRJ 2303 Criminal Justice Seminar** (3-0) Credit: 3
 A problems course dealing with current criminal justice trends, issues, and literature. Prerequisite: Approval of the Department Manager. This course may be repeated for credit.
- CRJ 2304 Juvenile Procedures** (3-0) Credit: 3
 The organization, functions and jurisdiction of juvenile agencies; the processing and detention of juveniles, case disposition; juvenile statutes and court procedures.
- CRJ 2306 Traffic Planning and Administration** (3-0) Credit: 3
 This course consists of the application of traffic problems from the administrative point of view, including engineering, education, and enforcement at the supervisory level.
- CRJ 2307 Penology (Jail Operation and Management)** (3-0) Credit: 3
 Survey of basic concepts of penal and correctional rationale as employed by criminal justice administrator. An overview of the operations and management principles of the institutional setting will be examined in-depth.
- CRJ 2308 Patrol Administration** (3-0) Credit: 3
 Discussion of the administration of surveys, special problems arising while the officer is on patrol improvement in patrol methods, observation of persons and things, preventive techniques, methods of handling complaints, and the development of contacts.
- CRJ 2309 Provost Marshal Operations** (3-0) Credit: 3
 The principles of organization and administration as applied to the operational system of a military Provost Marshal's office as well as that of the Inspector General's. Practical training in conduct of briefings, Management, and attendant qualities of leadership, and some cases of dissident conditions which might impair role and mission of the dissident command.
- CRJ 2310 Correctional Control and Administration** (3-0) Credit: 3
 The course prepares the student to perform supervisory functions related to control of prisoners and contraband; segregation and accountability of prisoners; procedures required at a correctional facility; emergency measures, prisoner privileges, and the records and reports of the detention center.
- CRJ 2311 Advanced Security Officer Training** (2.5-5) Credit: 3
 This course is designed to provide the student with increased working knowledge of security principles and procedures. The student will become familiar with each phase of security. Emphasis will be placed on the security problems as seen through the eyes of a security supervisor.

Dance

(See Physical Education)

Developmental Studies (DS-)

- DSCO 0300 Developmental Communications** (1-2) Credit: 3
 A course offered in a laboratory setting to improve reading comprehension and rate and word recognition. Specific areas of study include syllabification, phonetic analysis, context clues, word elements, sequence, setting, main ideas, drawing conclusions, and making inferences.
- DSED 0300 College Study Skills** (3-0) Credit: 3
 Designed for improvement of study systems. Emphasis is placed on high level study skills and the improvement of time management, effective listening and note taking, marking tests learning through media, concentration, retention of information, and taking examinations.
- DSED 0301 College Study Skills and TASP** (1-2) Credit: 3
 This course is designed to provide an opportunity for students to learn and adopt new methods to become successful in school and life. Emphasis is placed on high level study skills and the improvement of time management, effective listening and note taking, learning through media, concentration, retention of information, taking examinations, creativity, and relationships in life.
- DSLA 0300,0301 English for International Students I and II** (3-2) Credit: 3, 3
 Speaking and writing for students whose native language is not English. Intended to aid foreign students in attaining greater facility in the use of the English language. (Previously numbered ENGL 0303, 0304).

- DSMA 0101 Basic Developmental Mathematics** (1-1.5) Credit: 1
This course helps students prepare to pursue college-level academic work. It uses varied instructional techniques to identify deficiencies and provide a review of fundamental operations in mathematics.
- DSMA 0102 Developmental Mathematics Lab** (0-3) Credit: 1
This course provides a setting for students to develop and expand mathematical problem solving skills in a structured environment under the tutelage of an instructor.
- DSMA 0300 Developmental Mathematics I** (4-0) Credit: 3
A remedial course which includes adding, subtracting, multiplying, and dividing fractions, decimals, and integers, order of operations, percent, line graphs, bar graphs, air graphs, pictographs, areas of plane figures, exponents.
- DSMA 0301 Developmental Mathematics II** (4-0) Credit: 3
Designed for students who need a review of fundamental algebraic operations. Topics include operations on real numbers, polynomials, linear equations, linear inequalities, factoring, and selected stated problems. (Previously numbered MATH 0300)
- DSMA 0302 Developmental Mathematics III** (1-2) Credit: 3
Developmental mathematics for technical fields, including algebra, integers, mathematical sentences, rational numbers, and polynomials.
- DSRE 0101 Developmental Reading** (1-1.5) Credit: 1
This course helps prepare for college level academic work using varied instructional techniques to help students improve their proficiency in reading comprehension and rate, word recognition and vocabulary development.
- DSRE 0300 Developmental Reading I** (1-2) Credit: 3
Designed for students who have difficulty reading college texts, specifically those who score below 50% on the Pre-TASP reading section. Emphasizes word attack skills, vocabulary development, comprehension, fluency, and study and test-taking skills.
- DSRE 0301 Developmental Reading II** (1-2) Credit: 3
Designed for students who have difficulty reading college texts, specifically those who score from 50% through 69% on the Pre-TASP reading section. Emphasizes vocabulary development, comprehension, fluency, and study and test-taking skills.
- DSSP 0300 Developmental Speech** (1-2) Credit: 3
An introductory course emphasizing structure and different techniques of presentation, as well as principles and methods of discussion. Designed to identify deficiencies and strengths, and to develop and improve interpersonal skills and the student's ability to communicate through effective speech.
- DSWR 0101 Basic Developmental Writing** (1-1.5) Credit: 1
This course helps a student prepare to pursue college-level academic work. It uses varied instructional techniques to identify deficiencies and improve basic writing skills.
- DSWR 0301 Developmental Writing I** (1-2) Credit: 3
A study of basic composition skills. Designed for students who score below 50% on the Pre-TASP writing section. Emphasizes paragraph writing, with attention given to grammar problems as they occur in the context of the paragraphs. Intended for native English speakers or for those students who have made a score of 550 or more on the Test of English as a Foreign Language (TOEFL).
- DSWR 0302 Developmental Writing II** (1-2) Credit: 3
A study of basic composition skills. Designed for students who score from 50% through 69% on the Pre-TASP writing section. Emphasizes essay writing, with attention given to grammar problems as they occur in the context of the essays. Intended for native English speakers or for those students who have made a score of 550 or more on the Test of English as a Foreign Language (TOEFL).

Diesel Maintenance (See Diesel Mechanics)

Diesel Mechanics (DIEM)

- DIEM 1401 Diesel Engine Fundamentals** (3-3) Credit: 4
This course is designed to provide the student with a working knowledge of the fundamentals of the diesel engines. The development, uses, advantages/disadvantages, design, components, operating principles (2-stroke and 4-stroke cycle), diesel fuels, and the combustion process and exhaust emissions will be covered. Emphasis will be placed on operating principles and component function. The student will perform

preoperational services, start and stop a diesel engine and identify engine components and systems. Prerequisite or corequisite: INDU 1400.

DIEM 1404 Standard Power Trains (3-3) Credit: 4

This course is designed to provide the student with a working knowledge of standard power trains. Theory of gears and torque, operating principles, troubleshooting and service of clutches, standard transmissions and transfer cases, drive lines, differential carriers and axles will be covered. Emphasis will be placed on operating principles, components and service. The student will disassemble, clean, inspect and reassemble clutches and transmissions. Prerequisite or Corequisite: INDU 1400.

DIEM 1405 Diesel Engine Auxiliary Systems (3-3) Credit: 4

This course is designed to provide the student with a working knowledge of diesel engine air induction and exhaust systems, cooling systems and lubrication systems. System designs, operating principles, components, test equipment, and service will be covered. Emphasis will be placed on turbochargers, blowers, troubleshooting, component removal and replacement, test equipment and systems testing. The student will troubleshoot, test, remove, repair & replace components of auxiliary systems. Prerequisite or corequisites: INDU 1400 and DIEM 1401.

DIEM 1406 Diesel Starting and Charging Systems (3-3) Credit: 4

This course is designed to provide the student with a working knowledge of diesel engine starting and charging systems. Principles of electricity, system design, operating principles, components, test equipment and service will be covered. Emphasis will be placed on basic electricity, troubleshooting, component removal and replacement, and systems testing. The student will troubleshoot, test, remove, repair and replace components of starting and charging systems. Prerequisites or corequisites: INDU 1400, DIEM 1401, and DIEM 1405.

DIEM 2400 Hydraulic Systems Fundamentals and Service (3-3) Credit: 4

This course is designed to provide the student with a working knowledge of hydraulics. Hydraulic principles, pumps, valves, circuits, fluids, cylinders and troubleshooting will be covered. Emphasis will be placed on hydraulic principles, basic control systems, and troubleshooting. The student will disassemble, clean, inspect, and reassemble hydraulic pumps, valves, and cylinders. The student will use hydraulic trainers to perform numerous practical exercises on hydraulic principles, control systems and troubleshooting. Prerequisite or Corequisite: INDU 1400.

DIEM 2403 Diesel Engine Overhaul (3-3) Credit: 4

This course is designed to provide the student with a working knowledge of diesel engine overhaul procedures. Engine disassembly, cleaning component inspection and measurements, special tools, reassembly, basic tune-up and run-in will be covered. Emphasis will be placed on component inspection and measurement and basic tune-up and run-in. The student will overhaul diesel engine. Prerequisites: DIEM 1405, 1406, 2406, and 2407.

DIEM 2404 Automatic Power Trains (3-3) Credit: 4

This course is designed to provide the student with a working knowledge of automatic power trains. Operating principles, troubleshooting and service of torque converters, transmissions, retarders and hydrostatic drives will be covered. Emphasis will be placed on torque converter and transmission service. The student will disassemble, clean inspect, test and reassemble, an automatic transmission. Prerequisites: DIEM 2400, DIEM 1404 or AUTO 1408.

DIEM 2405 Advanced Diesel Engine Service (3-3) Credit: 4

This course is designed to provide the student with a working knowledge of diesel engine service procedures. Troubleshooting and diagnostic, test equipment, fuel injection pump and service, tune-up, governors, fuel pump and injector timing, and valve adjustment will be covered. Emphasis will be placed on tune-up, governor and rack adjustment, valve timing and fuel pump service and calibration. The student will perform a tune-up on various diesel engines, remove and install fuel injection pumps and injectors, adjust governors and disassemble, clean, inspect, reassemble and calibrate fuel injection pumps. New service and product up-date topics may be presented in this course. Prerequisites: All Diesel courses or approval of the Department Manager.

DIEM 2406 Diesel Fuel Injection Systems (3-3) Credit: 4

This course is designed to provide the student with a working knowledge of diesel engine fuel systems. System designs, operating principles, troubleshooting and test equipment will be covered. Emphasis will be placed on test equipment and injector and nozzle service. The student will remove, test, disassemble, clean, repair, reassemble and install fuel injectors and nozzles. Prerequisite: DIEM 1401.

DIEM 2407 Diesel Engine Cylinder Head Service (3-3) Credit: 4

This course is designed to provide the student with a working knowledge of diesel engine cylinder head service. Design, components testing, measurements, test equipment and service equipment will be covered.

Emphasis will be placed on valve, seat, and guide service and injector tube replacement. The student will remove, clean, service and reinstall a cylinder head. Prerequisite: DIEM 1401.

DIEM 2409 Diesel Internship (1-20) Credit: 4
This course consists of on-the-job diesel mechanics training that utilizes the principles, knowledge and skills gained in the classroom and laboratory. The student is employed at an approved worksite under the supervision of a College instructor/coordinator.

Drafting and Design (DRDS)

DRDS 1302 Blueprint Reading (2-2) Credit: 3
The fundamentals of blueprint reading and sketching as they apply to machine drawing.

DRDS 1303 Architectural Blueprint Reading (2-2) Credit: 3
The fundamentals of blueprint reading for the construction trades. This course includes familiarization with standard terms, sizes, estimations and commercial practices.

DRDS 1400 Fundamentals of Drafting (2-4) Credit: 4
An overview of drafting to include shape and size description lettering, geometric construction, multiview projection dimensioning, pictorial drawings, copy reproduction, and the use of equipment essential to the field of drafting.

DRDS 1401 Pictorial Drafting (3-3) Credit: 4
A course mainly concerned with pictorials. Includes the theory of obliques and isometric drawings. Also covered are one and two point perspectives of shade and shadow application. Prerequisite: ENGR 1301 or DRDS 1405 or concurrent enrollment.

DRDS 1402 Technical Illustration (3-3) Credit: 4
Introduction to pictorial drawings as used in industrial catalogues, assembly sheets, newspaper publications, and promotional literature. Work to be done in various media to include pencil, ink, transfer tapes, and air brush. Prerequisite: ENGR 1301, DRDS 1401, or DRDS 1405 or concurrent enrollment.

DRDS 1403 Machine Drawing (2-4) Credit: 4
Drawing and manufacturing processes; training in producing various kinds of advanced drawings; commercial practices, and economics; the use of standard parts, sizes, symbols and abbreviations. Prerequisites: ENGR 1301 or DRDS 1405, ENGR 1302 or DRDS 1406, DRDS 1401.

DRDS 1404 Structural Drafting (2-4) Credit: 4
A study of the AISC specifications and standards; structural theory and data; designing and detailing structural members and connections. Design and development of details and specifications for light industrial structures to include structural steel, pipe, and reinforced concrete rods. Prerequisite: DRDS 1405 or ENGR 1301, DRDS 1406 or ENGR 1302.

DRDS 1405 Technical Drafting (2-4) Credit: 4
Freehand and instrument drawing, dimensioning, fastening, pictorial methods, charts and graphs, projections drawings, geometry or graphical construction.

DRDS 1406 Applied Descriptive Geometry (2-4) Credit: 4
Involves point, line and plane relationships, auxiliary views, intersections, and flat pattern development. Emphasis is placed on practical solutions to realistic engineering problems relating to aerospace, mining and geology. Prerequisite: ENGR 1301 or DRDS 1405.

DRDS 2350 Applied Statics I (3-0) Credit: 3
A study of the principles of mechanics of rigid bodies in equilibrium with emphasis in the areas of friction, centroids, center of gravity and moments of inertia. Prerequisite: MATH 1301 or equivalent.

DRDS 2351 Applies Statics II (3-0) Credit: 3
A continuation of Applied Statics I. This course covers the application of knowledge and skills relative to the stability of structures and safe loads that can be carried by girders. Activities include computation of the center of gravity of an object when given the appropriate information, a discussion of the variety of material used and their strength and brief practices on designing equilibrium tools and mechanisms.

DRDS 2401 Pipe Drafting (2-4) Credit: 4
Design and detailing of pipe systems make use of standard practices and symbols; includes single line, double line, plan profile and isometric drawings of pipe systems. Prerequisite: Sophomore Standing in the Drafting Program.

DRDS 2402 Architectural Drafting (2-4) Credit: 4
A study of the preparation of architectural plans; elevations; sections; site plans; various building details; room finish, door, and window schedules; and structural drawings. Prerequisite: Sophomore Standing in the Drafting Program.

DRDS 2403 Electronic Drafting (2-4) Credit: 4
A study of layout and preparation of finished electronic and electrical drawings stressing modern representation used for pictorial drawing; wiring and connection diagrams; printed circuits; control circuits, and schematic diagrams. Some review of lettering and mechanical drawing principles. Prerequisite: Sophomore Standing in the Drafting Program.

DRDS 2404 Principles of Design (3-3) Credit: 4
Theory and practice of design as related to engineering and technology. Analysis in the areas of architecture, machine design, structural design, and product development. Prerequisites: Second Semester Sophomore Standing in the Drafting Program.

DRDS 2405 Civil Design Drafting (3-3) Credit: 4
Drafting problems and techniques in civil engineering projects including key maps, drainage, plans and profiles, typical roadway cross sections, earthwork, land development and surveying. Prerequisite: Second Semester Sophomore Standing in the Drafting Program.

DRDS 2406 Industrial Practice (2-4) Credit: 4
This course is designed to give specialized practice to the student in his major field of interest. The student will complete actual jobs for area industries to gain realistic experience in his chosen career. Prerequisite: Second Semester Sophomore Standing in the Drafting Program.

DRDS 2410 Computer-Aided Drafting I (2-4) Credit: 4
A course designed to introduce the computer to the student of drafting as another means of preparing detailed drawings. Emphasis is placed on equipment familiarization, graphics/terminal functions and the application of computer graphics to the development of drawings to the standards set by industry. Prerequisites: Sophomore standing in Drafting Program and approval of the Department Manager.

DRDS 2411 Computer-Aided Drafting II (2-4) Credit: 4
This course is a continuation of DRDS 2410. Emphasis will be placed on the use of the CADAM system as a design and problem-solving instrument. The student will select problems from the drafting field of his choice. Prerequisite: DRDS 2410 and approval of the Department Manager.

Science (EASC)

(See Biology, Chemistry, Geology)

EASC 1301 Earth Science (3-0) Credit: 3
A course designed for Education majors. This course covers the nature of the earth as revealed by geology, astronomy, meteorology, and other related physical sciences.

Economics (ECON)

ECON 2301 Macroeconomics (3-0) Credit: 3
Introduction to economic analysis; price-level changes; the creation of money, the Federal Reserve System and monetary policy; the national accounts; the consumption function; taxation; fiscal policy; public debts; the theory of economic growth and population problems.

ECON 2302 Microeconomics (3-0) Credit: 3
Determination of relative prices; consumer demand analysis; the competitive firm; agricultural policy; the monopolistic firm; imperfect competition; business organization and government regulation; determinants of demand; the economic view of taxation and public expenditure; regional economic; international trade and finance; foreign economic policy.

Electrical Construction and Maintenance (ELEC)

ELEC 1301 Electrical Codes (2-2) Credit: 3
A study of the national codes and local ordinances to residential and commercial wiring.

ELEC 1401 Low Voltage and Appliance Circuits (2-4) Credit: 4
Wiring practices used in low voltage circuits such as bells, chimes and alarms and in appliance circuits, electric heating, central air conditioning, grounding practices and service layouts.

- ELEC 1402 Commercial Wiring** (2-4) Credit: 4
Commercial wiring practices including materials, conduit work, wire pulling and circuit layouts.
- ELEC 2401 Lineman Fundamentals I** (2-4) Credit: 4
An introduction to the equipment, skills, and techniques required of a lineman to include pole climbing and special equipment operation.
- ELEC 2402 Lineman Fundamentals II** (2-4) Credit: 4
A continuation of ELEC 2401. This course will also include use of equipment and techniques involved in underground cable installation. Prerequisite: ELEC 2401.
- ELEC 2403 Control Circuits** (3-3) Credit: 4
A study of terminology, symbols and the development of control circuit diagrams; magnetic starting and overload to include individual and multiple start-stop stations with overload protection; and connecting and testing, jogging and reversing motor controls and sequencing circuits. Prerequisite: ELTE 1403.
- ELEC 2404 Single and Three-Phase Transformers** (3-3) Credit: 4
A study of the basic transformer fundamentals, the types of transformers, and the selection connection and testing of single-phase and three-phase distribution transformers. Prerequisite: ELTE 1400.
- ELEC 2405 Motors and Motor Codes** (3-3) Credit: 4
A study of the national electric code and local ordinances related to motors; characteristics, connection and testing of DC motors and generators and single-phase and three-phase motors.
- ELEC 2406 Electrical Planning** (3-3) Credit: 4
Planning the placing of receptacles, switches, lights, appliances, and service entrances, and material estimating and pricing for residences. Planning the wiring for a commercial building working from blueprints and specification books.
- ELEC 2408 Lineman Internship** (1-20) Credit: 4
This course consists of on-the-job lineman training that utilizes the principles, knowledge and skills gained in the classroom and laboratory. The student is employed at an approved worksite under the supervision of a College instructor/coordinator.
- ELEC 2409 Electrician Internship** (1-20) Credit: 4
This course consists of on-the-job electrician training that utilizes the principles, knowledge and skills gained in the classroom and laboratory. The student is employed at an approved worksite under the supervision of a College instructor/coordinator.

Communications Electronics Technology (ELTE)

- ELTE 1303 Assembly Methods** (1-5) Credit: 3
A study of modern assembly methods and practices used in industry, including the design, layout, and construction of electronic apparatus.
- ELTE 1400 Basic Electricity** (3-3) Credit: 4
A study of basic electrical circuits involving both resistive and reactive circuits and their solution through the use of Ohm's Law, Kirchhoff's Law, Thevenin's, Norton's and the Superposition Theorems, as well as the power formula.
- ELTE 1401 Electrical Circuits I** (3-3) Credit: 4
The first of a two course study of electrical circuitry. This course includes a study of the elementary principles of electricity. It includes coverage of DC topics such as elementary physics, Ohm's Law, series and parallel resistive networks, and a power formula; and AC topics such as power generation, inductive and capacitive, waveform types, and voltage measurements. It also includes the study and use of analog and digital multimeters, power supplies, and an introduction to the oscilloscope and AC generator.
- ELTE 1402 Electrical Circuits II** (3-3) Credit: 4
The second course in the study of electrical circuitry. This course includes alternating current topics such as single and polyphase systems, impedance calculation, resonant circuits, transformers, and an in-depth study of the use of the triggered-sweep oscilloscope. Prerequisite: ELTE 1401.
- ELTE 1403 Solid State Electronics** (3-3) Credit: 4
A study of the active electronic devices (i.e., diodes, transistors, etc.) and their more common circuit applications. This course covers circuit design methods of simple power supplies, amplifiers, relaxation oscillators, and switching circuits. This is a technical course requiring a working knowledge of simple algebra. Prerequisite or corequisite: ELTE 1402.
- ELTE 1404 Communications Circuits I** (3-3) Credit: 4
A study of those basic circuits used throughout industry today. Prerequisite or Corequisite: ELTE 1403.

- ELTE 2103 Individualized Research** (1-0) Credit: 1
This course allows the student to prepare the backup and research that is necessary in order for the student to complete ELTE 2303. Approval of Department Manager required.
- ELTE 2301 Broadcast Equipment Maintenance** (1-6) Credit: 3
The operation, preventive maintenance procedures, and troubleshooting of modern day radio and television broadcast equipment. The course gives the student that much needed practical experience that can only be gained in a live station atmosphere. Prerequisites: ELTE 1404 and ELTE 2407 and the approval of the Department Manager.
- ELTE 2303 Special Intensive Study** (0-9) Credit: 3
An intensive study in the design, theory of operation, and construction techniques used in a project which holds special interest to the student and is in the field of his/her major. A student obtaining a second or third degree must repeat the course with emphasis and project related to the discipline in which the degree is to be awarded. The student must be eligible for graduation at the end of the semester in which this course is taken. Prerequisites: ELTE 2103 and the approval of the Department Manager.
- ELTE 2402 Advanced Test Equipment** (3-3) Credit: 4
Includes the use and normal user calibration techniques for all phases of Electronic Test Equipment from the very simple to the most advanced. Prerequisite: ELTE 1403.
- ELTE 2405 Satellite Systems** (3-3) Credit: 4
This course provides the student with the knowledge of operation and theory of Satellite Receiving Systems. The detailed theory covers such areas as transmission up linking, down linking, overall systems block diagram antennas and motor controllers, single and double conversion systems, receivers theory; operation of general troubleshooting procedures, L.N.A. and down converters. There is also emphasis placed on antenna installation and alignment procedures. The student will be responsible for setting up a complete system from antenna alignment to receiver hook up to a television set. Prerequisite: ELTE 1403 and 1404.
- ELTE 2406 Integrated Devices** (3-3) Credit: 4
An advanced study of the many types of IC's in use today. The course will include digital, linear, and LED type devices. Course will also include application and application design. Prerequisite: ELTE 1403 and CMET 1401.
- ELTE 2407 Communications Circuits II** (3-3) Credit: 4
A study of communications circuits necessary for the successful acquisition of the FCC first class license. Prerequisites: ELTE 1403 and 1404.
- ELTE 2408 Industrial Electronic Control Circuits** (3-3) Credit: 4
A study of special purpose electronic control circuits and systems as applied by industry today. This course will include theory and operation, maintenance, diagnostic troubleshooting, and repair of these special purpose circuits. Prerequisites: ELTE 1403.
- ELTE 2409 Electronic Systems Troubleshooting** (3-3) Credit: 4
This course includes theoretical and practical laboratory assignments in the study of techniques used in signal tracing and logical circuit diagnosis of different types of analog electronic systems. Prerequisite: CMET 1409.
- ELTE 2410 Radio Systems** (3-3) Credit: 4
An in-depth study of the circuitry, both discrete and integrated, used in today's AM and FM tuner amps, including both two and four channel multiplexing. Prerequisite: ELTE 1403.

Emergency Medical Technician (EMET)

- EMET 1201 Emergency Medical Technician Supplemental** (1-1) Credit: 2
This course supplements the instruction and course content and types of didactic and practical experiences in EMET 1402. This course in conjunction with EMET 1402, will meet and/or exceed the emergency medical service requirements of all states.
- EMET 1302 Military Medicine** (2-2) Credit: 3
This course increases the military medic's ability to provide prehospital care in an isolated environment, and prepares the medic in military-specific subjects such as speciality extraction and evacuation; battlefield triage; nuclear, biological and chemical casualty management; preventive medicine; field hygiene and sanitation; as well as specific medical support procedures such as Radio Telephone. Portions of this course may be used to satisfy the National Registry requirements for continuing education. Prerequisite: EMET 1402 or equivalent in MOS 91A, 91B, 91C (Army), HM-0000, HM-8404 (Navy), 902 series (Air Force).

EMET 1303 First Responder**(2-1) Credit: 3**

This course prepares this first responder, or medically untrained, to be proficient in not only providing basic life support to victims of emergencies, but also in taking any actions necessary to minimize the patient's discomfort and prevent further injury. This course has been designed to meet the specifications of the Department of Transportation's First Responder Training Course.

EMET 1304 Drug and Alcohol Abuse**(3-0) Credit: 3**

This course discusses the physiological and psychological effects of drug and alcohol abuse on the individual, the family and on society. Students learn the symptoms of drug and alcohol abuse and how to recognize them in individuals. The course discusses the problems causing abuse and how to understand and help the user. The course also includes discussion of the organizations available for treatment of the user, their effectiveness and an evaluation of alternate treatment programs.

EMET 1305 Emergency Medical Seminar**(3-0) Credit: 3**

This course is designed to keep the Emergency Medical Technician Abreast of new developments, trends, current major issues, legal professional concerns, and other important factors that have an impact upon the emergency medical field. This course may be repeated for credit.

EMET 1401 Emergency Medical Technician**(2-4) Credit: 4**

The objective of this course is to provide emergency medical theory and skills training to enable the student to function as an emergency medical technician.

EMET 1402 Emergency Medical Technician-Ambulance**(2-5) Credit: 4**

This course exposes the student to the didactic and practical experiences outlined in the 1986 Department of Transportation's NHTSA curriculum. All of the skills and knowledge elements necessary to deal with the broad spectrum of illness of injury in the prehospital phase of care are included.

EMET 1403 Emergency Medical Technician-Recertification**(2-4) Credit: 4**

Covers all didactic and practical experiences covered in courses EMET 1402, 1201, and 1302. Through National Registry approval this course provides the necessary continuing education, CPR, and refresher training requirements needed for national recertification. Prerequisite: EMET 1402 or certification as an EMT.

EMET 2101 Introduction to Paramedic**(1-0) Credit: 1**

This course provides an overview of the paramedic's roles in both civilian and military environments, the paramedic's function, legal responsibilities and career opportunities. Prerequisite: EMET 1402 or EMET 1403.

EMET 2301 Disaster Planning**(3-0) Credit: 3**

This course is designed to help administrators to prepare emergency operation plans and to train existing personnel to cope with a disaster if it should strike. The course provides valuable information on how to plan and prepare efficient responses to earthquakes, floods, fires, nuclear attacks and other emergency situations. It includes elements of disaster preparation, organization of emergency operations plans, training of personnel, the emergency operations center and coordination with other organizations.

EMET 2302 Emergency Medical Center Management**(3-0) Credit: 3**

This course provides the student with an understanding of management theories and functions as they relate to the operations of an emergency medical center. Prerequisite: MGMT 1305.

EMET 2303 Psychology of Emergencies**(3-0) Credit: 3**

This course covers communicating with families involved in emergencies and the EMT's role in counseling. It also considers personality structures, defense mechanisms, and the developmental stages of man.

English (ENGL)

ENGL 1301 Composition and Rhetoric I**(3-0) Credit: 3**

A study of the principles and techniques of written compositions including sentence structure, paragraph development, and paper organization. Also stresses the development of critical thinking as it applies to the textual analysis of expository prose.

ENGL 1302 Composition and Rhetoric II**(3-0) Credit: 3**

A continuation of English 1301, emphasizing in more depth the principles and techniques of written compositions. Focus of compositions is on the development of critical thinking as it relates to the textual analysis of literary genres: the short story, poetry, drama, and the novel. Formal research paper is required. Prerequisite: Successful completion of ENGL 1301 or equivalent.

ENGL 1308 College Reading**(2-1) Credit: 3**

Designed for students who wish to improve their abilities in analytical reading critical thinking. Development of inferential and interpretive comprehension skills as well as higher level skills in analysis, synthesis, and evaluation are stressed. Prerequisite: College level reading skills.

- ENGL 1309 Communications Skills** (3-0) Credit: 3
Instruction in grammar and diction, writing expository papers, writing effective business correspondence and reports, and oral presentations.
- ENGL 2301 English Literature I** (3-0) Credit: 3
A survey of English literature from Beowulf through the eighteenth century. Prerequisite: ENGL 1301, 1302 or equivalent.
- ENGL 2302 English Literature II** (3-0) Credit: 3
A survey of English literature beginning with the pre-Romantic periods through the early twentieth century. Prerequisite: ENGL 1301, 1302 or equivalent.
- ENGL 2303 World Literature I** (3-0) Credit: 3
A survey of masterpieces of Western world literature from Homer through the Renaissance. Prerequisite: ENGL 1301, 1302 or equivalent.
- ENGL 2304 World Literature II** (3-0) Credit: 3
A survey of masterpieces of Western world literature from the Renaissance to the twentieth century. Prerequisite: ENGL 1301, 1302 or equivalent.
- ENGL 2305 American Literature I** (3-0) Credit: 3
Surveys major American writers from Colonial Period to Whitman. Prerequisite: ENGL 1301, 1302 or equivalent.
- ENGL 2306 American Literature II** (3-0) Credit: 3
Surveys major American Writers from Whitman to the present. Prerequisite: ENGL 1301, 1302 or equivalent.
- ENGL 2309 Technical Writing** (3-0) Credit: 3
Study of the principles of exposition as applied to the preparation of short written technical reports using various formats. Major formal technical report required. Prerequisite: ENGL 1301 or 1309 or equivalent.

Engineering (Civil and General) (ENGR)

- ENGR 1101 Introduction to Engineering** (1-0) Credit: 1
Introduction to all engineering fields and the opportunities within the scope of professional work.
- ENGR 1301 Engineering Graphics** (2-4) Credit: 3
Freehand and instrument drawing, dimensioning, fastening, pictorial methods, charts and graphs, projections drawing, geometry of graphical construction. Required for beginning engineering students.
- ENGR 1302 Descriptive Geometry** (2-4) Credit: 3
Involves point, line and plane relationships, auxiliary views, intersections, and flat pattern development. Emphasis is placed on practical solutions to realistic engineering problems relating to aerospace, mining, and geology. Prerequisite: ENGR 1301.
- ENGR 1303, 1304 Plane Surveying I and II** (2-3) Credit: 3, 3
These courses cover the use and care of surveying instruments, note keeping distance measurements, traverse surveying areas, angles and elevations, legal principles, and elementary map making. They also cover plane table and transit methods of topographic map production, field problems related to highway surveying, circular and vertical curves, earthwork, volumes and cost estimates, triangulation and base lines. Prerequisite: MATH 1303 or equivalent.

Equipment Maintenance (EQMT)

- EQMT 1250 Trade Drawing IA** (1-2) Credit: 2
This is a basic course with emphasis on introduction and use of drawing equipment and instruments, geometric construction, lettering, freehand drawing and sketching and orthographic projection.
- EQMT 1252 Trade Drawing IIA** (1-2) Credit: 2
This course is a study of dimensioning practices, sectional views, auxiliary views, secondary auxiliary views, conventional practices, and thread and fasteners.
- EQMT 1401 Fundamentals of Machinery** (3-2) Credit: 4
A study of machines to include levers, gears, inclined planes, chain falls, pulleys, wedges and cams. Students will calculate mechanical advantages and the practical work will include selecting and using proper mechanical aids.
- EQMT 1402 Machine Tools** (2-4) Credit: 4
A course designed to provide an understanding of the theory of operation of lathes, milling machines, grinders, drill presses, power saws and shapers. The student will also have an understanding of the construc-

tion, operation, and maintenance of each type of machine. Safety practices for each type of machine will be stressed. Prerequisite: EQMT 1401.

EQMT 1403 Maintenance of Valves and Pumps (2-4) Credit: 4
Provides an understanding of the theory of operation of valves and pumps. It covers both stop and check valves to include globe, gate, swing check, ball check, lift check, and safety valves. Students will learn to disassemble, repair, assemble, align and maintain both pumps and valves. Prerequisite: EQMT 1401.

EQMT 1404 Maintenance of Galley Equipment and Fans (2-4) Credit: 4
This course provides the theory of operation, maintenance required, and practical work in repair of fans, blowers, and galley equipment. Ice machines, rotating ovens, dough mixers, scullery machines, meat cutting machines, pre-wash machines, roof exhaust fans, and fan static balance method will be covered. Prerequisite: MTNT 1402.

EQMT 2401 Maintenance of Air Compressors (2-4) Credit: 4
This course provides the theory of operations, design, classification, application and maintenance of air compressors. It will include reciprocating and vane type compressors and will cover disassembly, repair, assembly and troubleshooting. Prerequisite: MTNT 1402.

EQMT 2402 Maintenance of Power Plant Equipment I (2-4) Credit: 4
This course provides an understanding of the functioning of and maintenance required for selected power plant equipment. Steam and water pumps, traveling screens, and pressure boilers are covered. The course also covers the steam water and water cooling cycles. Prerequisites: INDU 1400, EQMT 1403, EQMT 1404.

EQMT 2403 Maintenance of Power Plant Equipment II (2-4) Credit: 4
A continuation of EQMT 2402. This course covers turbines, generators and auxiliary equipment. Overhaul of selected equipment and proper lubrication will be included. Prerequisite: EQMT 2402.

EQMT 2405 Principles of Machine Design (3-3) Credit: 4
A study in machine designs with emphasis on drawing and manufacturing processes. This course includes drawings for sand castings, forging and drawings of forging, fundamentals of machining, lathe drill press, shaper, planer parts machined from stock and other pertinent areas relative to machine practices.

EQMT 2409 Equipment Maintenance Mechanic Internship (1-20) Credit: 4
This course consists of on-the-job equipment maintenance training that utilizes the principles, knowledge and skills gained in the classroom and laboratory. The student is employed at an approved worksite under the supervision of College instructor/coordinator.

Finance and Banking (FIBA)

FIBA 1301 Banking Principles (3-0) Credit: 3
The fundamentals of bank functions presented in a descriptive fashion so that the beginning banker may acquire a broad and operational perspective. It reflects the radical changes in banking policy and practice which have occurred in recent years. Topics covered are banks and the monetary system, negotiable instruments, the relationship of the financial institution to its depositors, types of accounts, the deposit function, the payments function, loans and investments, other services (trust, international and safe deposit), accounting and marketing, external and internal controls, and the public service obligations of banks.

FIBA 1302 Money and Banking (3-0) Credit: 3
The economic principles most closely related to the subject of money and banking in a context of topics of interest to present and prospective financial institution management personnel. The practical application of the economics of money and banking to the individual financial institution is stressed. Some of the subjects covered include structure of the commercial banking system, the nature and functions of money, banks and the money supply, cash assets and liquidity management investments, loans, earnings, and capital, the Federal Reserve System and its policies and operations, Treasury Department operations, and the changing international monetary system.

FIBA 1303 Credit Department Management (3-0) Credit: 3
The primary objective of this course is to provide material which can be used by small and medium size financial institutions in strengthening their performance of the commercial lending function. It includes an analysis of the essential elements of the credit function, a discussion of key operations and training areas, and information on types of functional or departmental organization which can be used to carry out the required tasks.

FIBA 1304 Residential Mortgage Underwriting (3-0) Credit: 3
This course teaches the student the importance of the underwriting decision and how to logically evaluate both the borrower and the property. All elements that enter into the decision-making process are covered. Subjects include, but are not limited to: income analysis, financial statement analysis of self-employed persons, fundamentals of residential property appraisal and property standards.

FIBA 1305 Law and Banking Principles (3-0) Credit: 3
This course serves as a guide to law and legal issues with special emphasis on the Uniform Commercial Code. Subjects include the sources and applications of banking law, torts and crimes, contracts, real and personal property, bankruptcy, and the legal implications of consumer lending. It is designed for entry level and office level personnel in the financial services industry who require an overview of the legal aspects of banking.

FIBA 2302 Bank Management (3-0) Credit: 3
This course presents new trends which have emerged in the philosophy and practice of managements. The study and application of the principles of banking provide new and experienced bankers with a working knowledge of bank management's supervisory role.

FIBA 2303 Marketing for Bankers (3-0) Credit: 3
This course covers the concepts and philosophies of marketing, marketing information, research, the marketing mix (product strategy, distribution strategy, advertising and sales promotion, personal selling, and pricing strategy), and the methods of marketing planning.

FIBA 2304 Consumer Lending (3-0) Credit: 3
Emphasizes the pragmatic "how to" details of Installment Credit. Topics covered are principles of credit evaluation, open-end credit, marketing financial services, collecting policies and procedures, legal aspects, financial statement analysis, direct and indirect installment lending, leasing and other special situations, installment credit department management, insurance and rate structure and yields.

FIBA 2305 Investment Principles (3-0) Credit: 3
Covers the sources and uses of bank funds and the place of investment in the overall scheme of bank operations. Especially important are the relationships of investments to business and the unique functions, advantages and purposes served by a wide range of securities. Investment terminology is covered in detail.

FIBA 2306 Analyzing Financial Statements (3-0) Credit: 3
This course includes characteristics of financial statements and financial statement analysis. Goals, methods, and tools of analysis, analysis of profit and loss, accounts receivable, inventories and balance sheets, the relationship of balance sheet accounts to sales, and projected statements of cash budgets are studied. Prerequisite: ACCO 2301 or ACCT 1301.

Fine Arts (FINA)

FINA 1301 Introduction to Fine Arts (3-0) Credit: 3
This is an introductory course designed to give the student a fundamental understanding of the creation and appreciation of diverse modes of expression through the visual and performing arts, within the context of Fine and Applied Arts.

Fire Protection (FPRT)

FPRT 1301 Fundamentals of Fire Protection (3-0) Credit: 3
History and philosophy of fire protection; review of statistics of loss of life and property by fire; introduction to agencies involved in fire protection; current legislative developments and career orientation; recruitment and training for fire departments; position classification and pay plans; employee organizations; a discussion of current related problems and review of expanding future fire protection problems.

FPRT 1302 Fire Prevention (3-0) Credit: 3
The objectives and views of inspection, fundamental principles, methods, techniques, and procedures of fire prevention administration. Fire prevention organization; public cooperation and image; recognition of fire hazards; insurance 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.

FPRT 1303 Fire Protection Systems (3-0) Credit: 3
Study of the required standard for water supply; special hazards protections systems; automatic sprinklers and special extinguishing systems; automatic signaling and detection systems; rating organizations and underwriting agencies.

FPRT 1304 Fire Administration I (3-0) Credit: 3
An in-depth study of the organization and management as related to a fire department including budgeting, maintenance of records and reports, and management of fire department officers. Personnel administration and 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.

- FPRT 1305 Fire Administration II** (3-0) Credit: 3
Study to include insurance rates and rating, preparation of budgets, administration and organization of training in the fire department; city water requirements, fire alarm and communications systems; importance of public relations, report writing and record keeping; measurement of results, use of records to improve procedures, and other related topics; legal aspects relating to fire prevention and fire protection with stress on municipal and state agencies; design and construction of fire department buildings.
- FPRT 1307 Fire Service Chemistry I** (3-0) Credit: 3
An introductory study to inorganic and organic chemistry, with emphasis on the metric systems, the periodic chart, water, oxygen, hydrogen, carbon, hydrocarbons, carbohydrates, and polymers.
- FPRT 1308 Fire Service Chemistry II** (3-0) Credit: 3
A continuation of FPRT 1307. Prerequisite: FPRT 1307.
- FPRT 2301 Industrial Fire Protection I** (3-0) Credit: 3
Specific concerns and safeguards related to business and industrial organization. A study of industrial fire brigade organization and development, plant lay-out, fire prevention programs, extinguishing factors and techniques, hazardous situation and prevention methods. Gaining cooperation between the public and private fire department organization. Study of elementary industrial fire hazards in manufacturing plants. Prerequisite: FPRT 1301.
- FPRT 2302 Industrial Fire Protection II** (3-0) Credit: 3
Development of fire and safety organizations in industry; relation between private and public fire protection organizations; current trends, deficiencies and possible solutions for industrial fire problems; role of insurance and other special organizations, an in-depth study of specific industrial processes, equipment, facilities and work practices to understand the potential hazards and techniques to detect and control such hazards. Field trips to selected plants and demonstrations of new techniques equipment and innovations. Prerequisite: FPRT 2301.
- FPRT 2303 Hazardous Material I** (3-0) Credit: 3
Study of chemical characteristics and behavior of various materials that burn or react violently related to storage, transportation, handling hazardous materials, i.e., flammable liquids, combustible solids, and gases. Emphasis on emergency situations and most favorable methods of handling fire fighting and control. Prerequisite: FPRT 2301.
- FPRT 2304 Legal Aspects of Fire Protection** (3-0) Credit: 3
A study of legal rights and duties, liability concerns and responsibilities of the fire department while carrying out their duties. Introduction and basic concepts of civil and criminal law, the Texas and Federal judicial structure, and city's liability for acts of the fire department and fire prevention bureaus. An in-depth study of various cases concerning fire fighters, fire departments and municipalities.
- FPRT 2305 Building Codes and Construction** (3-0) Credit: 3
Fundamental consideration and exploration of building construction and design with emphasis on fire resistance of building materials and assemblies, exposures, and related data focused on fire protection concerns; reviews of related statutory and suggested guidelines, both local and national in scope. Review of Model Building Codes and Life Safety Codes.
- FPRT 2306 Fire and Arson Investigation** (3-0) Credit: 3
A study of the detection of arson, investigation techniques, case histories, gathering and preserving of evidence; preparing for a court case; selected discussions of laws, decisions and opinions; kinds of arsonists, interrogation procedures, cooperation and coordination between fire fighters and arson investigators and other related topics. Prerequisite: FPRT 2305.
- FPRT 2308 Hazardous Material II** (3-0) Credit: 3
Hazardous materials covering storage, handling laws, standards, and fire fighting techniques associated with chemicals, gases, flammable liquids, corrosives, poisons, explosives, rocket propellants and exotic fuel, and radioactive materials. The formation of toxic fumes and health hazards is also stressed. Ignition and combustion characteristics of gases, liquids, and solids related to free-burning fire and explosion phenomena. Familiarization with radiological instruments, human exposure to radiation, decontamination procedures, common uses of radioactive materials and operational procedures. Prerequisite: FPRT 2303.
- FPRT 2309 Fire Safety Education** (3-0) Credit: 3
A survey of physical, chemical, and electrical hazards and their relationship to loss of property and/or life. Study of codes, laws, problems, and cases. Detailed examinations and study of the physical and psychological variables related to the occurrence of casualties. Safe storage, transportation and handling techniques are stressed to eliminate or control potential risks.

FPRT 2310 Marine Fire Protection (3-0) Credit: 3
This course covers the specific fire protection concerns of the maritime industry. It provides an in-depth study of the causes of fires, fire prevention, special fire fighting techniques, special equipment and fire safety as they relate to watercraft.

FPRT 2314 Fire Service Hydraulics (3-0) Credit: 3
This course covers the fundamental concepts needed to solve a broad range of fire protection hydraulic problems. It includes the measurements of water from flowing orifices; the characteristics of water flow through conduits; the pressure, volume and frictional characteristics of mobile and stationary fire pumps; the trajectory and patterns of fire streams; and the relationship between fixed and mobile fire suppression equipment.

FPRT 2404 Fire Fighting Tactics and Strategy (4-0) Credit: 4
Essential elements in analyzing the nature of fire and determining the requirements. Efficient and effective utilization of manpower, equipment and apparatus. Emphasis to be placed on pre-planning, study of conflagration problems, fire ground organization, problem solving related to fire ground decision making and attack tactics and strategy. Use of Mutual Aid and large scale command problems. Prerequisite: Completion of, or registration therein of all other required fire courses.

French (FREN)

FREN 1401 Beginning French I (3-3) Credit: 4
This course includes basic grammar drill, pronunciation drill, simple reading, and conversation.

FREN 1402 Beginning French II (3-3) Credit: 4
Elementary grammar is completed. Pronunciation, drill, and conversation based on reading are continued. Stress is given to everyday conversational phrases. Prerequisite: FREN 1401.

FREN 2301 Intermediate French I (3-0) Credit: 3
This course includes grammar review, composition, and reading of French masterpieces, with conversation based on material read. Prerequisite: FREN 1401, 1402, or two years of French in an accredited high school.

FREN 2302 Intermediate French II (3-0) Credit: 3
This course continues the drill on syntax as needed for reading, composition, and conversation. Prerequisite: FREN 2301.

Food Service Management (FSMG)

FSMG 1300 Quantity Food Production (3-0) Credit: 3
An introductory course in culinary skills. Covers basic institutional food preparation. Emphasizes the use of equipment and tools common to an institutional food service kitchen. Stresses the human relations challenges inherent to large food service operations.

FSMG 1301 Supervising Kitchen Administration (3-0) Credit: 3
A study of the supervisory procedures necessary to control food, beverage operations, including supervision of the preparation crew, with emphasis on weights and measure, portion control, converting standard recipes and production formulas. Secondary emphasis is placed on daily food production reports, taxes, reports to all levels of government, and the metric system.

FSMG 1302 Nutrition (3-0) Credit: 3
A study of dietary needs; the role of proteins, fats, carbohydrates, minerals, and vitamins; factors to be considered in proper selection and preparation of foods for maximum nutritional value.

FSMG 1303 Sanitation and Safety (3-0) Credit: 3
This course includes a study of personal cleanliness; sanitary practices in food preparation; cause; investigation and control of illness caused by food contamination; food storage and refrigeration; sanitation of dishes, equipment, and kitchens; cleansing materials, garbage and refuse disposal; safety precautions and accident prevention. Upon completion of this course, the student will have sufficient knowledge to pass the Educational Institute of the National Restaurant Association (N.R.A.) sanitation examination. Students must pass the national certification examination to receive credit for this course.

FSMG 1304 Work Organization (3-0) Credit: 3
This course is designed to provide a general introduction and orientation to principles of job analysis, performance evaluation, job evaluation and salary administration, and how these affect the work situation. Work measurement and work standard techniques are studied, as well as flow processes and work distribu-

* Nationally certified courses.

tion methods, quantity and quality control planning, and the current impact of governmental guidelines upon such procedures.

FSMG 1305 Food Purchasing (3-0) Credit: 3
Applied theory of food and beverage purchasing; factors affecting selections, standards, quality, and prices; techniques of receiving, storing, and issuing supplies, foods, and materials; applied theory of cost control, pricing and portions.

FSMG 1306 Menu Planning * (3-0) Credit: 3
Basic factors of planning menus; variety and nutrition in menu planning; techniques of preparing attractive menus and maintaining budgetary control; types of menus for various public and private institutions. Students must pass the national certification examination to receive credit for this course.

FSMG 1307 Meat Science (3-0) Credit: 3
An introductory course in raising, slaughtering, and packing meats, fish, and poultry, accompanied by an intensive study of wholesale and retail cuts of beef, veal, pork, and lamb. Emphasis is placed on the knowledge of grades, bone structure, muscle configuration, and appropriate cooking methods of hotel and restaurant meat cuts.

FSMG 1308 Restaurant Merchandising (2-3) Credit: 3
Sales promotion; interior decor; types and uniformity of service; food and beverage display; menu and room styling.

FSMG 1309 Short Order Food Preparation (1-6) Credit: 3
Short order food preparation is an introductory course that includes instruction on the basic equipment, tools and preparation techniques necessary to qualify a student to operate a short order food station sufficiently efficient to handle large numbers of customers in a short time.

FSMG 1401 Food Preparation and Serving (3-3) Credit: 4
An introduction to techniques of food preparation. Includes preparation of vegetables, pastries, oven dishes, soups, salads, meats, fish, and poultry. Techniques include experimental cookery, food marketing and preservation, serving and table service.

FSMG 1402 Basic Baking and Pastry Production (2-6) Credit: 4
This is an introductory course in baking and pastry production in a commercial food service establishment or in a bakery. Students learn how to properly use the tools and equipment used in baking and how to make breads, yeast-raised dough products, fried bakery products (donuts and crullers), variety pies, layer cakes and cupcakes, puff pastries, variety cookies, and how to decorate cakes and pastries.

FSMG 2150 Food Purchasing and Financial Management (1.3-1.3) Credit: 1
Preparing financial statements, food pricing, quality and quantity, purchasing, and controlling food costs.

FSMG 2151 Nutrition and Menu Planning (1.5-1.5) Credit: 1
Nutrition and menu planning in the food service industry.

FSMG 2201 Food Service Terminology (2-0) Credit: 2
This course is an introduction to the terminology utilized in the food service industry.

FSMG 2250 Advanced Culinary Skills (1-3) Credit: 2
This course is designed to give fine points of culinary skills and theory. Preparation of classical food menus and the arts of serving food.

FSMG 2251 Culinary Skills (2-2) Credit: 2
Culinary Skills introduces the student to the methods, techniques, and terminology needed to effectively manage a quality food kitchen.

FSMG 2252 Nutrition and Physical Fitness (2.5-0) Credit: 2
The relationship between proper nutrition and physical fitness. Lectures deal with calorie consumption, apathy, self-discipline, performance, and other character deficiencies as they relate to obesity and physical fitness.

FSMG 2303 Cafeteria Management * (3-0) Credit: 3
This course points out the specific differences between an industrial cafeteria and conventional restaurant and explains how to cope with the unusual problems of industrial and institutional feeding. Students must pass the national certification examination to receive credit for this course. Prerequisite: FSMG 1301, MATH 1301 or MATH 1308.

* Nationally certified courses.

- FSMG 2304 Hospitality Industry Sales Promotion *** (3-0) Credit: 3
A course designed to develop an understanding of what must be done in order to bring the wheels of production and consumption in the United States into mesh. The business activities that direct the flow of goods and services from the producer to the ultimate consumer are analyzed. Coordination of personal selling, advertising, produce design, market research, and customer relations/services are the individual ingredients of sales promotion, and each is examined in detail. Advertising is studied as the force that creates prospects, converts these prospects into customers, and keeps customers returning and buying. Students must pass the national certification examination to receive credit for this course.
- FSMG 2306 Layout and Design** (3-0) Credit: 3
Fundamentals of equipment layout for optimum production and operational efficiency. This course will include procedures to design and decorate remodeling projects.
- FSMG 2353 Creative Cooking** (2-3) Credit: 3
Creative cooking is the art of combining creativity and design with superior food preparation and serving the art of "Garde Manger" is taught.
- FSMG 2355 Kitchen Management and Food Servicing** (2.5-2.5) Credit: 3
This course introduces the student to the methods, techniques, and terminology needed to effectively manage a quality food kitchen.
- FSMG 2356 Gourmet Cooking** (2-3) Credit: 3
Gourmet Cooking introduces the student to the art of cooking as practiced by professional master chefs.
- FSMG 2401 Classical Food Preparation** (3-3) Credit: 4
This course emphasizes the fine points of culinary skills and theory. Concentration on the preparation of menus. Responsibility of the Chef and Sous-Chef.
- FSMG 2402 Exhibition Work** (3-3) Credit: 4
Taught in conjunction with Classical Food Preparation. This course is designed to assist the student in professional employment. The essence of exhibitions, buffets, centerpieces, and the role of the Executive Chef will be emphasized. This course will include an exhibition planned and prepared by the student.
- FSMG 2452 The Chef's Course** (2.5-2.5) Credit: 4
Course is designed to develop a combination of good management practices, food preparation expertise, artistic creativity in laboratory exercises in food preparation. Student will be required to prepare and serve a buffet meal.
- FSMG 2453 Dining Facility Management** (2.5-4) Credit: 4
This course is designed to provide Food Service personnel the technical knowledge and skills to manage and operate a unit or consolidated dining facility under garrison or field conditions.

Food Service Operations (FSOP)

- FSOP 1303 Sanitation and Safety** (3-0) Credit: 3
Includes a study of personal cleanliness; sanitary practices in food preparation; cause, investigation and control of illness caused by food contamination; food storage and refrigeration; sanitation of dishes, equipment, and kitchens; cleansing materials, garbage and refuse disposal; safety precautions and accident prevention.
- FSOP 1305 Food Purchasing** (3-0) Credit: 3
Applied theory of food and beverage purchasing; factors affecting selections, standards, quality and prices; techniques of receiving, storing and issuing supplies, foods and materials; applied theory of cost control, pricing and portions.
- FSOP 1306 Menu Planning** (3-0) Credit: 3
Basic factors of planning menus; variety and nutrition and menu planning; techniques of preparing attractive menus and maintaining budgetary controls; types of menus for various public and private institutions.
- FSOP 2303 Cafeteria Management** (3-0) Credit: 3
This course points out the specific differences between an industrial cafeteria and conventional restaurant and explains how to cope with the unusual problems of industrial and institutional feeding.
- FSOP 2304 Hospitality Industry and Sales Promotion** (3-0) Credit: 3
A course designed to develop an understanding of what must be done in order to bring the wheels of production and consumption in the United States into mesh. The business activities that direct the flow of goods and services from the producer to the ultimate consumer are analyzed. Coordination of personal selling, advertising, produce design, market research and customer relations/services are the individual ingredients of sales promotion and each is examined in detail. Advertising is studied as the force that creates prospects, converts these prospects in customers and keeps customers returning and buying.

FSOP 2305 Financial Management**(3-0) Credit: 3**

Methods and application of financial management within the combined food service facility. Primary emphasis upon sales accountability and internal controls utilized within bar, food, dining room and hotel operation area. Secondary emphasis on budgeting and forecasting with application of effective labor/sales ratios. Prerequisite or Corequisite: FSMG 1301, MATH 1301, or MATH 1308.

FSOP 2307 Hospitality Industry Law**(3-0) Credit: 3**

A study of the nature and scope of business law with emphasis on the hospitality industry. Licensing, civil rights, owner responsibility for safety and property loss of guests, rights of the owner and history of contemporary hospitality law will be discussed.

Foreign Language**(See French, German, Japanese or Spanish)****Geography (GEOG)****GEOG 1301 Introduction to Geography****(3-0) Credit: 3**

This is an introductory level course that combines physical and cultural geography using a regional approach. The course examines the physical environment of the earth and explains maps; covers man's adaptation to environmental extremes; and explores man's use of his environment, ranging from adaptation within a tribal culture to the highly modernized urban world.

GEOG 2301 Elements of Physical Geography**(3-0) Credit: 3**

A course which examines the physical characteristics of the Earth's environment, using maps as a tool for expressing location and interrelationships. Principal topics to be discussed are: the atmosphere and oceans, weather, climate, environments of earth materials and vegetation, land forms and their development.

GEOG 2302 Cultural Geography**(3-0) Credit: 3**

A survey of human geography and the ways mankind adapts and reacts to his environment. Culture is defined and the various aspects of culture are described and compared. Important topics to be discussed are population, health, livelihoods, communities, urbanization, organizational interaction (including economics and politics), present and future global problems.

Geology (GEOL)**GEOL 1401 Physical Geology****(3-3) Credit: 4**

Introductory course in the nature and properties of the materials which make up the earth. Topics included are processes of glaciation, volcanism, weathering, and erosion. Modern theories such as plate tectonics are also studied. Field work, including the study of local rocks and minerals, is an integral part of the course.

GEOL 1402 Historical Geology**(3-3) Credit: 4**

The course involves a study of the record of life forms that developed throughout geological time. It also covers the development of the earth from its cosmic beginning to current land forms. Principles of stratigraphy, paleontology, geologic time, plate tectonics, and hypotheses of earth origin are studied in the course. Field work, including the study of local fossil fauna, is an integral part of the course.

German (GERM)**GERM 1401 Beginning German I****(3-3) Credit: 4**

For those who have had no previous work in German. The essential grammar expression. Requires three laboratory hours per week for the memorization and presentation of German dialogues by the students.

GERM 1402 Beginning German II**(3-3) Credit: 4**

A continuation of Beginning German I. Prerequisite: GERM 1401 or its equivalent.

GERM 2301 Intermediate German I**(3-0) Credit: 3**

Includes grammar review, composition and practice in conversation, with readings in contemporary German writings, including short stories and some longer works, providing a conversational basis. Prerequisite: GERM 1401, GERM 1402 or two years of German in an accredited high school.

GERM 2302 Intermediate German II**(3-0) Credit: 3**

Continues the drill on syntax as needed for reading, composition and conversation. Prerequisite: GERM 2301.

Science (GESC)**(See Biology, Chemistry, Geology)**

GESC 1301 General Physical Science

(3-0) Credit: 3

This is an introductory course for students who need to acquire a basic understanding of the philosophy and methods of science. Topics will be selected from various fields of physical science and will cover a review of the basic principles and theories.

Government (GOVT)

GOVT 2301 State and Federal Government I

(3-0) Credit: 3

An introductory, survey course on various United States, Texas, and local government topics. This course includes study of the U.S. and Texas constitutions, federalism, local governments, elections in the nation, state and locally, civil liberties, and interest groups.

GOVT 2302 State and Federal Government II

(3-0) Credit: 3

Introductory, survey course on various United States, Texas, and local government topics. This course includes studying institutions of the national and Texas governments, to include the executive, legislative, and judicial branches; the bureaucracy; and the public policy including defense and foreign relations as examples.

GOVT 2303 Introduction to Political Science

(3-0) Credit: 3

This course is designed to introduce the student to the general area of political science and to provide knowledge and understanding of political fundamentals, public law, political dynamics, public policy, theory and organization of the modern state, and international relations.

Graphic Arts

(See Drafting and Design)

History (HIST)

HIST 1301 History of the United States to 1865

(3-0) Credit: 3

English colonization; the Revolution; adoption of the Constitution; growth of nationalism; cotton and the slavery problem; civil war.

HIST 1302 History of the United States from 1865

(3-0) Credit: 3

Reconstruction, new social and industrial problems; rise of the progressive movement; United States emergence as a world power; World War I; reaction and the New Deal; World War II; contemporary America.

HIST 1303 Survey of Western Civilization I

(3-0) Credit: 3

An introductory, survey course from the rise of Near Eastern civilization to the conclusion of the French Revolution. Special emphasis is placed on the period 1500-1815. Topics covered include Ancient Times, the Middle Ages, the Renaissance, the Reformation, the Establishment of West-European Leadership, the Transformation of Eastern Europe, the Enlightenment, the Scientific Revolution, the French Revolution.

HIST 1304 Survey of Western Civilization II

(3-0) Credit: 3

An introductory, survey course from 1815 to the present with particular emphasis upon the twentieth century. Topics covered include the international impact of the French Revolution, Reaction vs. Progress, the Industrial Revolution, the Revolutions of 1848, the Rise of Large Nation-States, European Imperialism, European Civilization 1870-1914, World War I and the Russian Revolution, Totalitarianism and World War II, the Contemporary World.

HIST 2301 International Relations and U.S. Foreign Policy

(3-0) Credit: 3

A study of international relationships and problems in world affairs; organization and processes used to arrive at foreign policy decisions of the United States; the elements of international communist ideologies; and the evolution of American foreign policy since 1945.

HIST 2302 Studies in American History

(3-0) Credit: 3

This course is a survey of the major developments in United States history with special emphasis on the international developments since 1945 in which the American people have played dominant or decisive roles. The influence that Europe and Asia have had on the United States will also be examined. Other countries' foreign policies, the Cold War, the rise of the Third World and the American social and cultural revolution are major topics of instruction. Prerequisites: HIST 1301 and HIST 1302 or consent of instructor.

HIST 2303 History of Christian Religion

(3-0) Credit: 3

A study of the origin, progress, and development of the Christian religion. Attention will be given to the development of beliefs and the rise of denominations.

HIST 2304 World Religions (3-0) Credit: 3
A survey course dealing with the origins, tenets, and development of the major world religions. Deductive method used to understand religion as a phenomenon in man's life. Discussion of Hinduism, Buddhism, Confucianism, Taoism, Judaism, Christianity, and Islam.

HIST 2350, 2351 Military History I and II (3-0) Credit: 3, 3
Courses designed to give the non-commissioned officer a concept of the development of the U.S. Army from pre-revolutionary days to the present, the effect of society on the structures and development of the Army, and the history of the development of tactics and strategies based on modern technology.

Hotel-Motel Management (HMMG) *

HMMG 1300 Food and Beverage Management (3-0) Credit: 3
This is an introductory course in food and beverage operation, with an introduction to purchasing, receiving, storage, preparation and service. ‡

HMMG 1302 Hotel/Motel Organization and Administration (3-0) Credit: 3
This course includes management and organization of hotel industry, communications, accounting, personnel relations and administration, management of guests, and includes planning for today and tomorrow. ‡

HMMG 1303 Front Office Procedures (3-0) Credit: 3
This course includes hotel organization and services, front office salesmanship, cashiering, front office posting, accounting for guest charges, procedures and forms for accounting controls. ‡

HMMG 1305 Energy Management (3-0) Credit: 3
This course includes techniques that will save money through effective energy conservation methods. Energy management functions to be studied include energy problems facing the hospitality industry, an action plan for energy management, implementing an energy management program and energy management consisting of retrofit and design. ‡

HMMG 1306 Convention Management and Service (3-0) Credit: 3
This course defines the scope of various segments of the Convention Market, explains what is required to meet individual needs, and, most importantly, explores methods and techniques that lead to better service. ‡

HMMG 1307 Tourism and The Hospitality Industry (3-0) Credit: 3
Presents a comprehensive systems review of tourism, stressing the interrelationships and interdependencies of the various component elements. It explains from a marketing point of view, through practical real-life examples and applications, how tourism works and how it can be utilized by various businesses. ‡

HMMG 1308 Hotel/Motel Security Management (3-0) Credit: 3
This course explains the issues surrounding the need for individualized security programs, examines a wide variety of security equipment and procedures, discusses guest protection and internal security for asset protection, and outlines OSHA regulations that apply to lodging properties. ‡

HMMG 2301 Hospitality Industry Law (3-0) Credit: 3
A study of the nature and scope of business law with emphasis on the hospitality industry. Licensing, civil rights, owner responsibility for safety and property loss of guests, rights of the owner, and history of contemporary hospitality law will be discussed. ‡

HMMG 2302 Supervisory Housekeeping (3-0) Credit: 3
This course includes organization of a housekeeping department of a hotel, job schedules, job breakdown, floor care, stain removal, fire inspection, purchasing records, equipment records, linen inventory and care, carpeting and care, and basic interior design. ‡

HMMG 2304 Financial Management (3-0) Credit: 3
Methods and application of financial management within the combined food service facility. Primary emphasis upon sales accountability and internal controls utilized within bar, food, dining room, and hotel operational area. Secondary emphasis on budgeting and forecasting with applications of effective labor/sales ratios. Prerequisite: FSMG 1302, MATH 1301 or MATH 1308. ‡

HMMG 2305 Hotel/Motel Maintenance (3-0) Credit: 3
This course includes a study of the organization, terms and concepts common to building maintenance. Maintenance functions to be studied include heating, plumbing, electrical, refrigeration and air conditioning, communications & signal system, kitchen equipment, fire prevention & protection, and elevator systems. ‡

* All courses certified by the American Hotel and Motel Association.

‡ Students must pass the National Certification examination to receive credit for this course.

HMMG 2306 Recreational Services (3-0) Credit: 3

This course includes the study of the needs of guest recreation and entertainment, space available for these activities, cost of operation and maintenance, layout and design and direct and indirect benefits. ‡

HMMG 2307 Marketing of Hospitality Services (3-0) Credit: 3

This course is designed to provide students with basic knowledge and practical experience which will enable them to develop strategic marketing plans for Hotel/Motel properties. ‡

HMMG 2308 Food and Beverage Controls (3-0) Credit: 3

Covers the principles and procedures involved in an effective system of food, beverage, labor and sales income control. Emphasizes the development and use of standards and the calculation of actual costs. ‡

HMMG 2309 Hospitality Industry Computer Systems (3-0) Credit: 3

This course provides an overview of information needs of lodging properties and food service establishments; addresses essential aspects of computer systems, such as hardware and generic applications; focuses on computer-based property management systems for both front office and back office functions; and focuses on computer-based restaurant management systems for both service-oriented and management-oriented functions.

Industrial Fundamentals (INDU)

INDU 1400 Industrial Fundamentals (3-3) Credit: 4

Required introductory course for students in all of the Industrial Technology curriculums. The course includes common hand and power tools, precision measuring devices, electrical test equipment, thread repair, special tools, soldering, bearings and seals, use of publications, basic shop math, and industrial trades safety. This course is a prerequisite or corequisite for all Industrial Technology curriculums.

Japanese (JAPN)

JAPN 1300 Introduction to Japanese (3-0) Credit: 3

This course provides students with conversational and academic skills in basic "survival" Japanese by presenting the language in a practical, contextual setting. Grammar is reinforced by example with emphasis on understanding the structure and mastery of the structure in conversation.

JAPN 1301 Beginning Japanese I (3-0) Credit: 3

Introduction to Japanese with attention given to conversation, grammar and the written forms. There will also be readings of simple texts dealing with Japanese life and culture.

JAPN 1302 Beginning Japanese II (3-0) Credit: 3

Continuation of Japanese conversation, grammar and the written forms. Emphasis is on reading texts dealing with Japanese life and culture. Prerequisite: JAPN 1301.

Journalism (JOUR)

JOUR 1301 Communications Media (3-0) Credit: 3

Instruction in mass media of modern world. A survey of all mass media, their purposes, and their methods of operation.

JOUR 1302 News Gathering and Reporting (3-0) Credit: 3

Instruction in the fundamental news gathering and writing techniques, interviewing techniques, and discussion of news sources and values.

Law Enforcement (LAW)

LAW 1201 Defensive Tactics (1-2) Credit: 2

This course is designed to provide the student with defensive and protective philosophies to better protect the public and criminal justice personnel against illegal force. Techniques of self-defense, safe arrest procedures, citizen contact, and proper prisoner transportation techniques, along with humane methods of handling disturbed persons, will be presented. The legal and humane use of limited force will be stressed at all times.

‡ Students must pass the National Certification examination to receive credit for this course.

- LAWE 1301 Introduction to Criminal Justice** (3-0) Credit: 3
History, development, and philosophy of law enforcement and criminal justice in a democratic society. Introduction and career orientation to the multifaceted agencies involved in the administration of criminal justice.
- LAWE 1302 Criminal Investigation I** (3-0) Credit: 3
Investigative theory; collection and preservation of evidence; sources of information; interview and interrogation; uses of forensic sciences; case and trial preparation.
- LAWE 1303 Legal Aspects of Law Enforcement** (3-0) Credit: 3
Police authority; responsibilities; constitutional constraints; law of arrest; search and seizure; police liability; examples of case law that currently affect police decisions will be reviewed.
- LAWE 1304 The Courts and Criminal Procedures** (3-0) Credit: 3
The judiciary in the criminal justice system; structure of American Court System; prosecution, right to counsel, pre-trial release, grand juries, adjudication process, types and rules of evidence, sentencing.
- LAWE 1305 Traffic Law** (3-0) Credit: 3
This course is designed to cover all laws pertaining to the control and enforcement of traffic. The officer is taught the use of spot maps and charts, the techniques of enforcement, and the maintenance of good public relations. An analysis of the Model Motor Vehicle code is given.
- LAWE 1306 Correctional Systems and Practices** (3-0) Credit: 3
Corrections in the criminal justice system; organization of correctional systems; correctional role, institutional operations; alternate to institutionalization; treatment and rehabilitation; current and future issues.
- LAWE 1307 Crime in America** (3-0) Credit: 3
American crime problems in historical perspective; social and public policy factors affecting crime; impact and crime trends; social characteristics of specific crimes; prevention of crime.
- LAWE 1308 Fundamentals of Criminal Law** (3-0) Credit: 3
Studies the nature of criminal law; philosophical and historical development; major definition and concepts; classification of crime; elements of crimes and penalties using Texas statutes as illustrations; criminal responsibility.
- LAWE 1309 Police Systems and Practices** (3-0) Credit: 3
The police profession; organization of law enforcement systems; the police role; police discretion; ethics; police-community interaction; current and future issues.
- LAWE 1310 Criminal Investigation II** (3-0) Credit: 3
Modern methods and skills required for criminal investigation, to include discovery methods, development and lifting latent fingerprints; criminal scene sketches; the use of plaster and silicone rubber for reproducing evidence at crime scene; use of modern investigation aids; and techniques of criminal interviews.
Prerequisite: LAW 1302
- LAWE 1314 Community Resources in Corrections** (3-0) Credit: 3
An introductory study of the role of the community in corrections; community programs for adults and juveniles; administration of community programs, legal issues, future trends in community treatment.
- LAWE 1315 Street Survival** (3-0) Credit: 3
This course stresses the preparation, planning, and appropriate reactions to hazardous situations for on-duty police officers. Students will gain awareness of the conditions which lead to personal injury and death. Instruction will be given to improve the student's tactical procedures and safeguards while performing police work.
- LAWE 2101 Emergency Medical Aid** (1-1) Credit: 1
This course will focus on the first aid fundamentals that will be helpful to patrol officers in the event of a first aid emergency situation. Procedures recommended by the American Red Cross will be used as guidelines for this course.
- LAWE 2201 Firearms** (1-2) Credit: 2
This course is designed to introduce the student to the skills and techniques of firearms used in the protection of the public and criminal justice personnel. Students will fire various weapons under precision and police combat conditions. The importance of safe weapons handling and the danger of not adopting a mature attitude towards firearms will be stressed at all times. The intelligent, legal, and moral use of the police firearms will be emphasized at all stages of teaching and firing.

- LAWE 2301 Probation and Parole** (3-0) Credit: 3
Course will provide the student with some understanding of the evolution of criminal corrections and explore with the student the many avenues into which the corrections field branches. Develops in each student a basic understanding of the various methods of corrections so that they can function efficiently in the field.
- LAWE 2303 Criminal Justice Seminar** (3-0) Credit: 3
A problems course dealing with current criminal justice trends, issues, and literature. Prerequisite: Approval of the Department Manager. This course may be repeated for credit.
- LAWE 2304 Juvenile Procedures** (3-0) Credit: 3
The organization, functions and jurisdiction of juvenile agencies; the processing and detention of juveniles, case disposition; juvenile statutes and court procedures.
- LAWE 2306 Traffic Planning and Administration** (3-0) Credit: 3
This course consists of the application of traffic problems from the administrative point of view, including engineering, education, and enforcement at the supervisory level.
- LAWE 2307 Penology (Jail Operation and Management)** (3-0) Credit: 3
A survey of the basic concepts of penal and correctional rationale as employed by criminal justice administrators. An overview of the operation and management principles of the institutional setting will be examined in-depth.
- LAWE 2308 Patrol Administration** (3-0) Credit: 3
Discussion of the administration of surveys, special problems arising while the officer is on patrol, improvement in patrol methods, observation of persons and things, preventive techniques, methods of handling complaints, and the development of contacts.
- LAWE 2309 Provost Marshal Operations** (3-0) Credit: 3
The principles of organization and administration as applied to the operational system of a military Provost Marshal's office as well as that of the Inspector General's. Practical training in the conduct of briefings, management, and attendant qualities of leadership, and some cases of dissident conditions which might impair role and mission of the dissident command.
- LAWE 2310 Correctional Control and Administration** (3-0) Credit: 3
The course prepares the student to perform supervisory functions related to control of prisoners and contraband; segregation and accountability of prisoners; procedures required at a correctional facility; emergency measures, prisoner privileges; and the records and reports of the detention center.
- LAWE 2311 Anti-Terrorism** (3-0) Credit: 3
This course explores the origins, philosophies, and current trends in worldwide terrorism and hostage taking incidents. Role playing exercises allow students to utilize all the course material in "hands-on" hostage negotiation situations.
- LAWE 2312 Homicide** (3-0) Credit: 3
This course emphasizes the investigative process and teamwork required in analyzing the homicide crime scene. It addresses the roles of the various forensic disciplines in relation to the investigator as well as the functions of the crime laboratory. Additionally, students will learn how to analyze wounds and injuries in drawing conclusions about the cause of death.
- LAWE 2313 Narcotics** (3-0) Credit: 3
This course presents an in-depth approach to the medical and legal aspects on the topic of narcotics. Students will learn how to identify dangerous drugs by their distinct characteristics and explain their effects on the human body. Most importantly, students will learn the theories and principles of drug law enforcement which will prepare them to bring a drug case successfully to prosecution.
- LAWE 2314 Organized Crime** (3-0) Credit: 3
This course provides the student with information on the growth and development of organized crime and its effect on the majority of crimes committed in the U.S. today. Students will also learn about the different facets of organized crime and will analyze how the federal and state authorities are fighting it.
- LAWE 2315 Interviewing and Interrogation Techniques** (3-0) Credit: 3
This course provides the student with an understanding of the communication process and the techniques for improving listening skills. This knowledge has a direct application for the police officer who must conduct interviews/interrogations on the job.
- LAWE 2350 First Responder** (3-0) Credit: 3
This course covers health knowledge with regard to individual and group welfare. It is concerned with the principles and practices of first aid for the sick and injured for the non-medically trained individual. Emphasis is given to the preventive aspects as well as care following injury or illness.

Legal Assistant (LEGA)

LEGA 1301 Introduction to Legal Assistant

(3-0) Credit: 3

This course provides a general introduction to the law with emphasis on the role of the legal assistant. To give the Legal Assistant student the necessary legal background, topics to be covered include the American system of law (constitutional law, statutory law, criminal law and tort law); court systems; and court procedures. General concepts of law are introduced for students with no specific prior legal knowledge. This serves as the introductory course for the program of Legal Assistant.

LEGA 1304 Principles of Family Law

(3-0) Credit: 3

The legal aspects of divorce and annulment, separation, defense, custody, habeas corpus, support, alimony, tax consulting, out-of-state divorces and validity and jurisdiction service will be discussed. Students will receive a review analysis of separation and custody agreement, as well as the other documents involved in divorce proceedings.

LEGA 1305 Law of Real Property and Real Estate Transactions

(3-0) Credit: 3

Study of the law of real property and in-depth survey of the more common types of real estate transactions and conveyances, such as deeds of trust, etc.; drafting problems involving projects related to the subject matter; study of the system for recording and search of public documents.

LEGA 1306 Criminal Law

(3-0) Credit: 3

A study of the Texas Penal Code including definitions of various kinds of defenses and trial procedures; the United States Constitution as it pertains to criminal law; practice in drafting subpoenas, writs, briefs and other trial papers.

LEGA 1307 Civil Litigation

(3-0) Credit: 3

This course is an overview of civil litigation in both state and federal court with particular emphasis on the areas in which a legal assistant can assist the trial attorney. Particular attention is paid to preparation for litigation (interviewing client and witnesses, reviewing public information), discovery proceedings (interrogatories, requests for admissions, depositions and document production) pre-trial proceedings (motions to dismiss, motions for summary judgment, pre-trial orders), and trial (witnesses and exhibits). Attention is also devoted to practical techniques required to cope with protracted or complex litigation, including organization of pleadings, documents and depositions; preparation of summaries, chronologies and indices; and maintaining a complex file in an orderly manner. Mention is made of the legal theories involved in complex litigation (e.g., products liability, civil rights, securities and antitrust). Principal emphasis is on procedural techniques rather than substantive areas of law.

LEGA 1308 Consumer Protection and Bankruptcy

(3-0) Credit: 3

A study of consumer law for the paralegal, business person, and consumer, of legislation and legal rights surrounding the purchase of consumer goods and services bought primarily for personal, family, or household purposes, to include the Consumer Credit Protection Act, the Uniform Consumer Credit Code, and the Fair Debt Collection Practices Act, as well as a survey of federal and state deceptive trade practices act and automobile "lemon laws." Students will also learn the appropriate federal, state, and local administrative bodies to contact in case of consumer problems and some of the procedures involved. This course will also give an in-depth study of both debtor and creditor rights in debt relief & bankruptcy. No prerequisite required.

LEGA 1402 Legal Office Ethics and Management

(3-3) Credit: 4

This course will provide the ethical considerations applicable to the legal assistant: office organization, specialized bookkeeping, and accounting for attorneys' fees and billing procedures, scheduling and calendaring, legal research, management of personnel, proofreading, management of investigations and file preparation, legal drafting, management and organization procedures for specialized areas of law, special considerations with respect to attorney's trust account, preparation of law office forms, check list and files, and disbursement on behalf of clients.

LEGA 2301 Tort and Personal Injury

(3-0) Credit: 3

A study of the fundamental principles of evidence and of the law of torts and insurance, including special research assignments related to the subject matter; consideration of the techniques of investigation involved in the lawyer's handling of tort and insurance claims and workmen's compensation; a study of the various forms of pleadings involved in commencing such claims in court actions. This course will also cover how to use cameras, tape recorders, video equipment and other investigative equipment; documenting cases and gathering evidence. Prerequisite: LEGA 2306.

LEGA 2302 Contract Law

(3-0) Credit: 3

A study of the law of personal property, contracts, including those special forms related to the law of sales and credit transactions, special drafting problems of various instruments and legal research projects; and a

survey of the Uniform Commercial Code and its effect on the course subject matter. Prerequisite: LEGA 1301.

LEGA 2303 Business Organizations (3-0) Credit: 3

A study of the formation and operation of corporations, partnerships, limited partnerships, business trusts and other business vehicles, including a survey of the fundamental principles of law applicable to each; special research projects related to the subject matter. Prerequisite: LEGA 1301.

LEGA 2306 Techniques of Legal Research (2-2) Credit: 3

This course focuses on the importance of legal research as part of a legal assistant's responsibilities. It explores principles of legal research, kinds of law books, components of a law book, citations, reading and finding constitutional law, regulations, cases, law and statutory law. Students will learn how to use the various legal research tools such as indexes, digests, Shepards, and treatises. Other sources of research, the federal and state codes and reports and administrative regulations will also be covered.

LEGA 2402 Income Taxation and Legal Accounting (3-3) Credit: 4

Study of federal, state and local income taxation of individuals and taxpaying entities such as estates, trusts and corporations. Emphasis is placed on the preparation of basic tax returns and other tax-related documents. The course also includes a general introduction to accounting as it relates to legal problems. Prerequisites: LEGA 1301 and ACCO 2301 or 2303.

LEGA 2405 Wills, Trust and Probate (3-3) Credit: 4

This course presents the basics of legal writing and legal documents with which a legal assistant will have to deal. The various kinds of legal writing will be considered. These are letters, instruments (e.g., contracts, deeds, wills, bonds, leases), pleading (e.g., complaint, answer) memoranda and briefs. Special attention will be given to the memoranda as documents which must be resolved before instruments, pleadings or briefs are sent out. The forms and principles of law for wills and trusts are covered. The organization and jurisdiction of the Texas Probate Court are studied. The administration of estates under Texas Probate Law is analyzed and estate and inheritance taxes are reviewed. Prerequisites: LEGA 1301 and ENGL 1301.

Mathematics (MATH)

MATH 1101 Basic Concepts of Statistics (1.25-0) Credit: 1

Basic Concepts of Statistics is a one semester hour course designed to present introductory statistical methods. Emphasis is placed on the theory of probability and basic understanding of statistical language and mathematical symbols used. This course will introduce the student to collection and tabulation of data, sampling, averages, probability and distribution.

MATH 1301 Intermediate Algebra (3-0) Credit: 3

This course includes algebraic fractions, functions, rectangular coordinate system, the straight line, exponents, radicals, complex numbers, quadratic equations and quadratic inequalities. Prerequisite: DSMA 0301 or acceptable placement test score.

MATH 1302 College Algebra (3-0) Credit: 3

This course is a continuation of MATH 1301. Topics include theory of equations, exponential and logarithmic functions, systems of linear equations, matrices and determinants, arithmetic and geometric sequences, binomial theorem, permutations and combinations. Prerequisite: MATH 1301 or acceptable placement test score. This course is recommended for students intending to enroll in advanced mathematics courses.

MATH 1303 Trigonometry (3-0) Credit: 3

Wrapping function, circular functions, trigonometric functions, polar coordinates, use of tables, identities, applications to right triangles and oblique triangles, inverse functions, trigonometric equations. Prerequisite: MATH 1301 or equivalent.

MATH 1304 Analytic Geometry (3-0) Credit: 3

An algebraic treatment of straight lines, circles, parabolas, hyperbolas, ellipses. Transformation of coordinates, curve sketching, polar coordinates. Prerequisite: MATH 1303 or equivalent.

MATH 1305 Finite Mathematics (3-0) Credit: 3

Symbolic logic, set theory, permutations, combinations, counting methods, probability. Prerequisite: MATH 1301 or equivalent.

MATH 1308 Elementary Statistics (3-0) Credit: 3

Collection and tabulation of data, bar charts, graphs, sampling, averages, dispersion, correlation, index number, normal curve, probability, inferential statistics, applications. Prerequisite: DSMA 0301 or equivalent.

MATH 2301 Calculus I (Fall) (3-0) Credit: 3

A first course in differential calculus. Prerequisite: MATH 1304 or equivalent or concurrent enrollment in MATH 1304.

- MATH 2302 Calculus II (Spring)** (3-0) Credit: 3
A first course in Integral Calculus. Prerequisite: MATH 2301 or equivalent.
- MATH 2303 Advanced Calculus** (3-0) Credit: 3
A further study of limits, functions, sequences, series, elementary differential equations, partial derivatives, multiple integrals, surface integrals. Prerequisite: MATH 2302 or equivalent.

Mathematics, Developmental
(See Developmental Studies)

Mathematics, Electronics
(See Electronics Technology)

Management, Applied (MGMT)

Management, Business (MGMT)

Management, Training (MGMT)

- MGMT 1158 Training Manager's Workshop** (1.5-0) Credit: 1
This course is designed for battalion and company commanders and S-3s for their training management duties and stresses training status, goals, priorities, resources and short and long term plans.
- MGMT 1171 Personnel Counseling Seminar** (1-0) Credit: 1
This course covers the major theories of counseling and the use of basic influence and attending skills.
- MGMT 1201 Management of Performance Oriented Training** (2-0) Credit: 2
A course designed to provide a performance oriented approach to managing training in which the manager learns to establish performance oriented objectives, tests, and follow-up evaluations.
- MGMT 1202 Briefing Techniques, Aids and Devices** (2-1) Credit: 2
A course designed to provide the manager with the capability of employing proper briefing methods and to develop the skills required to produce briefing aids to include charts, graphs, posters, slides, filmstrips, transparencies, opaques, and other media.
- MGMT 1203 Evaluation of Instruction and Training** (2-1) Credit: 2
A course designed to provide the manager with the rationale, methods, and procedures for evaluating the effectiveness and efficiency of instruction training. Emphasis will be directed toward evaluating performance oriented training and developing the suggestions for improvement which can be provided to management.
- MGMT 1204 Setting Objectives and Goals** (2-1) Credit: 2
A course designed to provide managers with the processes involved in defining objectives, determining desired goals, and analyzing performance training to enhance achievement of those goals and objectives.
- MGMT 1205 Analysis of Training Requirements** (2-1) Credit: 2
Designed to provide managers with techniques for determining organizational and personnel training requirements. Definition of needs and ensuring they are compatible with available resources will be stressed.
- MGMT 1206 Professional Resource Management** (2-0) Credit: 2
A course designed to provide managers with the capability to assist subordinates in the screening, selection, evaluation, and application of employee training programs.
- MGMT 1207 Professional Development of the Manager** (2-0) Credit: 2
A course designed to equip leaders with skills necessary to provide assistance to subordinates in problem solving. Emphasis will be placed on effective, active and passive performance by leaders which will correct mistakes or reinforce good performance that will cause individuals to be motivated.
- MGMT 1208 The Training System Management** (2-1) Credit: 2
A course designed to provide managers with methods required to plan, organize, staff, influence, and control training. The main purpose will be to develop a plan and employ limited resources to accomplish system objectives.
- MGMT 1209 Managerial Theories** (2-0) Credit: 2
A course designed to provide examination of managerial theories to include management functions, decision-making skills, problem solving techniques, and performance standard oriented approaches to management.

- MGMT 1301 Organization and Management** (3-0) Credit: 3
Organizational structure can have considerable impact on the manner in which an organization functions. Students study the complex variables over which managers can exercise control to determine proper structure. While surveying management topics such as *planning, decision making, organizing, staffing and controlling*, this course deals with how the organization must be structured to fit its environment and operation.
- MGMT 1302 Safety (OSHA)** (3-0) Credit: 3
A study of safety as it relates to the military, industrial, and business communities. Special emphasis will be given the requirements of the Occupational Safety and Health Act as it affects management and employees.
- MGMT 1303 Fundamentals of Industrial Management** (3-0) Credit: 3
Application of the system's approach to the unification of all areas from human factors to environmental factors are covered, along with the manner and methods through which work can be simplified, yet made more meaningful and satisfying.
- MGMT 1304 Work Organization** (3-0) Credit: 3
This course is designed to provide a general introduction and orientation to principles of job analysis, performance evaluation, job evaluation and salary administration, and how these affect the work situation. Work measurement and work standard techniques are studied, as well as flow processes and work distribution methods, quantity and quality control planning and the current impact of governmental guidelines upon such procedures.
- MGMT 1305 Introduction to Management** (3-0) Credit: 3
This course is designed to give the student a knowledge and understanding of management theories and functions which are essential to the person planning a career in business or industry.
- MGMT 1306 Human Relations** (3-0) Credit: 3
This fundamental management course examines topics such as morale, motivation, communications, leadership, and changes as they relate to managerial decision making.
- MGMT 1307 Insurance** (3-0) Credit: 3
Introduction to theory and practice of insurance including life, fire, automobile, and personal and business risk.
- MGMT 1308 Small Business Management** (3-0) Credit: 3
Methods and applications of financial management in a small business. Primary emphasis on internal controls and sales accountability. Secondary emphasis on budgeting, forecasting, effective sales/labor ratios, *licensing requirements*.
- MGMT 1309 Income Tax** (3-0) Credit: 3
Income tax legislation; present income tax law and regulations; treasury decisions, court decisions, and departmental rulings; income tax problems and returns.
- MGMT 2101 Stress Management** (1-0) Credit: 1
This course identifies the factors causing stress, shows how to interpret the signs of stress and explains the basic fundamentals involved in the management of personal and organizational stress. The instruction covers the most common causes of stress in the work place and prescriptive measures that can be taken by the manager to obtain high performance and low stress levels within the organizational setting.
- MGMT 2102 Management Seminar** (1-0) Credit: 1
A course that deals with trends, issues, advancements and literature in the management field.
- MGMT 2103 Time Management** (1-0) Credit: 1
This course enables the student to understand the role time plays in ones personal and professional life and to perceive time as the one element that cannot be created in greater quantities. Instruction includes a study of the constraints that time places over individual lives and the techniques that managers and workers can employ to accommodate their goals.
- MGMT 2104 Income Tax** (1-0) Credit: 1
This seminar is designed as a practical, hands-on approach to the basic fundamentals of income tax preparation for the individual to complete the *Form 1040, 1040A, or the 1040EZ*. Information for all aspects of this preparation will be provided in a general manner and will not delve into specific minutia of income tax law. The instructor will be able to answer most of the tax questions asked by the students. However, it must be realized that the instructor is not a tax attorney or an accountant. For specific legal advice concerning a complex tax question, the student will be encouraged to seek professional assistance.
- MGMT 2105 Briefing Techniques, Aids and Devices** (1-0) Credit: 1
A course designed to provide students with a review of instructional techniques, selection of contents of instruction, preparation of lesson plans and instructional devices or aids to provide a good learning environment.

MGMT 2150 Trainers Workshop (TW)	(1.5-0)	Credit: 1
MGMT 2151 Platoon Trainer's Workshop	(1.5-0)	Credit: 1
MGMT 2152 Training Supervisor's Workshop	(1.5-0)	Credit: 1
MGMT 2161 Unit and Organizational Supply	(2.5-0)	Credit: 1
To provide the students the skills and knowledge to accomplish the duties required of units and organizational supply personnel.		
MGMT 2162 Personal Finance Management	(1.3-0)	Credit: 1
Develops an understanding of the personal business activities and actions that affect personal and family accounts, budgets, budgetary control, bank accounts, charge accounts, borrowing, buying and investing.		
MGMT 2164 Army Personnel	(1-0)	Credit: 1
This course is designed to provide the student with the knowledge of fundamental personnel management concepts used in industry, the Army and U.S. Civil Service.		
MGMT 2201 Job Performance and Motivation	(2-0)	Credit: 2
A course designed to provide managers with the capability of applying approaches that influence employee job performance through the adoption of appropriate leadership and motivation techniques, and assessment of group and individual behavior patterns. Communication problem solving techniques in a changing society, as they affect the day-to-day efforts of subordinates will also be explored.		
MGMT 2202 Individual Orientation Techniques	(2-0)	Credit: 2
A course designed to provide managers with the skills required to orient personnel in individual job tasks and to facilitate the continuity of the organization's functions.		
MGMT 2203 Group Orientation Techniques	(2-1)	Credit: 2
A course designed to develop managerial skills required in group training efforts. Emphasis is placed on integrating individual experiences into the group orientation efforts. Prerequisite: MGMT 2202.		
MGMT 2204 Assessing of Training Standards, Goals and Objectives	(2-1)	Credit: 2
A course designed to provide managers with the ability to establish realistic and relevant training standards. The relationships among organizational goals, training objectives, and training standards are emphasized to ensure continuity of effort. Personnel involved in the process and appropriate strategies and methodologies in the establishment of training standards are also stressed. Prerequisite: MGMT 1204.		
MGMT 2205 Management Training Theory	(2-1)	Credit: 2
This course provides the manager with a basic knowledge of management training theories and application of the aspects of training which influence effectiveness of management and the learning process.		
MGMT 2206 Management Learning Strategies	(2-1)	Credit: 2
This course is designed to provide managers with a systematic approach to training program development. Theoretical and empirical modes of learning and topics related to social problems affecting the design of instruction environments will be emphasized.		
MGMT 2255 Platoon Trainer's Workshop	(2.5-0)	Credit: 2
MGMT 2256 Training Supervisor's Workshop	(2-0)	Credit: 2
Provide training management for the medium sized organization (battalion) to include long and short range plans, LRC, and ARTEP.		
MGMT 2257 Trainer's Workshop (TW)	(2.3-0)	Credit: 2
MGMT 2258 Training Manager's Workshop	(2-0)	Credit: 2
Provide training management information for battalion sized units to include long and short range goals, training assets, money and allocations, and ARTEP standards.		
MGMT 2259 Platoon Trainer's Workshop	(2.3-0)	Credit: 2
Course provides management of training instruction at the platoon level, includes long and short range planning and ARTEP integrated training for small groups.		
MGMT 2261 Leadership and Communications Seminar	(2-0)	Credit: 2
Upon completion of this course the student will be able to better communicate with and supervise personnel. The student will have an increased interpersonal awareness, better interact in group situations, organize work and manage time better and will be able to reduce stress.		
MGMT 2300 Credit and Collections	(3-1)	Credit: 3
This course covers the elements of mercantile and consumer credit, organization of a credit department, sources of credit information collection tolls and procedures.		

- MGMT 2301 Marketing Principles** (3-0) Credit: 3
The study of marketing as an exchange relationship in public and private organizational concerns. Includes an orientation of the different prevailing thoughts in marketing today including the historical, economic, consumer, and systems approaches. Market research and market segmentation strategies are examined, as well as current government agency regulation concerning marketing practices.
- MGMT 2302 Personnel Management** (3-0) Credit: 3
The dynamic role of management as it relates to personnel with emphasis on the management aspects important to the line executive or supervisor. Personnel functions and procedures are viewed in the light of management objectives while personnel management is treated as an active and dynamic process which is motivated by basic human drives.
- MGMT 2303 Law and Legal Assistance** (3-0) Credit: 3
Nature and scope of the law, court systems, law of contracts, principal and agent as relates to the military. Explanation of bailments, carriers, mortgages, securities, negotiable instruments, banks and banking, wills and estates. The procedures of obtaining and acquiring legal assistance for both military and civilian cases in or out of the continental limits of the United States of America are addressed. Emphasis is given on the knowledge required by the supervisor to counsel subordinates in the areas of law and legal assistance.
- MGMT 2304 Labor-Management Relations** (3-0) Credit: 3
Labor relations aspects of personnel management are emphasized; selection and placement, discipline and morale, promotions, lay-offs, job evaluation, incentive systems, profit sharing, and the influence of collective bargaining and legislation on personnel policies. Methods used by organized labor and employers in industrial conflicts.
- MGMT 2305 Business Law I** (3-0) Credit: 3
Nature and scope of law; court system; law of contracts; principal and agent; business organizations, including partnerships and corporation; Texas community property laws.
- MGMT 2306 Business Law II** (3-0) Credit: 3
Additional studies in law of business, dealing with bailments, carriers, mortgages, suretyships, negotiable instruments, banks and banking, wills & estates, sale, bankruptcy. No prerequisite is required for this course.
- MGMT 2307 Life Insurance** (3-0) Credit: 3
Principles of life insurance, business and personal use in insurance; classification and analysis of policies; reserve and policy values; organization and administration of life insurance companies.
- MGMT 2309 Supervision** (3-0) Credit: 3
A course designed to provide an understanding of planning work leadership, decision making work problem solving, human behavior and personnel relations.
- MGMT 2310 Personnel Counseling** (3-0) Credit: 3
Systematic study of major theories of personnel counseling with supervised experience in role-playing utilizing these approaches.
- MGMT 2312 Fundamentals of Systems Management** (3-0) Credit: 3
Introduction to the "systems" concept of management and integration of this concept with the more traditional "principles" approach. This course combines theory and application of systems management and focuses on systems as they exist in many fields such as education, law enforcement, military, industry, and a variety of nonprofit organizations.
- MGMT 2314 Ethics in Management** (3-0) Credit: 3
A study of the field of business management as it relates to major ethical theories. The course provides actual case studies in which ethical principles are used in solving today's business problems.
- MGMT 2315 Public Relations** (3-0) Credit: 3
A course designed to prepare the student for jobs in the business world covering various principles and processes of contemporary public relations as well as effective means of influencing the public. The course traces the origins of public relations and discusses current and future trends. It looks at public relations standards, a code of ethics, and public relations as a profession.
- MGMT 2316 Management Applications I** (1-5) Credit: 3
This course is a management laboratory that emphasizes management decision making skills that are necessary for the modern manager to successfully deal with resource problems in his/her place of business and career field. The course is designed for the student desiring to further his/her management training by applied learning techniques utilizing decision making case studies, computer-assisted models, or other instructional techniques. Prerequisite: Departmental consent.

MGMT 2317 Management Applications II**(1-5) Credit: 3**

Management Applications II is the second in a two-part management laboratory sequence that emphasizes management decision making skills for various business career fields. Instruction is individually tailored to meet the specific career needs of the student. The course is designed for the student desiring to further his/her management training by applied learning techniques utilizing decision making case studies, computer-assisted models, or other instructional techniques. *Prerequisites:* MGMT 2316 and departmental consent.

MGMT 2320 Business Operations**(3-0) Credit: 3**

This course is an introduction and practical approach to small business operations and management. Subjects include the analysis of one's personal skills, experience, and expectations in starting a business, technical and managerial skills necessary to run a business profitably, marketplace statistics, gathering and analyzing data, purchasing and inventory, record-keeping, and product marketing. Other subjects include tax considerations for small business, revenue sources, and measures of profitability.

MGMT 2321 Business Plan Development**(3-0) Credit: 3**

This course involves the development and presentation of a plan to create or expand a business. It provides the student with an opportunity to develop and demonstrate a mastery of the essential competencies required for business opportunity analysis, the development of a marketing and promotional plan, and the development of a business financial plan. Students will prepare a business prospectus that will describe a business the student wants to develop or expand.

MGMT 2351 Advanced Leadership**(3-0) Credit: 3**

Presents advanced leadership and management techniques, organizational goals, problem solving, communications and management of changes.

MGMT 2354 Management Problems**(3-0) Credit: 3**

This course is designed to develop and improve the soldier's skills to enable him/her to effectively execute the duties required of the military manager.

MGMT 2358 Trainer's Workshop (TW)**(2.5-0) Credit: 3**

Course provides management of training for the small unit, individual SQT and small group performance oriented training.

Management, Food Service**(See Food Service)****Management, Hotel-Motel****(See Hotel-Motel)****Medical Technology****(See Biology, Chemistry)****Microcomputer Technology (MISC)****MISC 1131 Introduction to Unix****(1-0) Credit: 1**

An introduction to the fundamentals of UNIX. Topics include an overview of system structure, file systems, shells, shell scripts, communications, system administration, and a comparison of UNIX and MS-DOS capabilities. Provides practical lab exercises by topic.

MISC 1306 Introduction to BASIC**(2-1) Credit: 3**

Offers an introduction to the basic concepts and constructs of programming in BASIC for the student interested in using a computer at home, in a small business or as a tool in a subject area such as math or science. Applications will illustrate personal computing techniques.

MISC 1403 Introduction to Computer Science & Programming**(3-3) Credit: 4**

Problem solving, algorithm development, pseudo code flow charting and a high level language are covered in depth. No prior knowledge of computers or programming is assumed.

MISC 1404 COBOL Programming**(3-3) Credit: 4**

Provides the student with skills and fundamentals in solving business data processing problems using COBOL. The student becomes effective in COBOL programming techniques involving sequential files. Single and double dimension table handling, control breaks, and an introduction to indexed file handling. *Prerequisite:* MISC 1403 or MISC 1451.

- MISC 1405 Computer Concepts and Analysis** (3-3) Credit: 4
 Introduces the student to digital computer systems with emphasis on current technology and terminology. Historical development of computing machinery, number systems, data representation, hardware and software. Methods of identifying business problems best suited for computer solutions and the analysis techniques to develop systems which implement these applications are presented.
- MISC 1406 Computer Organization & Architecture** (3-3) Credit: 4
 A study of hardware and software characteristics of digital computers designed to give the student an understanding of how the fundamental principles by which computers work affect and govern programming techniques. Topics include data representation, machine instruction types, fetch and execution cycles, interrupt schemes, metaprograms, I/O handling, and assembler concepts. Prerequisites: (MISC 1403 or MISC 1451) and MISC 1405.
- MISC 1420 Word Processing for Microcomputers** (3-3) Credit: 4
 An entry level course designed to teach the use of a current state-of-the-art word processor in a hands-on environment. Includes overview of currently available word processors, their similarities and differences, and the selection process of matching information requirements with word processor capabilities. Installation and tailoring of word processor software.
- MISC 1430 Spreadsheets for Microcomputers** (3-3) Credit: 4
 An entry level course that presents the design and use of typical spreadsheet software available. Selected state-of-the-art spreadsheet software packages will be used by the student for hands-on computer applications. Advantages and disadvantages of current spreadsheet software as well as installation of spreadsheet software will be covered.
- MISC 1440 Data Base for Microcomputers** (3-3) Credit: 4
 An entry level course designed to teach the use of a current state-of-the-art data base in a hands-on environment. It includes an overview of currently available data bases, their similarities and differences, and the selection process of matching information requirements with data base capabilities. Installation and tailoring of data base software.
- MISC 1450 Microcomputers for Business** (3-3) Credit: 4
 An introduction to the use of the microcomputer as a business tool. Designed specifically for the business oriented, this course will provide familiarity with the microcomputer and its use in the business sector. A hands-on introduction to the use of a word processor, spreadsheet, database, and BASIC programming is provided. Types of hardware and software available for business will be studied.
- MISC 1451 Introduction to Microcomputer Programming** (3-3) Credit: 4
 Introductory programming course for Microcomputer Technology Major. No prior knowledge of computers or programming is assumed. Problem solving, algorithm development, pseudo code and flow charting. A high level language is covered in depth through programming assignment.
- MISC 1454 PASCAL Programming** (3-3) Credit: 4
 A thorough coverage of Structured Programming. Emphasis on top-down programming and modular organization. Major topics to be covered include constants, variables, expressions, input and output, self-contained procedures, making decision (REPEAT-UNTIL, WHILE-DO, and FOR loops), data types arrays, character strings, records and set, pointers and disk files. An introduction to C language will also be provided. Prerequisite: MISC 1451 or COSC 1403.
- MISC 2301 Information Center management** (3-0) Credit: 3
 Defines the infrastructure of information centers and describes their role and responsibilities in terms of assisting professionals with varying degrees of computer knowledge in using computer technology in the performance of their job function.
- MISC 2302 Hardware/Software Selection & Acquisition** (3-0) Credit: 3
 Selection and acquisition of hardware and software. Topics include capacity sizing of key hardware components, compatibility considerations, lease/purchase alternatives, in-house versus packaged software, documentation and training provided, vendor responsibilities and support, future up-grade capability to support growth, procurement proposals and contracting. Prerequisite: 12 semester hours of MISC courses or equivalent experience.
- MISC 2401 Advanced COBOL** (3-3) Credit: 4
 Offers the student of COBOL programming an in-depth study of the theory, programming techniques, and programming efficiencies that will be required of the commercial COBOL programmer. A thorough coverage is given to file design and the special features of ANS COBOL language. Emphasis is placed on multi-dimensional table handling, searching and sorting techniques and indexed file manipulation. Structured design and programming will be stressed. Prerequisite: MISC 1404.

- MISC 2402 Systems in the MIS Environment** (3-3) Credit: 4
This course examines advanced systems including database, distributed processing, teleprocessing, local area networks, management information systems and decision support systems. Emphasis will be placed on database management systems through the development of a database project. Prerequisite: 16 hours in Microcomputer Technology including MISC 1405.
- MISC 2405 Information Structures** (3-3) Credit: 4
Advanced programming techniques to include two and three dimensional arrays, linked list, index structures, binary search, sorting techniques, direct access process, and subroutines. Programs will be written in a high-level language. Prerequisite: Eight semester hours of programming.
- MISC 2451 Operating Systems** (3-3) Credit: 4
This course provides comprehensive coverage of major present-day operating systems. Topics include system configuration, batch files, directory and hard disk management, utilities, networking multi-user support, installing and customizing application software. Prerequisite: (MISC 1406 and 8 semester hours in programming)—or—(16 semester hours MISC courses including MISC 1451).
- MISC 2453 Advanced BASIC Programming** (3-3) Credit: 4
An in-depth study of advanced techniques for writing efficient and well designed commercial applications. Interactive and conversational programming techniques, to include data editing, menus, string manipulation. File handling will be emphasized. Prerequisite: MISC 1451 and one other programming language.
- MISC 2454 Data Communications & Networking** (3-3) Credit: 4
A study of the methods and criteria used to define and implement data communications and networking of present day computer systems. Topics include data transfer, communications hardware and software, security, Local Area Networks, micro to mainframe interfaces, current and future applications of data communications. Prerequisite: MISC 2451.
- MISC 2455 Microcomputer Field Projects** (1-9) Credit: 4
This course consists of practical applications in the field of microcomputers, commercial and/or scientific programming, and is designed to fit the needs and career objectives of the student. Prerequisite: Consent of instructor.
- MISC 2456 C Language Programming** (3-3) Credit: 4
The use of C in both systems and application programming. Major topics include fundamental flow-control constructions, statement grouping, decision making, looping with termination test at top (While, For) or bottom (Do), and case selection (Switch). Detailed use of functions with internal, external, and global variables. Address arithmetic and call by reference will also be covered. Prerequisite: MISC 1454.
- MISC 2457 Programming with ADA®** (3-3) Credit: 4
An introduction to the basic syntax and semantics of ADA programming language. The design and use of the language will be general theme of the course while programming exercises will be used to illustrate specific implementations of the language structure. Emphasis will be on importance of style and linguistic considerations. Prerequisite: MISC 1454.
- ® "ADA is a registered trademark of the United States Department of Defense".

Maintenance Technology (MTNT)

- MTNT 1401 Carpentry I** (3-3) Credit: 4
This course is designed to provide the student with an understanding of carpentry as a trade. Included are the use of special tools, measuring devices, wood types, building and concrete forms, framing, floor, wall and roof construction. Prerequisite or corequisite: INDU 1400.
- MTNT 1402 Electricity** (3-3) Credit: 4
This course is designed to provide the student with a working knowledge of the electrical installation, service and repair procedures for residential and light commercial buildings. Prerequisite or corequisite: INDU 1400.
- MTNT 2402 Carpentry II** (3-3) Credit: 4
This course is a continuation of MTNT 1401, with additional emphasis placed on cabinetry, exterior and interior trim and finish work, including door and hardware installation. Prerequisite: MTNT 1401.
- MTNT 2403 Plumbing I** (3-3) Credit: 4
This course covers the theory and practical application of plumbing maintenance, service and repair procedures for residential and light commercial buildings. Topics of study include plastic, copper, cast iron, galvanized pipe, cutting and joining. Prerequisite or corequisite: INDU 1400.

- MTNT 2404 Painting and Refinishing** (3-3) Credit: 4
This course covers the theory and practical application of painting and refinishing residential and light commercial buildings. Topics of study include various types of paint, preparation of surfaces, refinishing damaged and proper maintenance of finished surfaces. Prerequisite or corequisite: INDU 1400.
- MTNT 2405 Foundations, Framing, and Roofing** (3-3) Credit: 4
The student will be introduced to form fabrication, setting foundations, setting piers and castings and will practice framing and roofing residential buildings. Students will also have practical exercises in roofing. The course also covers modern placement methods of materials for structures and building layout systems. Prerequisite: MTNT 1401.
- MTNT 2406 Building Materials and Estimating** (3-3) Credit: 4
This course begins with a study of the manufacturing process, uses, and selection of building construction materials, and continues with exercises in estimating areas, volumes of concrete, foundations, linear and board foot requirements, wall framing, ceiling joist, roof rafter and sheathing material requirements. Prerequisite: MTNT 1401.
- MTNT 2407 Interior-Exterior Finishing** (3-3) Credit: 4
A study of interior and exterior finishing. The topics covered are cornice treatment, roof coverings, window installation and trim, exterior doors, frames and trim, exterior wall coverings which are typically applied by carpenters, insulation and vapor barriers, wall and ceiling coverings, finishing floors, stair finish, shelving and interior trim. The student will also learn the importance of trueing areas where cabinets will be installed. Prerequisite or corequisite: MTNT 2405.
- MTNT 2408 Mill Cabinetry Construction and Installation** (3-3) Credit: 4
This course is designed to teach the student to plan operations, select lumber and perform a variety of operations and basic skills required in mill cabinetry. Students will receive practical experience in layout, construction, installation of cabinet work and applying plastic laminates. Prerequisite or corequisite: MTNT 2402.
- MTNT 2409 Milling Machines** (3-3) Credit: 4
Practical application in the basic skills in the set-up and operation of wood machines. The course also covers mass production of fine cabinetry and mill work and wood finishing. Prerequisite or corequisite: MTNT 2408.
- MTNT 2410 Plumbing II** (3-3) Credit: 4
This course is a continuation of MTNT 2403 Plumbing I with additional emphasis on "roughing-in" procedures. Course content will include hot and cold water systems, natural gas and propane piping, circulation systems, measuring and sizing in accordance with established codes, cost estimating, and sprinkler systems. Also included are the procedures involved in cast iron pipe installation. Prerequisite: MTNT 2403.

Music (MUSI)

Music, Applied (MUSI)

Music, Voice (MUSI)

- MUSI 1101 Class Piano I** (1-1) Credit: 1
Introduction to the keyboard, the study of Mikrokosmos Vol. 1 by Bartok, easy selections from the classic, romantic and contemporary piano literature. Memory work is emphasized throughout. Scales up to two key signatures. One hour daily practice required. Prerequisite: credit or enrollment in MUSI 1301.
- MUSI 1102 Class Piano II** (1-1) Credit: 1
A continuation of Class Piano I. Technique: scales and arpeggios through three key signatures. Literature: Little Dances by Bach a classic Sonatina, selections from the easy romantic and contemporary piano literatures. Memory work is emphasized throughout. One hour daily practice required. Prerequisite: MUSI 1101 or consent of the instructor; credit or enrollment in MUSI 1301 or 1302.
- MUSI 1103 Class Piano III** (1-1) Credit: 1
For students with a considerable keyboard skill. Scales and arpeggios through four key signatures. Literature: short preludes by Bach, a classic Sonatina or Sonata, romantic and modern compositions. Memory work is emphasized throughout. One hour minimum daily practice required. Prerequisite: MUSI 1102 or consent of the instructor; credit or enrollment in MUSI 1302 or 1302.
- MUSI 1104 Class Piano IV** (1-1) Credit: 1
A continuation of Class Piano III. All scales and arpeggios on four octaves in thirds, sixths, and the octave. Literature: short preludes by Bach, a classic Sonatina or sonata, romantic and modern compositions. Memory work is emphasized. One hour minimum daily practice is required. This course is a preparation for

private piano and may be repeated until the student is ready to meet the entrance requirements for MUSI 1201. Prerequisite: MUSI 1103 or consent of the instructor; credit or enrollment in MUSI 1302.

MUSI 1105, 1106 Class Voice I & II

(1-1) Credit: 1, 1

These courses are concerned with the most basic principles of singing; correct breathing, posture and the proper use of the vocal anatomy; i.e., palate, larynx, and tongue. Basic vocal literature will be introduced. Prerequisite: credit or enrollment in MUSI 1301.

MUSI 1107 Choir

(1-2) Credit: 1

This course is recommended to all students who enter music courses, but it is open to all students. Preparation for on-campus and public performances.

MUSI 1201 Private Piano I

(0-2) Credit: 2

Private piano technique: *Czerny's School of Velocity* and scales and arpeggios. Literature: two- or three-part inventions by Bach, a complete classic Sonata, works by composers from the 19th and 20th centuries. All work is to be memorized. One one-hour lesson per week. Two hours daily practice required. Prerequisite: MUSI 1103 or MUSI 1104 or audition; credit or enrollment in MUSI 1302.

MUSI 1202 Private Piano II

(0-2) Credit: 2

A continuation of Private Piano I. One one-hour lesson per week. Two hours daily practice required. Prerequisite: MUSI 1201 or audition; credit or enrollment in MUSI 1302.

MUSI 1203, 1204 Private Voice I & II

(0-2) Credit: 2, 2

A continuation of the principles of Class Voice I and Class Voice II, with greater depth and concentration. Students learn to improve breath control, diction, and tone quality. The literature includes songs in English and Italian, and for more advanced students, German and French. Prerequisite: MUSI 1106 and/or audition; credit or enrollment in MUSI 1301 or 1302.

MUSI 1205 Ear Training I

(1-2) Credit: 2

This course is designed to help the student develop the aural skills pertinent to proficiency in music theory. It includes the study and proper identification of melodic patterns, intervals and triads, and exercises in melodic dictation. Prerequisite: credit or enrollment in MUSI 1301.

MUSI 1206 Ear Training II

(1-2) Credit: 2

A continuation of Ear Training I. Sight singing, intervals, triads, and seventh chords, asymmetric and mixed meters. Exercises in melodic and harmonic dictation. Prerequisite: MUSI 1205 and credit or enrollment in MUSI 1302.

MUSI 1301 Music Fundamentals

(2-1) Credit: 3

An introduction to music through the audio-visual relative solmization method. Study of the pentatonic, modal, and diatonic scales, key signatures, intervals, triads, cadences, introduction to four-part writing. Ear training, sight singing, melodic dictation in simple and compound meter. Cadences on the keyboard.

MUSI 1302 Music Theory

(2-1) Credit: 3

A continuation of *Music Fundamentals* with an introduction to the harmonic materials of the 18th and 19th centuries. Harmonic progressions with root and inverted triads, the dominant seventh chord, secondary dominants, sequences. Analysis of short works. Ear training, sight singing, dictation. Relative solmization method employed throughout. Cadences, sequences on the keyboard. Prerequisite: MUSI 1301 or consent of instructor.

MUSI 1305 Music Appreciation

(3-0) Credit: 3

This course is designed for the music student as well as for the general college student. It emphasizes intelligent, directed listening to music with attention focused on the materials, the forms and the periods and styles of music. Course work will also cover the relation of music to other areas of cultural development.

MUSI 2201, 2202 Private Piano III & IV

(0-2) Credit: 2, 2

Technique includes all scales and arpeggios on four octaves and Clementi or Czerny studies. Literature: WTC Preludes and Fugues by Bach, a Sonata by Haydn, Mozart, or Beethoven; romantic, impressionistic and modern compositions; one movement of a standard Concerto. Student is required to memorize all material. One one-hour private lesson per week. Two hours daily practice required. Prerequisite: MUSI 1202 and credit or enrollment in MUSI 2306 or 2307.

MUSI 2203, 2204 Private Voice III & IV

(0-2) Credit: 2, 2

A continuation of MUSI 1203 and 1204. More difficult songs from the classic and romantic literature, oratorio and operatic arias, modern French songs, 20th century American songs. One one-hour private lesson per week. Prerequisite: MUSI 1204 and credit or enrollment in MUSI 2306 or 2307.

MUSI 2301, 2302 Advanced Private Piano I & II

(0-2) Credit: 3, 3

Scales and arpeggios in all keys. Repertoire: Partitas, Suites or Preludes and Fugues by Bach. A Beethoven Sonata or a standard Concerto, romantic, impressionistic and modern compositions. Student is requested to

memorize all material. One hour private lesson per week. Three hours of daily practice required. Prerequisite: MUSI 2202 and credit or enrollment in MUSI 2306 or 2307.

MUSI 2303 Piano Pedagogy (2-1) Credit: 3
Open to music majors only. The study of piano teaching methods from the beginning through the intermediate grades. The development of technique, memory, style and musicianship. The planning of a balanced repertoire, review and evaluation of piano literature. Laboratory includes supervised practice teaching. Prerequisites: credit or enrollment in MUSI 2201 and MUSI 1302, or consent of instructor.

MUSI 2304 Music Literature I (3-1) Credit: 3
A survey of the development of music from the end of the Ancient World to the present time, with an in-depth study of the music from the 15th century through the 19th century. Principle forms, periods and composers and the literature of each of the historical periods.

MUSI 2305 Music Literature II (3-1) Credit: 3
A continuation of Music Literature I with an in-depth study of music in the periods of the late 19th and 20th centuries; the concurrent symphonic and concert literature of today; voice, choral, and instrumental organizations.

MUSI 2306 Intermediate Harmony (3-2) Credit: 3
A study of the harmonic materials of the 18th and 19th centuries through analysis and written exercises. Dominant and secondary seventh chords, secondary dominants, the diminished seventh chord, altered chords, nonharmonic tones. Melody harmonizations, dictation. Sequences with seventh chords on the keyboards. Prerequisite: MUSI 1302.

MUSI 2307 Advanced Harmony (3-2) Credit: 3
The study of harmony as an organizing element of the large-scale musical structure. Diatonic, chromatic and enharmonic modulations. Melody harmonizations, analysis of larger works, harmonic dictation. Modulation to related and distant keys on the keyboard. Prerequisite: MUSI 2306.

Office Administration (OADM)

OADM 1131 Beginning Typing I (1.5-1.5) Credit: 1
A beginning course in touch typing. The course will emphasize mastery of machine parts and the keyboard.

OADM 1133 Intermediate Typing I (1.5-1.5) Credit: 1
A continuation of Beginning Typing I and Beginning Typewriting. Students will increase typing accuracy and speed. Prerequisite: OADM 1303 or 1232 or ability to type 25 WPM for five minutes with no more than five errors.

OADM 1232 Beginning Typing II (1.5-1.5) Credit: 2
A continuation of Beginning Typing I. Special emphasis will be placed on speed development. The course will include an introduction to letter writing, tabulating and preparing manuscripts. Prerequisite: OADM 1131.

OADM 1234 Intermediate Typing II (1.5-1.5) Credit: 2
A continuation of Intermediate Typing I. Students will compose and type business letters, tabulations, and manuscripts of a more demanding nature. Prerequisite: OADM 1133.

OADM 1301 Beginning Shorthand (3-3) Credit: 3
An introduction to shorthand. Students will receive initial training in short-hand emphasizing reading, writing, theory principles, brief forms and related activities.

OADM 1302 Intermediate Shorthand (3-3) Credit: 3
Students will continue shorthand training and reinforcement of theory. Prerequisite: OADM 1301 or equivalent.

OADM 1303 Beginning Typewriting (3-3) Credit: 3
A beginning course in touch typewriting for the mastery of machine parts and the keyboard. Special emphasis on speed development, including an introduction to letter writing, tabulating and preparing manuscripts.

OADM 1304 Intermediate Typewriting (3-3) Credit: 3
A continuation of OADM 1303. Additional skills in terms of accuracy and speed will be evidenced by students. Composition and typing of business letters, tabulations and manuscripts of a more demanding content will be instructed.

OADM 1305 Records Management (3-0) Credit: 3
This course introduces the basic principles and procedure of records storage and control. Topics include records storage methods; procedures for the operation and control of manual and automated storage systems;

rules for indexing; and principles for the selection of records equipment and supplies. Prerequisite: WOPO 1303.

OADM 1306 Office Functions (3-0) Credit: 3
Designed for the student who wishes to prepare for a career as an executive secretary. The following topics are covered: human relations skills, meetings and conferences, travel arrangements, information sources, mail handling, telephone techniques, receptionist duties, scheduling, and related office routines.

OADM 1308 Business Correspondence (3-0) Credit: 3
A course designed to teach effective business writing and to give practice in composing all types of business letters and reports. Keyboarding ability and sound background in English are strongly recommended.

OADM 1309 Business Mathematics & Calculating Machines (3-3) Credit: 3
Technique familiarization in the operation of the most commonly used office machines: computation; calculations; speed drills; percentages, discounts and net values, chain discounts, business forms. Emphasis will be placed on business mathematics.

OADM 2301 Advanced Shorthand (3-3) Credit: 3
Students will improve their ability to take dictation and transcribe mailable copy. Theory principles; brief form derivatives; vocabulary development; speed building; mailable transcription; and office style dictation will be emphasized. Prerequisite: OADM 1302 or equivalent.

OADM 2302 Advanced Typewriting (3-3) Credit: 3
This course includes advanced work in such specialized production as tabulation, inter-office correspondence, manuscripts, telegrams, stencil cutting and mimeograph operation, legal forms, medical forms, special inter-office forms, and additional work on the arrangement of business letters with special features. Prerequisite: OADM 1303, 1304.

OADM 2304 Office Accounting I (3-3) Credit: 3
Elementary principles of accounting, journalization, posting, statements, special journals; subsidiary ledgers; payroll records and payroll taxes. Special emphasis is placed on personal, family and small business accounting systems.

OADM 2305 Office Accounting II (3-3) Credit: 3
Analysis and recording of business transactions; use of the journal and ledgers; trial balance and work sheets; adjusting and closing entries; accounting statements; introduction to partnership and corporate accounting; special journals and ledgers; business papers and business procedures relating to accounting voucher systems. Prerequisite: OADM 2304 or equivalent.

OADM 2307 Automated Office Management (3-0) Credit: 3
This course includes topics of instruction in office procedures, work simplification, selection and training of office workers, supervision, office etiquette and ethics, and an analysis of the responsibilities of the manager, secretary, clerk, and other office workers. The student is given an opportunity to relate knowledge, information and skills acquired in previous academic courses. Special emphasis is placed on the relationship of various systems that affect the modern office. Prerequisite: Sophomore standing or consent of the instructor.

OADM 2308 Office Occupations Internship (1-5) Credit: 3
The student will be provided a combination of occupationally related classroom instruction and on-the-job training in cooperation with offices within the Office Administration Department and other campus offices. Actual work training will be available in the following areas: keyboarding, filing, duplication, use of telephone, preparation of correspondence, voice transcription machine, record keeping, proofreading, etc.

OADM 2309 Office Administration Internship (1-5) Credit: 3
Students will be provided a combination of occupational related class work instruction and on-the-job training in cooperation with Office Administration Department and other campus offices. Students will demonstrate advanced competencies with work experiences in the following areas: taking dictation, keyboarding, letter composing, telephone procedures, filing; work scheduling, financial calculating, duplicating, transcribing from dictation equipment, etc.

OADM 2350 Machine Shorthand (3-3) Credit: 3
This course is an introduction to machine shorthand. It covers machine shorthand principles, abbreviations, derivatives, word lists, and operation of the machine. The students develop dexterity and keyboard mastery through writing practices and laboratory exercises.

Offset Printing (OPRT)

OPRT 1301 Introduction to Offset Printing (2-4) Credit: 3
This course offers the student an introduction of offset printing with a general survey of various printing processes and their uses in industry. The history of printing, the techniques involved in the production and

distribution of printing materials, the kinds of printing industries, and printing terminology are included. It provides an introduction to all equipment and how each piece of equipment relates to the total plant operation.

OPRT 1302 Camera & Darkroom Procedures, (2-4) Credit: 3
Stripping & Platemaking I

Basic camera operations and darkroom procedures including percentage size calculations, simple line shots, and film processing by the tray method. Basic techniques in the precise layout of simple line negative, halftones, and combinations. Selection of proper plates for specific jobs and the exposing and developing of plates.

OPRT 1303 Offset Press Operation I (2-4) Credit: 3
Basic theory and techniques in the operation of the small (duplicator) offset press, including the "offset principle", feeding all types of stock, image position, sheet delivery, and the maintaining of correct image density.

OPRT 1304 Bindery Operations, Cost Estimating & Pricing (2-4) Credit: 3
Theory and operation of the paper cutter, paper drill, stitcher, collator and paper folder and basic binding techniques. The course includes actual print shop production-type activities utilizing this equipment. The course also contains a study of the basic characteristics of paper and ink, and the processes involved in the manufacture. Procedures for estimating the expenses of and determining the amount of customer charges for printing jobs are also taught.

OPRT 1305 Copy Preparation & Layout (2-4) Credit: 3
A study of various methods of producing body and display type is conducted. Students are taught the operations for producing both body and display type and procedures for basic copy layout and pasteups. Prerequisite: OPRT 1301 or OPRT 1302.

OPRT 1306 Camera & Darkroom Procedures, (2-4) Credit: 3
Stripping & Platemaking II
Advanced theory and techniques of line copy reproduction, with emphasis on halftone reproductions, including duotone color and multi-color stripping and plate processing of line copy. Prerequisite: OPRT 1302.

OPRT 1307 Offset Press Operation II (2-4) Credit: 3
Advanced offset press operation including printing of large solids, duotone and multi-color line copy. Students will train on more advanced equipment and improve the skills acquired in the previous offset press operation course. Prerequisite: OPRT 1303.

OPRT 1308 Offset Printing Equipment Maintenance (2-4) Credit: 3
A thorough study of the adjustments, preventive maintenance and simple repair of darkroom, composing room, press room, and bindery equipment. Prerequisite: OPRT 1301 or OPRT 1303.

Philosophy (PHIL)

PHIL 2301 Introduction to Philosophy (3-0) Credit: 3
A general introduction to critical and reflective thinking as applied to the basic problems of existence and the meaning of human life and institutions; study of methods and types of evidence utilized by authority, intuition, revelation, reason and scientific methods, and a study of the nature of philosophy, including its relation to religion, science, and art.

PHIL 2302 Introduction to Ethics (3-0) Credit: 3
Study of basic principles of the normal life, with critical examination of traditional and current theories of the nature of goodness, happiness, duty, and freedom.

PHIL 2303 Logic (3-0) Credit: 3
Nature and methods of correct reasoning; deductive proof; inductive proof; fallacies; arguments.

PHIL 2304 Old Testament History & Philosophy (3-0) Credit: 3
A general survey of the Old Testament as to origin, literature, and history with special study of the institutions, religions, and national life of the Hebrew people.

PHIL 2305 New Testament History & Philosophy (3-0) Credit: 3
The course will consist of a survey of all the New Testament Literature. The Synoptic Gospels, the Johanne Corpus, Acts, the Pauline Letters, and the General Epistles. Particular attention will be given to the methods and results of contemporary critical research in the New Testament studies. Thus, both primary sources (New Testament documents) and secondary literature on the New Testament will be used.

Photography (PHOT)

PHOT 1401 Introduction to Photography (3-2) Credit: 4

This course emphasizes the handling of small cameras, film exposure, processing, contact printing and basic enlarging. Flash and existing light photography is studied with new features, action photography, and story-telling photographs. Printing and composing photographs for publication included.

PHOT 1402 Portrait Photography (3-2) Credit: 4

A study is made of fundamental lighting, camera techniques, posing, composition, processing, and printing as applied to portraiture. Experience in retouching negatives and prints, mounting and making storytelling pictures for fashion and advertising is provided. Prerequisite: PHOT 1401 or consent of instructor.

PHOT 1403 Advanced Photography (3-2) Credit: 4

The course includes elements of composition and film exposure development for specific gamma, studies sensitometry, advanced photographic printing, characteristics of printing papers, processing for contrast, print balance, and toning are included. Principles of filters and lenses and advanced focusing techniques are studied. Prerequisite: PHOT 1401 or consent of instructor.

PHOT 1404 Commercial Photography (3-2) Credit: 4

A study is made of the fundamental differences between commercial and advertising photography. Although both are studied, emphasis will be on the commercial level such as products, houses, factories, weddings, and party photography. Emphasis on what a commercial photographer does, how business is set up, what equipment is needed, how clients are found, what prices are charged, and new trends in the field are reviewed. Prerequisites: PHOT 1401 and 1402, or consent of instructor.

PHOT 1405 Advanced Print Making (3-2) Credit: 4

This course includes special instruction and laboratory work in advanced print making, mounting, display, toning and tinting, and special procedures in graphic techniques in print making with higher contrast materials. Preparation of a black and white portfolio is included. Prerequisites: PHOT 1402, 1403, 1404 or consent of instructor.

PHOT 2403 Portrait Retouching (3-2) Credit: 4

Portrait negatives retouched by the use of leads, dye and etching with special attention to the study of facial structure and demonstrations in printing and retouching negatives. Some color techniques included. Prerequisite: PHOT 1402.

PHOT 2404 Photographic Production (1-8) Credit: 4

The student prepares a portfolio of photographs for the mass media, business, education, government, industry and science for presentation to staff members and to prospective employers. Individualized projects. Prerequisites: PHOT 1401, 1402, 1404, and 2406.

PHOT 2406 Color Photography I (3-2) Credit: 4

Study of primary and secondary colors of light, color temperature, color compensations in film exposure, the making of color slides for visual education, theory of color negative systems and demonstrations of Type-C printing. Prerequisite: PHOT 1401.

PHOT 2407 Color Photography II (3-2) Credit: 4

Positive and negative color film processing, sensitometry, and color printing. Prerequisite: PHOT 2406.

Physics (PHYS)

PHYS 1303 Survey of Physics (3-0) Credit: 3

A survey of the fundamental principles of physics designed to acquaint students with the basic concepts of classical and modern physics which are the foundation of everyday phenomena.

PHYS 1401 College Physics I (3-3) Credit: 4

Fundamentals of classical mechanics, heat, and sound are discussed. This course is primarily for students who plan to major in medicine, dentistry, veterinary medicine, pharmacy, and for all other students needing a two semester course in physics. The course includes three hours of lecture and three hours of laboratory per week. Prerequisite: MATH 1303 or registration therein.

PHYS 1402 College Physics II (3-3) Credit: 4

A continuation of College Physics I, fundamentals of classical electricity, magnetism, light, wave-motion, atomic and nuclear physics are covered. Prerequisite: PHYS 1401 or consent of the instructor.

PHYS 2401 Modern Physics I (3-3) Credit: 4

Mechanics and heat for science majors and minors, and engineering majors. Vector algebra and calculus are used. The course includes three hours of lecture, and three hours of laboratory per week. Prerequisite: MATH 2301 or registration therein.

PHYS 2402 Modern Physics II (3-3) Credit: 4
Electricity, magnetism, wave-motion and light, an introduction to modern physics for science majors and minors, and engineering majors. Vector algebra and calculus are used. The course includes three hours of lecture and three hours of laboratory per week. Prerequisite: PHYS 2401 or equivalent.

Plumber (PLUM)

PLUM 1401 Principles of Plumbing I (2-4) Credit: 4
This course presents the theory and practice in measuring, cutting and threading steel pipe; cutting and caulking cast iron pipe; installation of hot and cold water lines and grading and laying of sewer lines.

PLUM 1402 Principles of Plumbing II (2-4) Credit: 4
A course of the theory and practice in gas pipe work, copper sweating, plastic drain, waste and vent systems, soil cast iron fitting and their uses.

PLUM 1403 Residential Plumbing I (2-4) Credit: 4
A study of the practices, procedures, and techniques employed by a plumber in the roughing-in of complete plumbing systems in new construction. The different plumbing stages, the "rough-in", "pulling of copper lines", and the "top-out" are covered in this course.

PLUM 1404 Residential Plumbing II (2-4) Credit: 4
The setting of plumbing fixtures after they have been "roughed-in" is explained and practiced. The student will practice the installation of bathroom fixtures, kitchen fixtures, water heaters, dishwashers and garbage disposals. Heating units and controls are covered in the course.

PLUM 1405 Commercial Plumbing (2-4) Credit: 4
Practices and procedures employed by a plumber in usual and unusual commercial-industrial plumbing, heating units, commercial water heaters and gas line installations are covered. Water pumping equipment, water conditioners, hot water circulation, double check valves, and backflow preventers are also emphasized.

PLUM 2401 Plumbing Layout, Codes & Estimating (3-3) Credit: 4
The residential plumbing systems are planned and plotted. Graded specifications and schematics are developed and presented. Multistory plumbing systems are studied. Residential and commercial plumbing codes are analyzed. This course also introduces techniques, formulas and methods necessary for practical, on-the-job plumbing estimates. Procedures for interpreting and reading building specifications and blueprint "take-offs" are explained and practiced. Prerequisite: DRDS 1400.

PLUM 2402 Plumbing Repair and Maintenance (2-4) Credit: 4
This course consists of practices and procedures employed by a plumber in usual and unusual service work in the field. The repairing and maintaining various types of valves, faucets, fixtures, gas controls and safety practices are covered in this course. A basic study of mechanical skills as well as public relations necessary to be developed by a service man in the field are emphasized.

PLUM 2403 Heating & Air Conditioning Plumbing (2-4) Credit: 4
This course is designed to provide the student with the basic knowledge required to install heating and air conditioning units to include the use of copper, galvanized, black and plastic pipe and fittings.

PLUM 2409 Plumbing Internship (1-20) Credit: 4
This course consists of on-the-job plumbing training that utilizes the principles, knowledge and skills gained in the classroom and laboratory. The student is employed at an approved work site under the supervision of a College instructor or coordinator.

Pre-Med

(See Biology, Chemistry)

Psychology (PSYC)

PSYC 1101 College Orientation (1-0) Credit: 1
This course is designed to assist the student in recognizing and developing aptitudes, interests, and abilities; to make adequate personal and social adjustments to college life; and to become acquainted with Central Texas College policies, services and activities. This course will familiarize students with the library and the use of references, texts and other materials contained in the library.

- PSYC 2201 Human Communications Seminar** (2-0) Credit: 2
This course is designed to improve the supervisory communications skills of professional managers through improved interpersonal awareness, group interaction, communication skills, stress management and time management.
- PSYC 2301 Introduction to Psychology** (3-0) Credit: 3
Basic principles of human experience and behavior involving biological, environmental and sociological studies. An overview course including an introduction to the major studies of psychology.
- PSYC 2302 Personality Adjustment** (3-0) Credit: 3
A study of psychological concepts and principles related to healthy personality and social adjustment.
- PSYC 2303 Child Growth and Development** (3-0) Credit: 3
The purpose of this course is to develop an understanding of children and to engender a real interest in them. Consideration is given to the human organism as it develops physically, mentally, emotionally and socially; from birth through adolescence.

Physical Education (PYED)

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| PYED 1100 Football & Basketball | (1-2) | Credit: 1 |
| PYED 1101 Volleyball & Softball | (1-2) | Credit: 1 |
| PYED 1102 Beginning Badminton | (1-2) | Credit: 1 |
| PYED 1103 Beginning Bowling | (1-2) | Credit: 1 |
| PYED 1104 Soccer | (1-2) | Credit: 1 |
| PYED 1105 Folk & Square Dancing | (1-2) | Credit: 1 |
| PYED 1106 Beginning Swimming | (1-2) | Credit: 1 |
| PYED 1107 Beginning Tennis | (1-2) | Credit: 1 |
| PYED 1108 Beginning Golf | (1-2) | Credit: 1 |
| PYED 1109 Basketball & Soccer | (1-2) | Credit: 1 |
| PYED 1110 Karate | (1-2) | Credit: 1 |
| PYED 1111 Roller Skating | (1-2) | Credit: 1 |
| PYED 1112 Angling | (1-2) | Credit: 1 |
| PYED 1113 Country Western Dance | (1-2) | Credit: 1 |
| PYED 1114 Volleyball | (1-2) | Credit: 1 |
| PYED 1115 Basketball | (1-2) | Credit: 1 |
| PYED 1116 Individual Physical Education Activity | (1-2) | Credit: 1 |
| PYED 1117 Hunting | (1-2) | Credit: 1 |
| PYED 1118 Jogging | (1-2) | Credit: 1 |
| PYED 1119 Racquetball | (1-2) | Credit: 1 |
| PYED 1120 Body Building | (1-2) | Credit: 1 |
| PYED 2100 Advanced Bowling | (1-2) | Credit: 1 |
| PYED 2101 Advanced Swimming | (1-2) | Credit: 1 |
| PYED 2102 Intermediate Tennis | (1-2) | Credit: 1 |
| PYED 2103 Advanced Golf | (1-2) | Credit: 1 |
| PYED 2104 Tumbling | (1-2) | Credit: 1 |
| PYED 2105 Figure Development | (1-2) | Credit: 1 |
| PYED 2106 Advanced Badminton | (1-2) | Credit: 1 |
| PYED 2107 Modern Dance | (1-2) | Credit: 1 |
| PYED 2108 Physical Conditioning | (1-2) | Credit: 1 |
| PYED 2109 Aerobics | (1-2) | Credit: 1 |
| PYED 2110 Varsity Athletics | (1-2) | Credit: 1 |
| PYED 2111 Weight Training | (1-2) | Credit: 1 |
| PYED 2112 Water Safety | (1-2) | Credit: 1 |
| PYED 2113 Cycling | (1-2) | Credit: 1 |
| PYED 2114 Archery | (1-2) | Credit: 1 |
| PYED 2115 Figure Control | (1-2) | Credit: 1 |

PYED 2116 Anaerobics	(1-2)	Credit: 1
PYED 2119 Rhythmic Aerobics	(1-2)	Credit: 1
PYED 1301 Foundations of Physical Education	(3-0)	Credit: 3
A course which introduces the student to the fields of health, physical education, and recreation. Emphasis on the scope and organization of professional activities, opportunities and qualifications of the professional physical educator.		
PYED 1302 Foundations of Health	(3-0)	Credit: 3
A fundamental course in principles and problems of healthful living. Emphasis on current information and thought to be applied to individual daily lives.		
PYED 2301 Sports Officiating	(3-0)	Credit: 3
Theory and practice in techniques of officiating. Officiating experience.		
PYED 2302 Safety & First Aid	(3-0)	Credit: 3
Health, knowledge and practice with regard to individual and group welfare; personal hygiene; community health problems; communicable disease control and health organizations. Instruction in American National Red Cross first aid methods for emergency treatments of injuries and sudden illness.		

Real Estate(REAE)

REAE 1300 Real Estate Mathematics	(3-0)	Credit: 3
This course includes, but is not limited to a review of mathematical logic, interest, time-valued money, depreciation, amortization, proration, and estimation of closing statements. In addition, there is an introduction to real estate investments and the basic mathematical skills needed by the successful real estate agent.		
REAE 1301 Real Estate Fundamentals	(3-0)	Credit: 3
This course includes an overview of licensing requirements for a real estate broker and salesman, ethics of practice, titles to and conveyancing of real estate, legal descriptions, law of agency, deeds, encumbrances and liens, distinctions between personal and real property, contracts, appraisal, finance and regulations, closing procedures and real estate mathematics.		
REAE 1302 Real Estate Marketing	(3-0)	Credit: 3
This course includes a study of real estate professionalism & ethics, characteristics of successful salesmen, time management, psychology of marketing, listing procedures, advertising, negotiating and closing, financing, and the Deceptive Trade Practices—Consumer Protection Act, as amended, and the Business and Commerce Code.		
REAE 1303 Introduction to Residential Construction	(3-0)	Credit: 3
This course is a beginner's orientation to the concepts and terminology of residential construction including one-to-four family residential units. Topics include site analysis; foundation work; framing, interior and exterior walls; plumbing and electrical work; energy efficiency; roofing; paint and trim work; the role of architects, builders and real estate brokers in the new home construction business; and other related topics. This course is accepted by the Texas Real Estate Commission as a "related" real estate course for license credit toward both the salesman's and broker's license. The course is also apropos for the general consumer public seeking an orientation to new home construction.		
REAE 2300 Texas Real Estate Law: Earnest Money Contracts	(3-0)	Credit: 3
This course is approved by the Texas Real Estate Commission as a "core" real estate course that can be applied for credit toward both the real estate salesman's and broker's licenses. Contents include the required excerpts from Section 7A (3) of the Texas Real Estate License Act of 1975, as amended, including legal concepts of real estate, land description, real property rights and estates in land, contracts, conveyances, encumbrances, foreclosures, recording procedures, and evidence of titles. In addition, there is thorough coverage of the Broker-Lawyer Committee Statement of Principles and detailed instruction in the actual preparation of all promulgated contract forms, with emphasis on those forms most commonly used.		
REAE 2301 Real Estate Brokerage	(3-0)	Credit: 3
This is an examination of the law of agency; planning and organization; operational policies and procedures; recruiting, selection, and training of personnel; records and control; real estate firm analysis; expansion criteria; the causes of the success and failure of real estate firms; planning for operations; the management of sales activities; maximizing profits through control; meeting competition; and the search for professionalism. Prerequisite: REAE 1301 or consent of the Department Manager.		
REAE 2302 Residential Real Estate Appraisal	(3-0)	Credit: 3
This course is an explanation of the purposes and functions of appraisal; the social and economic determinants of value; appraisal case studies; cost; market data; income approaches to appraisal; final correlations; and reporting. The course also consists of discussions and case studies involving the nature of neighborhood		

analysis; land or site analysis and valuation; residential styles and utility; mortgage equity and discounted cash flow; and codes of ethics associated with the appraisal industry. Prerequisites: REAE 1301 or consent of the Department Manager.

REAE 2303 Real Estate Property Management (3-0) Credit: 3

This is an explanation of the role of the property manager, landlord policies, operational guidelines; leases; lease negotiations; tenant relations; maintenance; reports; habitability laws; the Federal, State and local Fair Housing Laws; and overview of the real estate market; the rising role of government in real estate; cyclic aspects of real estate; the marketing process in property management; the administrative processes necessary for success; and the operation and management of a property management firm. Prerequisite: REAE 1301 or consent of the Department Manager.

REAE 2304 Real Estate Finance (3-0) Credit: 3

This course is an overview of monetary systems, primary and secondary money markets, sources of mortgage loans, Federal Government Procedures, closing costs, alternative financial instruments, loan applications-process and procedures, equal credit opportunity the Community Reinvestment Act, and the Texas housing Agency purpose and operations. This course also includes the history and background of real estate financing, money and interest rates, notes and mortgages, sources of mortgage money, property appraisal, analyzing borrowers, residential loan analysis, loan analysis of income properties, loan analysis of industrial, rural and development properties, and settlement procedures. Prerequisite: REAE 1301 or consent of the Department Manager.

REAE 2305 Real Estate Law (3-0) Credit: 3

This course consists of legal concepts of real estate; land descriptions; real property rights; estates in land; contracts; encumbrances; foreclosures; recording procedures; evidence of title; an explanation as to how ownership is held; fixture and easements; conveyancing, acknowledgements; and constructive notice; mortgages; closings, landlord and tenant relationships; regulation of real estate; and real estate taxation.

REAE 2306 Real Estate Seminar (3-0) Credit: 3

This course is a special subjects course that may vary in content with each offering. It is designed to provide a classroom setting in order to meet the changing needs in real estate education and training. Subjects may range from math, finance, law, contracts, construction, appraisal, property management, taxation, investments, interior decoration, site analysis, blueprint reading, microcomputer applications, and various other subjects. License applicants are instructed to inquire with the Management and Marketing Department as to whether the Texas Real Estate Commission will accept credits toward license requirements.

REAE 2307 Income Property Appraisal (3-0) Credit: 3

This is an explanation of the purposes and functions of appraisal; the social and economic determinants of value; appraisal case studies; cost, market data; income approaches to appraisal; final correlations; and reporting. The course also consists of discussions and case studies pertaining to building material and equipment; building costs and estimates accrued depreciation; gross income estimates; analysis of expense; rates in capitalization; straight and annuity capitalization; and reconciliation of value indications. Prerequisites: REAE 1301, REAE 2302 or consent of the Department Manager.

REAE 2308 Real Estate Investments (3-0) Credit: 3

This course shall include an analysis of real estate investment, characteristics, techniques of investment analysis, time-valued money, discounted and nondiscounted investment criteria, leverage, tax shelters, depreciation, and applications to property tax. In addition, a study of consumer investment alternatives to real estate and the customer/client counseling concerns for real estate investments will be covered. Prerequisites: REAE 1301, MATH 1301 or REAE 1300 or equivalent, REAE 2304, or approval of the Department Manager.

REAE 2309 Advanced Real Estate Finance (3-0) Credit: 3

This is an advanced course in real estate finance designed for the licensed real estate salesman or broker, entry level mortgage loan processor, general contractor, or real estate investor. Subjects include monetary systems, primary and secondary markets, sources of mortgage loans, federal government programs, loan applications, processes and procedures, closing costs, alternative financial instruments, equal credit opportunity acts, community reinvestment act, and the Texas Housing Agency. In addition, students will receive an extensive amount of "hands-on" training in qualification underwriting guidelines, closing costs, yield analysis, graduated payment mortgages, adjustable rate mortgages, and other variable rate programs. Prerequisites: REAE 2304, Real Estate Finance; and REAE 1300, Real Estate Math or equivalent.

REAE 2310 Real Estate Law: Contracts II (3-0) Credit: 3

This course is approved by the Texas Real Estate Commission as a "core" real estate course that can be applied for credit toward both the real estate salesman's and broker's license requirements. Contents include the required excerpts from the Texas Real Estate License Act, as amended, including legal concepts of real estate, land description, real property rights, estates in land, contracts, conveyances, encumbrances, foreclo-

tures, recording procedures, and evidence of titles. In addition, there is thorough coverage of the Broker-Lawyer Committee Statement of Principles and detailed instruction in the actual completion of all promulgated contract forms, with an emphasis on those forms most commonly used. This course is designed to give the real estate student an advanced class on using earnest money contracts in accordance with generally accepted principles of form and salesmanship.

Recreation (RECR)

RECR 1302 Principles of Recreational Leadership (3-0) Credit: 3

A study of the development of skills and leadership ability in various program areas of recreation including boys clubs, city recreation and armed forces. It describes recreational leadership methods for selection and discusses the principles and problems of recreational supervision.

Small Gas Engine Repair (SGER)

SGER 1401 Gas Engine Fundamentals (2-4) Credit: 4

A study of the fundamental principles and operation of the two and four stroke air-cooled engine. Testing and maintenance procedures are performed on the ignition, compression, fuel, starting and lubrication systems of 2 HP to 8 HP engines. Prerequisite or corequisite: INDU 1400.

SGER 1407 Small Gas Engine Service (2-4) Credit: 4

This course provides the student with "hands-on" experiences in the repair and overhaul of small gas engines. Emphasis will be placed upon valve reconditioning, magnetos, and ignition repair, carburetor overhaul, crankshaft replacement and other types of service requirements. Prerequisite: SGER 1401.

SGER 1409 Motorcycle Service (2-4) Credit: 4

This course is designed to provide the student with the necessary skills to perform preventative maintenance, and an understanding of the theory and operation of two and four stroke motorcycle engines. Study will include the battery, electrical, fuel, tune-up, drive-line and brake systems. Prerequisite: SGER 1401.

SGER 2311 Shop Organization & Management (3-0) Credit: 3

This course is designed to provide the student with an understanding of small engine repair business management. Areas of study include customer relations, warranty provisions, service salesmanship, organization and shop lay-out, and the financial and operational aspects of managing a small engine repair business. Prerequisite: Sophomore standing.

SGER 2402 Chain Saw Service & Repair (2-4) Credit: 4

This course provides the student with the theory and repair skills necessary to service all types of modern chain saws. Areas of study will include preventative maintenance, chains, guide bars, sprockets, clutches, fuel, ignition and lubrication systems. Prerequisite: SGER 1401.

SGER 2407 Off-Road Small Engine Repair & Service (2-4) Credit: 4

This course provides the student with experiences in the maintenance and repair of mini-bikes, go-carts, snowmobiles, mobile generators, farm equipment and other small engine applications. Prerequisite: Sophomore standing.

SGER 2408 Outboard Motor Service & Repair (2-4) Credit: 4

This course is designed to provide the student with the necessary skills to disassemble, repair, and assemble outboard engines and lower drive units on various types of outboard engines. Special emphasis will be placed on the cooling, ignition and fuel systems, and the use of special tools, and service manuals. Prerequisite: Sophomore standing.

SGER 2409 Motorcycle Repair (2-4) Credit: 4

This course is designed to provide the student with the necessary skills to disassemble, repair, replace, and assemble motorcycle engines, drive train components, transmission, and suspension systems. Special emphasis will be placed on special tools and test equipment. Prerequisite: SGER 1409.

SGER 2410 Lawn & Garden Equipment Service (2-4) Credit: 4

This course is designed to provide the student with "hands-on" experience in the repair of all types of power lawn care units including lawn mowers, riding mowers, garden tractors, tillers and other similar small engine applications. Skills employed will utilize both oxygas and arc welding equipment when necessary. Prerequisites: SGER 1407, WELD 1401. Corequisite: WELD 1402.

Sheet Metal (SMTL)

SMTL 1303 Insulation & Sheet Metal Standards & Materials (2-2) Credit: 3

A study of insulation and sheet metal standards and specifications. The course also includes the identification and uses of various materials, material take-off and estimating.

- SMTL 1401 Sheet Metal I** (2-4) Credit: 4
This course is an introduction to the use of hand tools, power tools, flux, rivets, and fastening devices. Measurement and layout is stressed.
- SMTL 1402 Plumbing & Heating Insulation** (2-4) Credit: 4
A study of the theory and application of insulating materials related to pipes, fittings, vessels, tanks, heaters, breechings and ducts. The student will practice roughing-in and finish work.
- SMTL 2302 Sheet Metal Layout & Planning** (2-2) Credit: 3
This course presents the theory of the psychometrics of conditioned air and duct design and sizing. It is a course in practical pattern drafting and planning for industrial, commercial and residential use of sheet metal. Prerequisites: DRDS 1302, DRDS 1400.
- SMTL 2401 Sheet Metal II** (2-4) Credit: 4
Practice in sheet metal fabrication and installation of skylights and ventilators. Prerequisites: SMTL 1401, WELD 1401 or WELD 1402.
- SMTL 2402 Duct Work** (2-4) Credit: 4
This student will practice fabricating and installing ducts using the various fastening hardware and techniques. This course also presents the theory and practical application of carpentry as it applies to duct installation and sheet metal work. Prerequisite: SMTL 2302.
- SMTL 2409 Sheet Metal Internship** (1-20) Credit: 4
This course consists of on-the-job sheet metal training that utilizes the principles, knowledge and skills gained in the classroom and laboratory. The student is employed at an approved work site under the supervision of a College instructor/coordinator.

Social Science

(See Anthropology, Geography, Government,
History, Philosophy, Psychology, Sociology)

Sociology (SOCI)

- SOCI 2301 Introduction to Sociology** (3-0) Credit: 3
The study of human society; human behavior and personality as a product of group life; community organization; social change and current social problems.
- SOCI 2302 Contemporary Social Problems** f(3-0) Credit: 3
Identification and analysis of contemporary social problems, development of criteria for evaluating problems for social betterment.
- SOCI 2303 Criminology** (3-0) Credit: 3
Causes and manifestations of delinquency; case studies of criminals and their social milieu; the offender and agencies of his adjustment; analysis and evaluation of penal methods.
- SOCI 2305 Social Psychology** (3-0) Credit: 3
The origin and development of personal behavior in interpersonal situations.
- SOCI 2306 Marriage & The Family** (3-0) Credit: 3
A study of problems in courtship, marriage, and family living as they relate to the social structure of American society.

Spanish (SPAN)

- SPAN 1401 Beginning Spanish I** (3-3) Credit: 4
The study of Spanish grammar and development of vocabulary. Stresses conversation in Spanish.
- SPAN 1402 Beginning Spanish II** (3-3) Credit: 4
A continuation of Beginning Spanish I, with continued emphasis on conversation. Prerequisite: SPAN 1401.
- SPAN 2301 Intermediate Spanish I** (3-0) Credit: 3
Continued emphasis on conversation, correct pronunciation, & correct writing. Reading from various Spanish-American authors. Prerequisites: SPAN 1401, 1402, or 2 years of Spanish at an accredited high school.
- SPAN 2302 Intermediate Spanish II** (3-0) Credit: 3
Continues the readings from Spanish-American authors. Emphasizes grammar, composition, and conversation. Prerequisite: SPAN 2301 or equivalent.

Speech (SPCH)

- SPCH 1301 Public Speaking** (3-0) Credit: 3
Research, composition, organization, and delivery of speeches for various purposes and occasions, including informative, persuasive sales, and demonstration speeches. *Studies of theories and principles of interpersonal, small group and public communication.*
- SPCH 1302 Voice & Diction** (3-0) Credit: 3
Physiology and mechanics of effective voice production with practice in articulation, pronunciation, enunciation. Introduction to the International Phonetic Alphabet and regional dialects (accents). Practice in achieving vocal variety through the oral interpretation of literature.
- SPCH 1303 Oral Interpretation** (3-0) Credit: 3
Study and practice in the principles of the oral reading of literature. Stresses analyzing good literature and recreating the logical and emotional content for an audience. Also includes group oral interpretation.
- SPCH 2303 Business & Professional Speaking** (3-0) Credit: 3
Theories and skills of speech communication as applied to business and professional situations. Includes participating in an interview, the preparation of a resume and cover letter, engaging in a problem solving discussion, an delivering speeches in public.
- SPCH 2304 Discussion** (3-0) Credit: 3
Study of the principles of systematic investigation and reflective thinking as applied to discussion. Practice in discussion of current problems by use of various forms: round table, panel, sales conferences, committee, parliamentary and lecture-forum.
- SPCH 2305 Interpersonal Communications** (3-0) Credit: 3
Theory, examples and participation in exercises to improve effective one-to-one and small group communication.

Telecommunications (TELE)

- TELE 1301 Introduction to Broadcasting** (3-0) Credit: 3
This is a survey course tracing the history of broadcasting from 1884 to the present. Besides history, the course will present information on comparative systems of broadcasting and on the basic operational procedures of radio and television stations. Preparation for the FCC Radio-Telephone Operator's Third Class Permit is included in this course of study.
- TELE 1305 Broadcast Writing** (3-0) Credit: 3
This course covers the stylistic writing techniques as needed for commercial copy, promotional copy, news editing, radio-television show formats, and individualistic creative writing for drama or documentaries. Practical experience will be available through stations.
- TELE 1402 Beginning Radio Production** (3-3) Credit: 4
In this course the fundamental techniques and practices of production and programming are emphasized with a great deal of practical experience in an actual radio station. Production of various types of programs including interviews, documentaries, and basic news will be studied. Each student will be trained to competently operate a radio control board, turntables, and tape recorders.
- TELE 1403 Beginning Television Production** (3-3) Credit: 4
This course is designed to give the student the fundamental skills in camera operation, microphone techniques, basic set design, basic graphics, and lighting. In addition, each student will participate in the production of a daily live broadcast from a television station and other live and taped productions. A basic study of the operation of a television station will be covered.
- TELE 1405 Radio-Television Announcing** (3-3) Credit: 4
This course covers the duties and responsibilities of the announcer, such as operation of audio console, announcing commercial copy, announcing station breaks, newscasting, interviewing, etc. Special emphasis is given in the areas of voice and diction and pronunciation. Practical experience will be offered through the use of actual radio and television stations.
- TELE 1406 Television Film** (3-3) Credit: 4
This course is designed to introduce the student to the fundamentals of cinematography and its applications in the television industry. Basic filming techniques will be covered, and each student will learn to shoot 16 mm motion picture cameras, edit, story board, and process film. Laboratory exercises will provide for the shooting of at least 200 feet of film per student.

TELE 1407 Advanced Radio Production**(3-3) Credit: 4**

Major emphasis in this course is advanced training in the production of radio commercials, promotion announcements, documentaries, newscasting and interviewing. An in-depth study of the programming formulas and different types of radio broadcasting is presented. Each student will be responsible for weekly programming to be aired over a radio station. Prerequisite: TELE 1402 or approval of the Department Manager.

TELE 1408 Advanced Television Production**(3-3) Credit: 4**

This course offers advanced training in television production. Included will be experience as cameraman, floor director, talent, lighting director, technical director, producer, graphics, film director, video tape operator and audio engineer. Practical experience in weekly television program production will be available through the use of an actual television station. In addition, a critical look will be given to television programming techniques, types of station structure, and innovative technological breakthroughs. Prerequisite: TELE 1403 or approval of the Department Manager.

TELE 2301 Technical Aspects of Broadcasting**(3-0) Credit: 3**

This course will help the student develop a broad technical vocabulary & a basic understanding of the technical aspects of Telecommunications. Emphasis is placed on the study of operating fundamentals and the technical limitations of telecommunications systems. Broadcast technical standards and their rationale are a major part of the course. Limited emergency maintenance techniques for production personnel are also taught.

TELE 2304 Broadcast Sales**(3-0) Credit: 3**

This course is designed to give the student a working knowledge of broadcast time sales. Areas of study include sales call preparation, sales presentations, spot scheduling, client interviews, collections, rate cards, contracts, and sales promotions. Station ratings and their use in broadcast sales will also be studied. Prerequisite: TELE 1301 or approval of the Department Manager.

TELE 2306 Telecommunications Seminar**(3-0) Credit: 3**

This seminar is designed to allow the student of broadcasting to take an in-depth look at the industry he will soon serve. Individual investigation will be conducted on the current trends in broadcasting, major issues facing the broadcaster, and the importance of broadcasting in today's society. Considerable discussion on such issues as freedom of the press and the future of broadcasting will take place. This course will give the student an up-to-date and realistic perspective of his chosen industry. Prerequisite: Sophomore standing or approval of the Department Manager.

TELE 2307 Broadcast Station Management**(3-0) Credit: 3**

This course is an in-depth study of management responsibilities within the broadcast industry. Areas of study include personnel management, station budgets, profit and loss statements, network negotiations, and equipment purchases. Also included is a study of the Federal Communications Commission's rules and regulations pertaining to the overall operation of the broadcast station. Prerequisite: TELE 1301 or approval of the Department Manager.

TELE 2407 Electronic Field Production**(3-3) Credit: 4**

Electronic field production techniques are covered including mini-camera operations, electronic editing principles, remote audio and lighting techniques. Students assist television station staff with remote production assignments. Prerequisite: TELE 1406 or approval of the Department Manager.

TELE 2408 Telecommunications Internship**(1-8) Credit: 4**

The purpose of this course is to give each student an opportunity to receive practical experience in a specialized area of study. A student may choose his individual intern study from any of the following broadcast-related areas: graphic arts, set design, photography, cinematography, broadcast journalism, sales, radio production, television production, broadcast promotion, traffic and continuity. Prerequisite: TELE 1402 and TELE 1403 or approval of the Department Manager.

TELE 2409 Telecommunications Projects I**(1-8) Credit: 4**

The telecommunications projects will constitute an on-the-job training experience for all the students. The laboratory portion will place the student in responsible production positions for on-air broadcast activities on radio or television. Each student will produce and direct at least three major TV or radio programs on a regularly scheduled basis. In conjunction with this practical training, the student will compile a daily log of his work experience for in-class discussion and criticism. Prerequisite: TELE 1402 and TELE 1403 or approval of the Department Manager.

TELE 2410 Telecommunications Projects II**(1-8) Credit: 4**

A continuation of TELE 2409, this course consists of on-the-job training as a production member of an actual television or radio station for on-air operations. Prerequisite: TELE 2409.

Theatre
(See Speech)

Mathematics, Technical (TMTH)

TMTH 1301 Technical Mathematics (3-0) Credit: 3

This course includes a study of algebra, trigonometric functions, graphs of trigonometric functions, solution of triangles and plane and solid geometry. Prerequisite: MATH 1301 or permission of the Department Manager.

Voice
(See Music)

Welding (WELD)

WELD 1250 Basic Oxy Welding (.2-2.3) Credit: 2

Instruction in selected types of weld joints and edge preparation includes safety requirements and maintenance of metal-working tools, supplies and equipment.

WELD 1251 Basic Arc Welding (.2-2.3) Credit: 2

Provides the student with basic arc welding skills, includes selection of electrodes, heat ranges, types of joints, edge preparation, shop safety and maintenance of equipment.

WELD 1301 Basic Gas Welding (1-2) Credit: 3

This course covers the theory and practice of oxyacetylene cutting and welding of metals in horizontal, vertical and overhead positions.

WELD 1302 Basic Arc Welding (1-2) Credit: 3

This course covers the theory and practice of electric arc welding. Welds will be made in all positions with various types of electrodes.

WELD 1401 Beginning Gas Welding (3-3) Credit: 4

Instruction will be conducted in oxyacetylene welding theory and practical application. Course of study will include use and operation of oxyacetylene cutting equipment. Safety and proper care of oxyacetylene equipment will be stressed. Prerequisite or Corequisite: INDU 1400.

WELD 1402 Beginning Arc Welding (3-3) Credit: 4

Instruction will be conducted in the theory and practical application of Shielded Metal Arc Welding with various types of electrodes in flat and horizontal positions. Course of study to include AWS electrode classification. Prerequisite or Corequisite: INDU 1400.

WELD 1403 Intermediate Arc Welding (3-3) Credit: 4

Instruction will be given in the practice of making Shielded Metal Arc Welds in all positions. Emphasis will be placed on preparing the student for certification in flat and horizontal positions with various types of electrodes. Prerequisite: WELD 1402.

WELD 1405 Advanced Gas Welding (3-3) Credit: 4

Instruction will be given on oxyacetylene welding in all positions and practical application of silver brazing and soft solder. Use of cutting machines will be included in the course of study. Prerequisite: WELD 1401.

WELD 1406 Blueprint for Welders (3-3) Credit: 4

This course covers the fundamentals of drawing interpretation as applied in the welding trade. Emphasis will be on welding symbols and their significance, familiarization with terms, sizes, shapes and abbreviation.

WELD 2401 Advanced Arc Welding (3-3) Credit: 4

Instruction will be given in the practice of taking guided bend test, with and without the use of back-up strips, in all positions. Emphasis will be placed on preparing students for certification in all positions with various types of electrodes. Prerequisite: WELD 1403.

WELD 2402 Pipe I (3-3) Credit: 4

Intensive classroom and practical applications will be given in techniques used in the welding of rolled and fixed position pipe. Prerequisite: WELD 1403.

WELD 2404 Pipe II (3-3) Credit: 4

Classroom instruction to be given on development of layout templates. Practical instruction will place emphasis on preparing the student for certification test on pipe. Prerequisite: WELD 2402.

- WELD 2406 Welding Fabrication & Layout** (3-3) Credit: 4
 Practical application of steel fabrication and general layout work. Blueprint reading of welding prints with welding symbols will be included. Prerequisites: WELD 1406 and WELD 2401.
- WELD 2407 GTAW Welding (TIG)** (3-3) Credit: 4
 This course provides instruction in the theory and practice of gas tungsten Arc Welding (GTAW) of aluminum. The course of study includes types of power sources, shielding gases and metals. Welding is performed using 1/16, 3/32, and 1/8 tungsten rod in all positions. Prerequisites: WELD 1402 and WELD 1405.
- WELD 2408 GMAW Welding (MIG)** (3-3) Credit: 4
 This course covers the theory and practice of Gas Metal Arc Welding (GMAW) of mild steel and aluminum. The course of study includes the study of the types of metal transfer and shielding gases used in these processes. Welding will be performed 1, 2, 3, and 4G positions using .035 wirefeed. Prerequisite: WELD 1402 or ATBR 1409.

Word Processing (WOPO)

- WOPO 1101 MS-DOS: An Introduction** (1-5) Credit: 1
 A 24-hour basic introduction to the structure and operation of IBM and IBM compatible microcomputer systems. For professional, managerial, administrative and clerical personnel who will use but are not familiar with IBM and IBM compatible microcomputer systems. Instruction consists of short lecture/demonstrations and hands-on practice with actual equipment. Topics include IBM microcomputer system components and operating/controlling the system with MS-DOS.
- WOPO 1102 WordPerfect: An Introduction** (1-5) Credit: 1
 A 24-hour course for professional personnel, word processing operator, writers, editors, and publishers. Hands-on with minimum lecture; includes demonstration, discussion/question/answer sessions. Topics covered: the basic WordPerfect program; document formatting, text entry, Spell check, Thesaurus, outlining, footnoting, merging letters, document saving, retrieving and editing; WordPerfect directory/files management; printer/font selection and control; and printing documents.
- WOPO 1103 Microsoft Word: An Introduction** (1-5) Credit: 1
 A 24-hour course for professional personnel, word processing operator, writers, editors, and publishers. Hands-on with lecture; includes demonstration, discussion/question/answer sessions. Topics covered: overview of word processing; structure of the Microsoft Word program; document formatting, text entry, retrieving, editing and printing document files; directory/files management; merging and printer/font selection and control.
- WOPO 1104 LOTUS 1-2-3: An Introduction** (1-5) Credit: 1
 A 24-hour course introducing participants to the worksheet and graphics capabilities of LOTUS 1-2-3 applications software. For professional, managerial, administrative or financial analyst personnel with prior microcomputer experience who need budgetary, financial, or other computer database supported information portrayal/analysis capabilities. Instruction consists of short lecture/demonstrations and hands-on practice. Includes discussion, question/answer sessions using practice exercises and examples. Topics include: LOTUS operating menus, worksheet design, creation, mathematical functions, protecting, storage, retrieval, moving, copying, editing, data manipulation, graphics development, LOTUS macros, on-line Helps, tutorials and references.
- WOPO 1105 WordStar/Mail Merge** (1-1) Credit: 1
 A 30-hour course for professional personnel, word processing operators, writers, editors, and publishers. Hands-on with minimum lecture; includes demonstration, discussion/question/answer sessions. Topics include: overview of WordStar structure; defining files; document formatting, text entry; creating form letters using Mail Merge; saving, retrieving and editing document files; WordStar directory/files management; printer/font selection and control; and printing.
- WOPO 1106 ENABLE: An Introduction** (1-1) Credit: 1
 A 30-hour course for professional, managerial, administrative, and financial analyst personnel having no prior microcomputer experience. A hands-on, minimum lecture approach using actual equipment. Includes discussion, question/answer sessions based upon instructor furnished practice exercises and examples. Topics include: Microcomputer system components, operation, and care; integrated software, the ENABLE applications modules; spreadsheet concepts, database management and word processing; graphics; and telecommunications operations.
- WOPO 1107 Spreadsheet Applications** (1-5) Credit: 1
 A 24-hour course introducing participants to the worksheet and graphics capabilities of spreadsheet applications software. For professional, managerial, administrative or financial analyst personnel with prior microcomputer experience who need budgetary, financial, or other computer database supported information por-

trayal/analysis capabilities. Instruction consists of short lecture/demonstrations and hands-on practice. Includes discussion, question/answer sessions using practice exercises and examples. Topics include: Spreadsheet operating menus, worksheet design, creation, mathematical functions, protecting, storage, retrieval, moving, copying, editing, data manipulation, graphics development, spreadsheet macros, on-line Helps, tutorials and references.

WOPO 1108 Wordprocessing Applications (1-5) Credit: 1

A 24-hour course for professional personnel, word processing operators, writers, editors, and publishers. Hands-on with minimum lecture; includes demonstration, discussion/question/answer sessions. Topics include: overview of word processing structure of word processing program; defining files; document formatting, text entry, retrieving, and editing and printing document files; directory/files management; merging and printer/font selection and control.

WOPO 1109 Database Applications (1-5) Credit: 1

A 24-hour course introducing participants to the capabilities of a database structure. Hands-on with minimum lecture; includes demonstration, discussion/question/answer sessions. Topics include: how to create, edit, browse, sort, search, and delete a database structure. In addition, participants will learn how to modify an existing structure, create a report, and how to change or replace fields using the search criteria.

WOPO 1303 Beginning Keyboarding/Data Entry (3-3) Credit: 3

A beginning course in the fundamentals and techniques of keyboarding and data entry on personal computers. Special emphasis on speed development, including an introduction to letter writing, tabulating, and preparing manuscripts.

WOPO 1304 Intermediate Information Processing Applications (3-3) Credit: 3

A continuation of WOPO 1303. Additional skills in terms of accuracy and speed will be evidenced by students in utilizing personal computers. Composition and typing of business letters, tabulations and manuscripts of more demanding content will be instructed. Prerequisite: WOPO 1303 or Department Manager approval.

WOPO 1307 Word Processing/Transcription (3-3) Credit: 3

This course is designed to train students in the theory of word processing. It introduces the student to word processing facilities and equipment. It provides hands-on experience with word processing equipment to include processing, editing, storing information, printing devices, formatting, type style, and paragraphing. Transcribing machines are utilized in conjunction with information creation. Prerequisite: Minimum typing skill of 40 WPM.

WOPO 2302 Advanced Information Processing Applications (3-3) Credit: 3

This course includes advanced work in such specialized production as tabulation, inter-office correspondence, manuscripts, legal forms, medical forms, special inter-office forms, and additional work on the arrangement of business letters with special features. Personal computers and applicable softwares are used extensively in preparing students to be highly productive office employees. Prerequisites: WOPO 1304 or equivalent.

WOPO 2303 Office Automation (3-0) Credit: 3

The students will work with advanced problems utilizing hands-on experience with information processing facilities and equipment. Hands-on experience includes the following: editing, storing, printing, formatting, computing and networking. A thorough study of present and future systems, i.e. interchangeability and adaptability of software. Prerequisite: 6 WOPO hours or equivalent.

WOPO 2304 Automated Accounting (3-3) Credit: 3

Elementary principles of accounting, such as journalization, posting, statements, special journals; subsidiary ledgers will be studied utilizing software packages. Special emphasis is placed on personal, family and small business accounting systems. Prerequisite: OADM 2304.

WOPO 2306 Information Systems and Applications (3-3) Credit: 3

This course is designed to give secretarial, clerical, management, and word processing students an insight into the present and future office environment with regard to the current trend towards automation. Through class discussion, individual and/or group projects, research and input from various speakers from related areas of private industry, students will become aware of the impact of current trends toward automation in the office as well as related business fields. Prerequisite: 12 WOPO hours or equivalent.

WOPO 2308 Information System Internship I (2-4) Credit: 3

The student will be provided a combination of occupationally related classroom instruction and on-the-job training in cooperation with offices within the Office Administration Department. Actual work training will be available in following areas: information processing, filing, duplication, use of telephone, preparation of correspondence, voice transcription machine, record keeping, proofreading, etc.

WOPO2309 Information System Internship II**(2-4) Credit: 3**

Students will be provided a combination of occupationally related class work instruction and on-the-job training in cooperation with Office Administration offices. Students will demonstrate advanced competencies with work experiences in the following areas: taking dictation, information processing, letter composing, telephone procedures, filing, work scheduling, financial calculating, duplication, transcribing from dictation equipment, etc.

WOPO2310 Word Processing Center Management**(3-0) Credit: 3**

This course covers the factors that influence work efficiency and human behavior in the information processing center environment. This course includes a consideration of systems limitations and capabilities, work flow, system security, scheduling, managerial theories, system evaluation, human relations, and supervision. Prerequisite: Sophomore standing or the consent of the instructor.

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