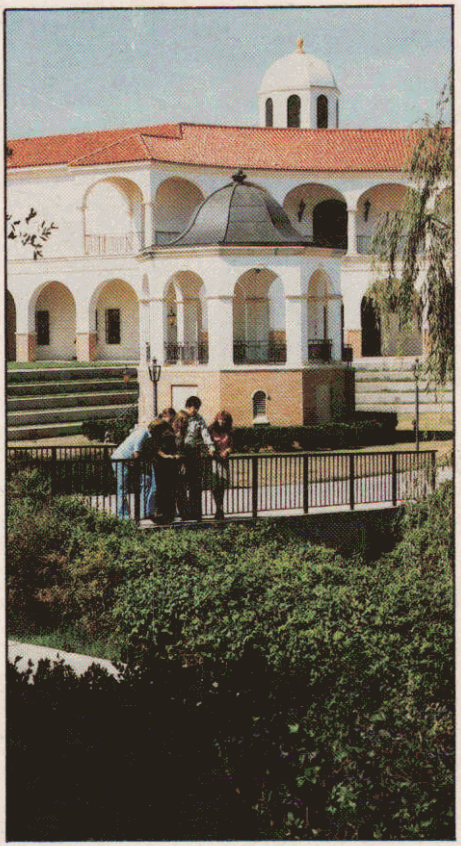
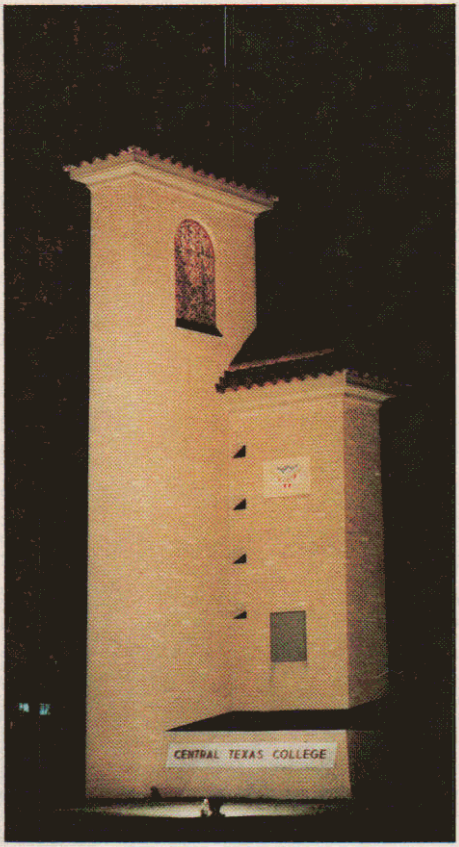
A Part of the
American Educational Complex
Consortium

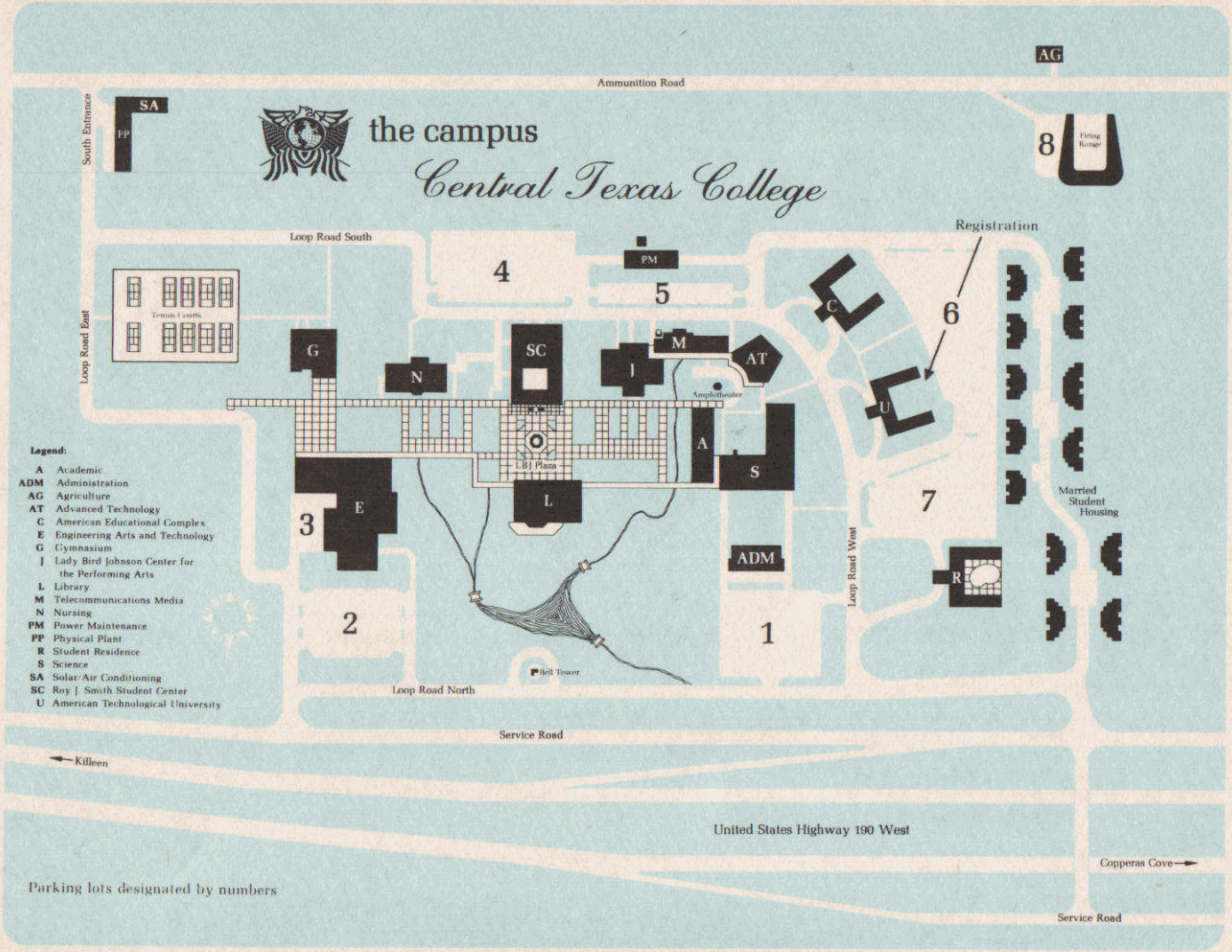




CENTRAL TEXAS COLLEGE

CONTINENTAL & OVERSEAS SERVICES

CATALOGUE SUPPLEMENT 1980-82


the campus
Central Texas College
Ammunition Road
AG
SA
PP
South Entrance
Loop Road East
Loop Road South
Tennis Courts
4
PM
5
8
Firing Range
Registration
6
C
U
G
N
SC
J
M
AT
Amphitheater
A
S
LBJ Plaza
L
E
3
2
1
ADM
Loop Road West
R
7
Married Student Housing
Bell Tower
Loop Road North
Service Road
Killeen
United States Highway 190 West
Copperas Cove
Service Road
Legend:
A Academic
ADM Administration
AG Agriculture
AT Advanced Technology
C American Educational Complex
E Engineering Arts and Technology
G Gymnasium
J Lady Bird Johnson Center for the Performing Arts
L Library
M Telecommunications Media
N Nursing
PM Power Maintenance
PP Physical Plant
R Student Residence
S Science
SA Solar/Air Conditioning
SC Roy J. Smith Student Center
U American Technological University
Parking lots designated by numbers

Central Texas College

CONTINENTAL AND OVERSEAS SERVICES

Third 1980-1982

CATALOGUE SUPPLEMENT

Accredited By
Southern Association of Colleges and Schools

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 Collegiate Registrars and Admissions Officers
American Association of Community and Junior Colleges
Association of Texas Colleges and Universities
Southern Association of Collegiate Registrars and Admissions Officers
Texas Association of Public Junior Colleges
Texas Association of Collegiate Registrars and Admission Officers

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CENTRAL TEXAS COLLEGE

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Coordinator, Fort Richardson, Alaska

James W. Bullard
Director, Subic Bay Programs

William T. Muenter
Director, Far East Programs

CAMPUS ADDRESSES

MAIN CAMPUS

CENTRAL TEXAS COLLEGE
U.S. Highway 190 West
Bell/Coryell Counties
Killeen, Texas 76541
1-817-526-1228

BRANCH CAMPUSES

ALASKA

Central Texas College-Fort Richardson
Building 658-Kiska Hall
Fort Richardson, Alaska 99505
&
Central Texas College-Fort Greeley
Army Education Center-Building 661
APO Seattle 98733

EUROPE

Central Texas College-Europe
Yorkhof Kaserne
Hanau Military Community
APO New York 09165

FAR EAST (KOREA)

Central Texas College-Far East
APO San Francisco 96301

U.S. NAVY - PACIFIC

Central Texas College-Pacific
P.O. Box A82568
San Diego, California 92138

FORT LEE

Central Texas College-Fort Lee
P.O. Box B
Fort Lee, Virginia 23801

FORT LEONARD WOOD

Central Texas College-Fort Leonard Wood
Truman Education Center-Box 216
Fort Leonard Wood, Missouri 65473

FORT RILEY

Central Texas College-Fort Riley
P.O. Box 2406
Fort Riley, Kansas 66442

SUBIC BAY

Central Texas College-Subic Bay
Box 4. U.S. Naval Station
FPO San Francisco, California 96651

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 campus where the student currently attends.

Students departing branch campus locations must notify the branch administrative office of their departure to insure their records are transferred to the main campus at Killeen, Texas. Records and transcript services will be provided through the Killeen campus for students not in attendance at a branch campus.

TABLE OF CONTENTS

GENERAL INFORMATION

CONTINENTAL AND OVERSEAS PROGRAMS

Central Texas College Continental and Overseas Services 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 Supplement provides information concerning the policies, procedures and programs applicable to off-campus branches and extensions operated under the auspices of Continental and Overseas Services. Individuals interested in programs which are not locally available should consult with the local Education Services Officer or Central Texas College Field Registrar.

HISTORY

To provide increased opportunities in higher education, the citizens of the Killeen and Copperas Cove Independent School Districts and the Nolanville Common School District created the Central Texas College School District in July, 1965. A $2,000,000 bond issue to construct and equip the campus followed in October, 1965. In January, 1966, the Board of Trustees employed Dr. Luis M. Morton, Jr., as President of Central Texas College and offices were opened in Killeen that same month. In June of that same year, ground breaking ceremonies were held. Since that time Central Texas College has expanded its physical plant to the present twenty-nine buildings. Current student population at the Killeen Campus is approximately 5,000 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

Having locally supported the United States Army with a wide variety of educational programs tailored to meet the specific needs of the military, Central Texas College was chosen to serve our armed forces across the nation and overseas. This commitment to provide expanded educational opportunities carries the same thrust of dedication which is characteristic of Central Texas College.

Central Texas College—Continental and Overseas Services—provides the opportunity for higher education to military personnel serving our country in the United States and in foreign lands. Technical-vocational programs are offered by the College at over 150 locations throughout Europe and the Far East, as well as at military bases in the United States and to the United States Navy, in the Pacific.

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 necessarily 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 Killeen 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 prnciple 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 succeed in life, which is the birthright of every American.

EDUCATIONAL OBJECTIVES

1. UNIVERSITY TRANSFER EDUCATION - The College provides the first two years of college work for those students planning to achieve a baccalaureate or higher degree.

2. GENERAL EDUCATION - The College provides general education courses which develop competence, skills, and attitudes essential to effective performance as an individual, as a citizen, and as a productive member of society. Within this academic framework are studies in communication and languages, social sciences and humanities, mathematics, physical and social development, as well as a program of co-curricular activities.

3. OCCUPATIONAL EDUCATION - The College provides courses which qualify students in vocational and/or technical fields and equip them for occupational competency.

4. AREA SERVICE - The College provides life-long education for adults, opportunities for cultural enrichment, special interest courses, lectures, and meetings designed to satisfy the special needs of business, of the military and of area groups.

5. COUNSELING AND PERSONAL GUIDANCE - The College provides counseling and guidance services which enable the student to select, with proper perspective, the educational program that is compatible with individual abilities, aptitudes and ambitions.

6. PLACEMENT - The College provides an employment/placement service to assist graduating students and alumni in bringing their qualifications to the attention of possible employers.

THE CATALOGUE SUPPLEMENT

The supplement 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 supplement carefully, for they are responsible for observing the regulations contained herein.

EQUAL OPPORTUNITY POLICY

Central Texas College admits students without regard to race, color, sex, religion, national origin, or handicap. This policy also applies to the employment of personnel, faculty and staff.

PROGRAM/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 cancellations, when enrollment or other circumstances require this action.

ADMISSIONS AND REGISTRATION

HOW TO BEGIN

COUNSELING

Students wishing to attend Central Texas College - Continental and Overseas, should visit the local military Education Center to consult with the Education Services Officer about educational goals. Education Centers 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 CTC Field Registration personnel serving your location.

Central Texas College is an open-door comprehensive community college. An open-door admission policy is maintained to insure that all persons who can profit from post-secondary education have the opportunity to enroll. New students will be admitted to the College unconditionally, 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 course, but who are prepared to undertake post high school studies, may be admitted 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.

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 - Continental and Overseas classes. Proof of this sponsorship is generally accepted as having one of the Identity Cards issued by the Armed Forces for active duty personnel, their dependents and certain civilians. Other applicants may attend classes but must be referred to the Education Services Officer for necessary military and intergovernmental approval prior to being permitted to file application for admission.

FORMS REQUIRED

Students must complete an Application for Admission form prior to being considered for admission.

RECORDS REQUIRED

TRANSCRIPTS AND TEST SCORES

Records of all previous education must be on file with the college prior to unconditional admission. Students whose records have not been provided by the end of their first term will be ineligible to receive transcripts.

1. HIGH SCHOOL GRADUATES: Must submit official high school transcript or High School GED Equivalency scores.

2. COLLEGE TRANSFER STUDENTS: Official transcripts must be provided for all college study.

3. INDIVIDUAL ADMISSIONS STUDENTS (except transient students): Must provide official transcripts for all previously attended institutions, high school and/or college, and/or GED scores.

NOTE: Students are responsible for requesting their official records (signed and sealed) to 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 this catalogue.

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 ADMISSION

Early admission offers the opportunity for high school juniors and seniors to earn college credits while concurrently enrolled in high school. Early admission is open to any high school junior or 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.

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.

**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.

WHEN TO REGISTER FOR CLASS

REGISTRATION PERIODS

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

WHO TO SEE FOR CLASSES

FIELD REGISTRAR

Central Texas College - Continental and Overseas normally assigns a Field Registrar to each Education Center 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 - Continental and Overseas Field Registrar at the Education Center.

HOW TO SIGN UP FOR CLASSES

REGISTRATION REQUIREMENTS

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

1. Application for Admission (first registration)

2. Class Registration Card (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 admission and registration are available from the Central Texas College Field Registrar at each site.

LATE REGISTRATION

Students are permitted to register through Friday of the week in which the class begins. 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 student will be permitted to register for classes after Friday of the first week in which the class starts.

CHANGING REGISTRATION

ADDING/DROPPING CLASSES

Students wishing to register for additional courses or change course enrollments after registering must have the Field Registrar indicate such amendments on the registration card. Such changes must be completed and initialed by the student before the announced end of the registration period - Friday of the first week in which the class begins.

WITHDRAWAL - See page 19.

COST OF CLASSES

TUITION AND FEES

Costs of providing classes at Central Texas College - Continental and Overseas campuses are defrayed by student tuition and fees and vary with the level of support provided by the sponsoring agency at each branch campus.

Tuition and fee schedules are frequently adjusted based on local conditions during the period this Catalogue Supplement is in effect. For current tuition and fees consult the C.T.C. Field Registrar.

Students will be charged tuition at the rate established with the supporting agency which requests classes:

EXAMPLE: Students attending classes at an Air Force installation would pay tuition rates established with the Air Force.

EXAMPLE: Students attending classes at an Army installation would pay tuition rates established with the Army.

PAYMENT

METHOD OF PAYMENT

No cash is accepted. Checks or money orders should be made payable to Central Texas College. Central Texas College - Continental and Overseas requires payment of tuition and applicable fees prior to attendance of the first class meeting.

REFUNDS

The refund policy applies to tuition only. All refunds will be computed from the date the Application for Withdrawal/Refund is filed at the local Education Center (not from the date of the last class attended) according to the following schedule:

- If not more than one-eighth of the class meetings have elapsed at the time the withdrawal form is filed, the College will refund 75% of the tuition.
- If one-eighth to one-quarter of the class meetings have elapsed at the time the withdrawal form is filed, 25% of the tuition will be refunded.

- If more than one-quarter of the class meetings have elapsed at the time the withdrawal form is filed, no tuition will be refunded. Refunds will be processed upon receipt at the Student Services Office of the properly completed Application for Withdrawal/Refund form.

  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.

HOW TO OBTAIN STUDENT FINANCIAL AID

Information and application forms for military tuition assitance and VA benefits are available at military Education Centers. The two forms of 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

BASIC EDUCATIONAL OPPORTUNITY GRANT: The BEOG is authorized by the Higher Education Act Amendments of 1972 to assist students in pursuing their first undergraduate degree. The intent of the BEOG is to provide a foundation of financial assistance to supplement the cost of postsecondary education. The amount of the BEOG 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.

GI BILL: Central Texas College is an approved college for those who wish to attend and receive benefits under the Veterans Readjustment Benefits Act or other Veteran's Administration assistance.

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, which pays for 75% of Tuition. (Department of Defense Appropriations Act of 1966, P.L. 89-213)

Active duty military students (approved) under this program will have 75% of tuition costs paid by the government, but will be responsible for paying the remaining 25% as well as all fees and book costs.

Students who receive aid under Tuition Assistance incur a liability to the government. Each recipient should make sure that he or she is informed of all conditions of the Tuition Assistance agreement. Information about such conditions may be obtained at the military Education Center from the Education Services Officer or Counselor.

ARMY AND AIR FORCE

Both the Army and the Air Force have Tuition Assistance programs. The Army Tuition Assistance form is DA 2171, and the Air Force form is AF 1227. Air Force students attending classes at an Army site and Army students attending classes at an Air Force site should complete their appropriate service form and mail it to the appropriate Army or Air Force Education Center. The signature of the student's unit commander (or authorized representative) and the approving signature of the Education Services Officer are required on all forms. The Field Registrar will assist students in this matter, as local procedures may vary.

NAVY

Each applicant for Navy Tuition Assistance is required to complete a Tuition Assistance application - NAVEDTRA 1560/1 (2-74), which is to be forwarded through the student's Commanding Officer (for endorsement in accordance with BUPERS INST-1560. 10c). One copy of this form, signed by the student and the student's commander, must be forwarded to the college at registration. It is important that all Navy students submit their requests for tuition assistance promptly, since requests received after the end of the term in question are subject to disapproval. Students should understand that in the event tuition aid requests are disapproved by the Navy, they must personally pay Central Texas College - Continental and Overseas for the balance of the tuition.

MARINES

Each Marine Corps applicant for tuition assistance is required to complete a Request for Tuition Aid, which is to be forwarded through the student's Commanding Officer (for endorsement in accordance with Marine Corps Order 1560. 1A) to the agency having funding authority for the activity concerned. One copy of this form, signed by the student and the student's commander, must be forwarded to the College at registration.

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 Education Services Officer and/or Civilian Personnel Office.

One copy of the Approved Tuition assistance form must be provided to the Field Registrar at the time of registration.

RECORDS ACCESS

STUDENT RECORDS

The following information concerning student records maintained by Central Texas College is published in compliance with the Family Education Rights and Privacy Act of 1975 (PL 93-380).

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

Further information concerning access to student records is available through the Office of Student Services (see addresses in front of this catalogue).

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 terms, are as follows:

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

NOTES:

1. For terms other than eight (8) weeks, consult with the Field Registrar.
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 and/or the Education Center counselors for advice on the number of hours that should be taken.

ATTENDANCE POLICY

ABSENCES AND TARDINESS

Students are required to attend classes regularly. No unexcused absenses or "cuts" will be allowed. Students are responsible for all class work covered during an absence from class, even in cases when students were able to satisfy the instructor that the absence was unavoidable. Failure to attend class regularly may result in administrative withdrawal of a student from a class or from the College. This type of non-attendance withdrawal results in the student receiving a grade of "F".

Students are required to be in class on time.

The following specific rules apply to absences:

1. Each instructor shall keep a record of class attendance and shall determine when a student's absence is excused.

2. An administrative withdrawal may be initiated by the instructor after a student has accrued a total of ten unexcused absences. The instructor will note administrative withdrawals as the grade of "F" "Non-Attendance" on the roll and record book. Absences are computed on class hours of instruction. Example: A class meeting of 50 minutes equals 1 absence.

3. As a matter of policy, administrative excuses from classes are not provided for any reason. Regardless of the nature of 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 an official student 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 branch campuses or in combination with study at the Killeen Campus. At least twelve 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.

TO AMERICAN TECHNOLOGICAL UNIVERSITY

Through cooperative agreement between Central Texas College and American Technological University degree programs at the Baccalaureate and Masters level have been formulated to permit students to continue their education beyond the Associate Degree.

Course work taken at Central Texas College is transferrable to American Technological University. Courses taken at Central Texas College may be used to fulfill degree requirements at American Technological University with prior ATU approval, when courses apply to ATU degree requirements.

Students planning to continue their education beyond the Associate Degree level are encouraged to contact Departmental Faculty Advisors at ATU to plan their educational efforts and insure maximum degree applicability.

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 three 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. The second digit indicates the semester hour value of the course. The third digit indicates the recommended sequence in which the course is 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 approval from the course instructor prior to registering for the course. The final responsibility for taking advanced courses without completing the required prerequisites rests with the students.

HOW YOU RECEIVE GRADES

GRADE REPORTING

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

Grades are reported by two methods:

- Grade Reports are provided by faculty members at the end of each term. This method of reporting grades permits students to judge their performance at the end of each term.

- 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 19.

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
	**** W-Withdrawal	
	***** *N-No Credit*	

*Students who receive a "D" grade are advised not to enroll in the next course for which this course was a prerequisite.

**The grade of "F" may be given for either academic failure or non-attendance.

INCOMPLETE GRADES

***An incomplete grade may be given in those cases where, because of personal illness, death in the immediate family, or military orders, the student is unable to complete all the requirements for a 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 cannot be removed by the grade of "W". If a student elects to repeat the course, the individual must register, pay full 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.

OTHER GRADES

****If a student officially withdraws, a grade of "W" will be given provided the student's work is passing at the time of the official withdrawal.

*****The grade of "N" is reserved for use with 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.

GRADE POINT AVERAGING

A student's grade point average is calculated by dividing the total quality points by the total accumulated semester hours. Grades of "W" and "N" are not included in these calculations.

GRADES AND FINANCIAL AID

The student attending college with military tuition assistance, tuition 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. If the instructor finds that an error has been made, the instructor must submit the grade change notice to the Records Office. Students must bring this matter to the attention of the instructor involved no later than 180 days from the end of the course in order that a grade change may be considered. Administrative personnel of Central Texas College are not authorized to change an instructor's grade.

GRADES FOR REPEATED COURSES

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. The latter grade will be used in computing the final grade point average for graduation.

GRADE REQUIREMENTS

MINIMUM FOR SATISFACTORY PROGRESS

GRADUATION - requires an overall grade point average of 2.0.

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

IF YOU DON'T MAKE THE GRADE

PROBATION will be imposed after the first seven semester hours earned, when the student fails to maintain a 2.0 cumulative grade point average. Probation will be imposed during the next term in which the student registers. 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 completing requirements for return to class, listed below.

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

SUSPENSION will be imposed for students who have attempted eight or more semester hours if the student fails to achieve a 1.0 grade point average during the term. Suspended students may register for classes upon completion of requirements for return to class, listed below.

NOTE: Students who use VA benefits and who are suspended will be reported to the Veterans Administration. Current VA regulations require suspended students to receive counseling from the VA prior to reinstatement of VA benefits.

HOW YOU MAY RETURN

RETURN TO CLASS AFTER SUSPENSION

Students attending Central Texas College - Continental and Overseas who have been suspended will be permitted to re-enter the college on an individual basis. Students wishing to re-enter must:

1. Receive counseling and be recommended, in writing, by the Education Services Officer, for return to classes.

2. Complete a re-entry petition and send it with the Education Services Officer's recommendation to the Director of Student Services.

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

Students who have been suspended will be readmitted under PROBATION and must meet academic standards required while on probation.

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 Records Office. Students are responsible for all communication mailed to the last address on file.

ALCOHOL, ILLEGAL SUBSTANCES

Students are not to use intoxicating beverages, narcotics or non-prescription drugs on campus or while attending any school-sponsored activity. Any student on campus or at a school-sponsored function who is under the influence 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 immediately subject to expulsion from the College.

CLASS BEHAVIOR

Generally, students attending Central Texas College - Continental and Overseas 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 official College records, or who knowingly submit any falsified records to the College, are subject to disciplinary action which may include suspension and/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 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 and should be avoided:

1. *Plagiarism* - The taking of passages from writings 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, as well as using such information during examinations.

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

TEXTBOOKS

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

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.

In all orderly, democratic societies, citizens enjoy certain freedoms and privileges prescribed and protected by society for the benefit of all. Likewise, students at Central Texas College enjoy certain freedoms and privileges prescribed and protected for the maintenance of an orderly environment conducive to the fulfillment of the objectives of the institution. Organized societies operate by laws, regulations, ethical and moral codes of conduct, and mutual respect for the role, authority, and responsibility of each segment within the society. The College campus exists for the purpose of providing a place where students may acquire the knowledge, understanding, judgment, and maturity necessary to function as well-adjusted members of society. A college which fails to provide this atmosphere for the learning experience which will enable its students to achieve these qualities has failed both the society which provides for its existence and the students who have sought its services.

Central Texas College is dedicated and committed to fulfilling its mission in society. All students who enroll are expected to understand, respect and support the role and purposes of the College. To teach students to become mature, capable, and productive members of society, the College has planned and organized every aspect of its operation to provide for an atmosphere conducive to the learning experience. This is true of student organizations, student social functions, extracurricular activities, and even the disciplinary procedures.

It is the desire and wish of the College Board members, administrators, and faculty that the necessity for disciplinary procedures could be eliminated. Unfortunately, as in all societies, there are some who refuse to accept and understand the necessity for orderly and organized procedures and for regulations designed to protect the interests and welfare of the institution itself, as well as the majority of its members.

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.

DISCIPLINARY PROCEDURES - CONTINENTAL AND OVERSEAS

1. The Director of Student Services or designated College official will notify the student of the date and time for the proposed disciplinary hearing and furnish a complete statement of those charges to be considered.

2. If witnesses are to appear on behalf of the student, a list of names must be provided by the student to the Director of Student Services or designated College official at least 48 hours prior to the hearing.

3. An Administrative Disciplinary Committee will hear the case. The committee will be formed under the authority of the Dean, Continental and Overseas Services and will consist of the senior administrator of the branch campus, the Director of Student Services and the Chairman of the Department in which the student is studying. In the event these members are not available, or in locations where these positions are not authorized, the committee membership will be established by the senior administrator and the Dean, Continental and Overseas Services.

4. The Director of Student Services or designated College official will be required to present charges and information supporting the charges at the disciplinary hearing.

5 The student will be required to present her/his own information and witnesses and may review the information presented by the Director of Student Services or designated College official.

6. All hearings will be conducted on the College campus in "closed session" and shall be attended only by those persons authorized to be present. Members of any press or public communications media, and legal counsel, for the College and for the student, will be excluded from such a hearing. Information obtained in such hearings is considered to be privileged communication.

7. A transcript of the hearing will be obtained through use of a stenographer or tape recording.
8. The student will be permitted to examine the transcript of the hearing. The Director of Student Services or designated College official, and the student, will signify the accuracy of the transcript, when both are satisfied, by their respective signatures.

9. The Administrative Disciplinary Committee, at its discretion, may request that the Faculty-Student Advisory Committee be convened for the purpose of hearing the information in the case and recommending the disciplinary action to be taken. The Faculty-Student Advisory Committee is an ad hoc committee appointed by the Chancellor of the College. The Administrative Disciplinary Committee will make the final determination of the action to be taken and so notify the student in writing.

10. The student may appeal the decision by submitting a request to the Director of Student Services or designated College official indicating the reasons for the appeal. The request will then be submitted to the Dean, Continental and Overseas Services and the Deputy Chancellor for Educational Programs, who will act as the Appellate Committee. The Appellate Committee will decide whether to reconsider the charges and/or action taken and will notify the student, via the Director of Student Services or designated College official, of its decision.

DISCIPLINARY ACTION

Disciplinary action may be a 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 CTC TRANSCRIPTS

TRANSCRIPT ORDERING

A student's records are considered as confidential in nature. Convenient forms for ordering of transcripts are available from the Field Registration personnel at local Education Centers 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 $2.00 for all other transcripts must accompany the written request signed by the student.

Requests for transcripts should be addressed to the Branch Student Services Office serving students' location. Addresses are listed in 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.

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

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

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/Refund. The withdrawal form must be signed by the student, the instructor and the Education Service Officer to be considered official. Applications for Withdrawal/Refund will not be accepted after the close of business on the last working day before the last week of class.

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. Students who are administratively withdrawn from classes without officially withdrawing will receive an "F" grade and are ineligible for refunds.

Emergency withdrawal will be considered, when documentary evidence is presented. See section of Refund, Page 7.

CERTIFICATE & 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 degree* upon students who have completed all the general and specific requirements for graduation. Degrees are conferred three times each year, at the end of fall, spring, and summer respectively. It is the student's responsibility to make application for the degree. Each degree candidate must earn a minimum of 12 semester hours residence credit in Central Texas College classrooms.

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. 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.

WHAT REQUIREMENTS MUST BE MET FOR

ASSOCIATE IN ARTS DEGREE

Complete a minimum of sixty-one semester hours which must include:

1. Twelve semester hours of English.
2. Six semester hours of American History.
3. Six semester hours of American Government.
4. Fourteen semester hours of foreign language or eight semester hours of foreign language and eight semester hours of science.
5. Four semester hours of physical education.
6. Psychology 111.
7. A minimum of eighteen semester hours of sophomore level courses.
8. A minimum of twelve semester hours of credit earned anywhere within the Central Texas College system.
9. A minimum overall grade-point average of 2.0 ("C" average).
10. Meeting all other college requirements.

Transferability—See Note Below.

ASSOCIATE IN SCIENCE DEGREE

Complete a minimum of sixty-six semester hours which must include:

1. Twelve semester hours of English.
2. Six semester hours of American History.
3. Six semester hours of American Government.
4. Four courses of science.
5. Six semester hours of math.
6. Four semester hours of physical education.
7. Psychology 111.
8. A minimum of fifteen semester hours of sophomore level courses.
9. A minimum of twelve semester hours credit earned anywhere within the Central Texas College system.
10. A minimum overall grade-point average of 2.0 ("C" average).
11. Meeting all other college requirements.

NOTE: **Transferability**
Students are urged to consult the catalogue of the institution to which he or she may transfer for the detailed information concerning transfer. This catalogue should be used by the student as the basis for course planning. Courses taken in Developmental Studies may not be used to satisfy degree requirements.

ASSOCIATE IN GENERAL STUDIES DEGREE

Complete a minimum of sixty-one semester hours which must include:

1. Three semester hours of written communications and three semester hours of written or oral communications.
2. Three semester hours of mathematics or science.
3. Three semester hours of U.S. History or U.S. Government.
4. Psychology 111.
5. A minimum of 12 semester hours of sophomore level courses.
6. A minimum of 12 semester hours of credit earned anywhere within the Central Texas College system.
7. A minimum overall grade-point average of 2.0 ("C" average).
8. Meeting all other college requirements.

ASSOCIATE IN APPLIED SCIENCE DEGREE

The Associate in Applied Science Degree will be awarded to students who meet curricular requirements in specific vocational and clinical programs. The number of semester hour requirements vary according to the curriculum involved. A minimum overall grade-point average of 2.0 ("C") is required. A minimum of twelve semester hours must be completed in traditional study at Central Texas College.

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 or occupational/technical programs.

Students on academic suspension may be required to complete Developmental Studies courses to satisfy readmission/probation requirements. DEVELOPMENTAL STUDIES COURSES MAY NOT BE USED TO SATISFY DEGREE REQUIREMENTS. HOWEVER, DEVELOPMENTAL STUDIES COURSES ARE COMPUTED IN SEMESTER HOUR CREDIT, AND THE GRADE POINT AVERAGE EARNED WILL BE USED TO MEASURE SATISFACTORY PROGRESS.

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.

WHEN ARE CERTIFICATES & DEGREES AWARDED

CERTIFICATE/DEGREE AWARD

Central Texas College awards Certificates and Degrees in January, May, and August of each year.

HOW TO APPLY FOR CERTIFICATE/DEGREE

Request for Certificate/Degree with appropriate fees must reach the Director of Student Services Office:

For Certificate or Degree in January, by October 1st
For Certificate or Degree in May, by February 1st
For Certificate or Degree in August, by June 10th

NOTE: All course requirements must be complete prior to Certificate/Degree award. Requests for certificate/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.

WHEN IS COMMENCEMENT HELD

GRADUATION

Central Texas College holds one consolidated 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.

2. In any graduating class the students with the highest grade point average and who meet all 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 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.

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, CTC 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. USAFI and/or DANTES Courses and Subject Standardized Tests.

2. College Level Examination Program (CLEP) - both the General Examination and Subject Examination.

3. Institutional Course Challenge Examinations.

4. Credit for military schools attended as recommended by the American Council on Education and recognized by Central Texas College - ICEP.

5. Credit for Physical Education and Psychology 111 for military service.

6. MOS Training and Experience as recommended by the American Council on Education and recognized by Central Texas College - ICEP.

7. American College Testing Program - (ACT).

8. College Board Admission Testing Program.

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.

EVALUATION PROCEDURES

Curriculum plans outlining transfer and/or non-traditional credit, as well as remaining requirements are available from College or Education Center advisors upon student request.

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 six semester hours of traditional credit, earned through Central Texas College.

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.

SERVICEMEN'S OPPORTUNITY COLLEGE. Because of its efforts to serve the educational needs of servicemen, Central Texas College has been designated a Servicemen's Opportunity College by the American Association of Community and Junior Colleges.

SOC DEGREE COMPLETION AGREEMENT

Students can continue their Central Texas College degree programs regardless of location. Through the "credit bank" provisions of the Servicemen's Opportunity College, a student may study at any other accredited college and apply the work toward Central Texas College degree requirements, so long as 12 semester hours have been completed with Central Texas College, and the courses taken at other institutions satisfy the requirements of the Central Texas College degree program. The course work must be approved in advance by the Central Texas College SOC Advisor. Requests for SOC agreements should be addressed to the SOC Advisor, at the administrative office serving the student's location. Addresses are listed in the front of this catalogue.

Central Texas College - Continental & Overseas Services

Not all programs of study are available at all locations. Programs approved at the various locations are shown on the diagram below. Students interested in programs other than at locations shown should consult Education Services Officers and/or CTC Representatives.

Associate in Applied Science Degree Programs	Locations						
	Alaska	Europe	Far East	Ft. Lee	Ft. Leonard Wood	Subic Bay	Ft. Riley
Administrative Secretarial		●	●		●	●	
Air Conditioning & Refrigeration		●	●		●	●	
Automotive Body Repair	●	●	●		●		
Automotive Service & Repair	●	●	●		●	●	●
Aviation Maintenance Technology						●	
Career Pilot	●	●	●		●	●	●
Computer Science			●	●		●	
Computer Maintenance			●				
Consumer Electronics Servicing		●	●		●	●	
Diesel Mechanics		●	●		●	●	
Drafting & Design	●	●	●		●	●	
Electronics Technology		●	●		●	●	
Environmental Control		●	●		●		
Fire Protection Technology		●	●		●	●	
Food Service Management	●	●	●	●	●	●	●
Hotel/Motel Management		●	●	●	●	●	
Information Systems Specialist		●	●		●	●	
Law Enforcement Technology	●	●	●	●	●	●	
Maintenance Technology		●	●		●	●	●
Applied Management	●	●	●	●	●	●	●
Applied Management w/Technical Options*		●	●		●		
Office Management		●	●		●	●	
Petroleum Technology		●	●				
Photography	●	●	●		●	●	
Real Estate		●	●		●	●	
Small Gas Engine Repair	●	●	●		●	●	
Telecommunications		●			●		
Welding Technology	●	●	●		●	●	

*Applied Management/Technical Options: Automotive Tune-Up, Electronics Servicing, Food Service Operations, Home Entertainment Servicing, Residential Air Conditioning Servicing, Small Engine Servicing.

PROGRAMS OF STUDY

PROGRAM OFFERING

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

COURSE AVAILABILITY

Courses are offered to students at Military Education Centers which have sufficient student interest. However, not all courses are available, every term, due to the specialized nature of the course content, equipment requirement and/or faculty availability.

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

PREREQUISITE COURSES

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

Example: ET 132 - Technical Math II requires that ET 131 - Technical Math I be successfully completed prior to registering for ET 132.

Students who cannot schedule prerequisites must obtain prior approval to enroll in these courses from the instructor.

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.

ADMINISTRATIVE SECRETARIAL

A Two-Year Associate in Applied Science Degree

FIRST YEAR

First Semester Subject			Credit Hours	Second Semester Subject			Credit Hours
OA	131*	Beginning Shorthand	3	OA	132*	Intermediate Shorthand	3
OA	133*	Beginning Typewriting	3	OA	134*	Intermediate Typewriting	3
OA	135	Clerical Practice	3	OA	136*	Secretarial Practice	3
OA	139	Business Machines & Calculations	3	OA	138	Business Correspondence	3
ENGL	137	Business English	3	MATH	137	Business Mathematics	3
PSYC	111	Psychology of Personal & Social Development	1	PE		Physical Education	1
PE		Physical Education	1				16
			17				

SECOND YEAR

First Semester Subject			Credit Hours	Second Semester Subject			Credit Hours
OA	231*	Advanced Shorthand	3	OA	233*	Advanced Transcription	3
OA	232*	Advanced Typewriting	3	OA	235	Bookkeeping II	3
OA	234	Bookkeeping I	3	OA	237	Office Administration & Procedures	3
BUS	231	Principles of Economics I	3	CS	130	Computers & Society	3
CS	131	Beginning Keypunching	3	Elctv*		Approved Elective	3
			15				15
						TOTAL HOURS:	63

*Beginning or advanced levels of shorthand and typewriting will be determined by the student's previous training in these skills and/or by placement tests. Electives may be chosen by students who receive advanced standing in shorthand and typing. Courses may be chosen leading toward general, medical, or legal secretarial programs with approval from appropriate college official.

APPROVED ELECTIVES may be chosen from: BUS 131-Introduction to Business, BUS 232-Principles of Economics II, BIOL 141-General Biology, CHEM 140-Introductory Chemistry, LE 131-Introduction to Law Enforcement, LE 134-Criminal Procedures and Evidence, MGMT 135-Introduction to Management, MGMT 235-Business Law, OA 238-Office Occupations Internship, OA 239-Office Administration Internship, PE 235-Safety and First Aid, PSYC 231-Introduction to Psychology.

AIR CONDITIONING & REFRIGERATION

A Two-Year Associate in Applied Science Degree

FIRST YEAR

First Semester Subject			Credit Hours
AC	140	Air Conditioning & Refrigeration, Theory & Application	4
AC	141	Basic Electrical Circuits	4
WELD	146	Welding Fundamentals	4
MGMT	137A	Safety (OSHA)	3
PSYC	111	Psychology of Personal & Social Development	1
PE		Physical Education	1
			17

Second Semester Subject			Credit Hours
AC	142	Household Refrigeration	4
AC	143	Heating Systems	4
AC	144	Residential Air Conditioning	4
TMTH	130	Technical Math I	3
PE		Physical Education	1
			16

SECOND YEAR

First Semester Subject			Credit Hours
AC	241	Control Theory and Application	4
AC	242	Commercial Refrigeration Systems	4
Elctv*		Approved Elective	3
BUS	131	Introduction to Business	3
DD	131	Fundamentals of Drafting	3
			17

Second Semester Subject			Credit Hours
AC	243	Commercial Air Conditioning Systems	4
AT	145	Automotive Air Conditioning	4
ENGL	139	Communication Skills	3
Elctv*		Approved Elective	4
			15

TOTAL HOURS 65

*SESY 131, SESY 141, MGMT 136, MTNT 243, DD 134, or other elective approved by the appropriate college official.

APPLIED MANAGEMENT

A Two-Year Associate in Applied Science Degree

FIRST YEAR

First Semester Subject			Credit Hours
BUS	132	Consumer Economics	3
Elctv*		Computer Science Elective	3
MGMT	135	Introduction to Management	3
MGMT	136	Human Relations	3
ENGL	137	Business English	3
PSYC	111	Psychology of Personal & Social Development	1
PE		Physical Education	1
			17

Second Semester Subject			Credit Hours
BUS	236	Personal Finance	3
MATH	137	Business Mathematics	3
OA	138	Business Correspondence	3
SPCH	131	Fundamentals of Speech	3
Elctv*		Approved Elective	3
PE		Physical Education	1
			16

APPLIED MGMT. (Cont'd)

SECOND YEAR

First Semester Subject			Credit Hours	Second Semester Subject			Credit Hours
BUS	237	Principles of Accounting I	3	HIST	231	International Relations & U.S. Foreign Policy	3
MGMT	232	Personnel Management	3	MGMT	232A	Law & Legal Assistance	3
MGMT	239	Supervision	3	MGMT	239A	Personnel Counseling	3
SPCH	233	Business Speech	3	Elctv*		Approved Elective	3
Elctv*		Approved Elective	3	Elctv*		Approved Elective	3
PE		Physical Education	1	PE		Physical Education	1
			16				16

TOTAL HOURS 65

*BUS 131, BUS 238, MGMT 130A, MGMT 134, MGMT 134A, MGMT 137, MGMT 137A, MGMT 138R, MGMT 139, MGMT 231, MGMT 232B, MGMT 233R, MGMT 234, MGMT 235, MGMT 236, MGMT 237, MGMT 238R, MGMT 239B, OA 237, SOC 239, CS 130, CS 143.

APPLIED MANAGEMENT WITH TECHNICAL OPTIONS

A Two-Year Associate in Applied Science Degree

OPTION I. AUTOMOTIVE TUNE-UP

FIRST YEAR

First Semester Subject			Credit Hours	Second Semester Subject			Credit Hours
MGMT	135	Introduction to Management	3	MGMT	134	Work Organization	3
MGMT	137A	Safety (OSHA)	3	MGMT	136	Human Relations	3
AT	141A	Internal Combustion Engine Fundamentals	4	AT	144	Fuel Systems	4
AT	142	Automotive Electrical Systems	4	AT	146	Engine Diagnosis & Emission Control	4
BUS	131	Introduction to Business	3	MATH	137	Business Mathematics	3
PE		Physical Education	1	PE		Physical Education	1
			18				18

SECOND YEAR

First Semester Subject			Credit Hours	Second Semester Subject			Credit Hours
MGMT	137	Insurance	3	MGMT	139	Income Tax	3
ENGL	139	Communications Skills	3	MGMT	235	Business Law I	3
OA	234	Bookkeeping I	3	AT	242	Shop Organization & Management	4
SPCH	233	Business Speech	3	OA	235	Bookkeeping II	3
Elctv*		Approved Elective	3-4	Elctv*		Approved Elective	3-4
PE		Physical Education	1	PE		Physical Education	1
			16-17				17-18

TOTAL HOURS 69-71

*Approved Electives: BUS 231, BUS 232, BUS 236, ET 131, MATH 130, MGMT 230, MGMT 231, MGMT 236, MTNT 141, MTNT 142, MTNT 143, MTNT 144, MTNT 243, MTNT 244, OA 133, OA 134, OA 138, OA 139, TMTH 130.

APPLIED MGMT./TECH OPTIONS (cont'd)

OPTION 2. ELECTRONICS SERVICING

FIRST YEAR

First Semester Subject			Credit Hours	Second Semester Subject			Credit Hours
MGMT	135	Introduction to Management	3	MGMT	134	Work Organization	3
MGMT	137A	Safety (OSHA)	3	MGMT	136	Human Relations	3
ET	151	Basic Electricity for Electronics	5	ET	135	Assembly Methods	3
BUS	131	Introduction to Business	3	ET	152	Intermediate Electricity for Electronics	5
PE		Physical Education	1	ENGL	139	Communications Skills	3
			15	PE		Physical Education	1
							18

SECOND YEAR

First Semester Subject			Credit Hours	Second Semester Subject			Credit Hours
MGMT	137	Insurance	3	MGMT	139	Income Tax	3
ET	143	Introduction to Electron Devices	4	MGMT	235	Business Law I	3
ET	153	Advanced Electricity for Electronics	5	ET	144	Basic Test Equipment	4
OA	234	Bookkeeping I	3	OA	235	Bookkeeping II	3
SPCH	233	Business Speech	3	Elctv*		Approved Elective	3-4
PE		*Physical Education*	1	PE		Physical Education	1
			19				17-18

TOTAL HOURS 69-70

*Approved Electives: BUS 231, BUS 232, BUS 236, ET 131, MATH 130, MGMT 230, MGMT 231, MGMT 236, MTNT 141, MTNT 142, MTNT 143, MTNT 144, MTNT 243, MTNT 244, OA 133, OA 134, OA 138, OA 139, TMTH 130.

OPTION 3. FOOD SERVICE OPERATIONS

FIRST YEAR

First Semester Subject			Credit Hours	Second Semester Subject			Credit Hours
MGMT	135	Introduction to Management	3	MGMT	134	Work Organization	3
MGMT	137A	Safety (OSHA)	3	MGMT	136	Human Relations	3
HM	130	Food & Beverage Management	3	RMGT	132	Nutrition	3
RMGT	141	Food Preparation & Serving	4	RMGT	133	Sanitation & Safety	3
BUS	131	Introduction to Business	3	MATH	137	Business Mathematics	3
PE		Physical Education	1	PE		Physical Education	1
			17				16

APPLIED MGMT./TECH OPTION 3 (Cont'd)

SECOND YEAR

First Semester Subject		Credit Hours	Second Semester Subject		Credit Hours
MGMT 137	Insurance	3	MGMT 139	Income Tax	3
RMGT 135	Food Purchasing	3	MGMT 235	Business Law I	3
ENGL 139	Communications Skills	3	RMGT 136	Menu Planning	3
OA 234	Bookkeeping I	3	OA 235	Bookkeeping II	3
SPCH 233	Business Speech	3	Elctv*	Approved Elective	3-4
PE	Physical Education	1	PE	Physical Education	1
		16			16-17

TOTAL HOURS 65-66

*Approved Electives: BUS 231, BUS 232, BUS 236, ET 131, MATH 130, MGMT 230, MGMT 231, MGMT 236, MTNT 141, MTNT 142, MTNT 143, MTNT 144, MTNT 243, MTNT 244, OA 133, OA 134, OA 138, OA 139, TMTH 130.

OPTION 4. HOME ENTERTAINMENT SERVICING

FIRST YEAR

First Semester Subject		Credit Hours	Second Semester Subject		Credit Hours
MGMT 135	Introduction to Management	3	MGMT 134	Work Organization	3
MGMT 137A	Safety (OSHA)	3	MGMT 136	Human Relations	3
TV 141	Home Music Systems	4	ET 141	Direct Current Circuits	4
TV 145	Electronic Communications Fundamentals	4	ET 142	Alternating Current Circuits	4
BUS 131	Introduction to Business	3	MATH 137	Business Mathematics	3
PE	Physical Education	1	PE	Physical Education	1
		18			18

SECOND YEAR

First Semester Subject		Credit Hours	Second Semester Subject		Credit Hours
MGMT 137	Insurance	3	MGMT 139	Income Tax	3
TV 246	Sound Systems	4	MGMT 235	Business Law I	3
ENGL 139	Communications Skills	3	TV 149	Television Theory & Servicing	4
OA 234	Bookkeeping I	3	OA 235	Bookkeeping II	3
SPCH 233	Business Speech	3	Elctv*	Approved Elective	3-4
PE	Physical Education	1	PE	Physical Education	1
		17			17-18

TOTAL HOURS 70-71

*Approved Electives: BUS 231, BUS 232, BUS 236, ET 131, MATH 130, MGMT 230, MGMT 231, MGMT 236, MTNT 141, MTNT 142, MTNT 143, MTNT 144, MTNT 243, MTNT 244, OA 133, OA 134, OA 138, OA 139, TMTH 130.

APPLIED MGMT./TECH. OPTIONS (cont'd)

OPTION 5. RESIDENTIAL AIR CONDITIONING SERVICING

FIRST YEAR

First Semester Subject			Credit Hours	Second Semester Subject			Credit Hours
MGMT	135	Introduction to Management	3	MGMT	134	Work Organization	3
MGMT	137A	Safety (OSHA)	3	MGMT	136	Human Relations	3
AC	140	Air Conditioning & Refrigeration Theory & Application	4	AC	142	Household Refrigeration Systems	4
AC	141	Basic Electrical Circuits	4	AC	143	Heating Systems	4
BUS	131	Introduction to Business	3	MATH	137	Business Mathematics	3
PE		Physical Education	1	PE		Physical Education	1
			18				18

SECOND YEAR

First Semester Subject			Credit Hours	Second Semester Subject			Credit Hours
MGMT	137	Insurance	3	MGMT	139	Income Tax	3
ENGL	139	Communications Skills	3	MGMT	235	Business Law I	3
OA	234	Bookkeeping I	3	AC	144	Residential Air Conditioning	4
SPCH	233	Business Speech	3	OA	235	Bookkeeping II	3
Elctv*		Approved Elective	3-4	Elctv*		Approved Elective	3-4
PE		Physical Education	1	PE		Physical Education	1
			16-17				17-18

TOTAL HOURS 69-71

*Approved Electives: BUS 231, BUS 232, BUS 236, ET 131, MATH 130, MGMT 230, MGMT 231, MGMT 236, MTNT 141, MTNT 142, MTNT 143, MTNT 144, MTNT 243, MTNT 244, OA, 134, OA 138, OA 133, OA 139, TMTH 130.

OPTION 6. SMALL ENGINE SERVICING

FIRST YEAR

First Semester Subject			Credit Hours	Second Semester Subject			Credit Hours
MGMT	135	Introduction to Management	3	MGMT	134	Work Organization	3
MGMT	137A	Safety (OSHA)	3	MGMT	136	Human Relations	3
SGER	141	Gas Engine Fundamentals	4	SGER	143	Shop Practices	4
SGER	142	Ignition Systems	4	SGER	144	Carburetion, Fuel & Lubricating Systems	4
BUS	131	Introduction to Business	3	MATH	137	Business Mathematics	3
PE		Physical Education	1	PE		Physical Education	1
			18				18

APPLIED MGMT./TECH OPTION 6 (Cont'd)

SECOND YEAR

First Semester Subject			Credit Hours	Second Semester Subject			Credit Hours
MGMT	137	Insurance	3	MGMT	139	Income Tax	3
SGER	145	Motorcycle Engine Service	4	MGMT	235	Business Law I	3
ENGL	139	Communications Skills	3	SGER	146	Lawn Care Equipment	4
OA	234	Bookkeeping I	3	OA	235	Bookkeeping II	3
SPCH	233	Business Speech	3	Elctv*		Approved Elective	4
PE		Physical Education	1	PE		Physical Education	1
			17				18

TOTAL HOURS 71

*Approved Electives: BUS 131, BUS 232, BUS 236, ET 131, MATH 130, MGMT 230, MGMT 231, MGMT 236, MTNT 141, MTNT 142, MTNT 143, MTNT 144, MTNT 243, MTNT 244, OA 133, OA 134, OA 138, OA 139, TMTH 130.

AUTOMOTIVE BODY REPAIR

A Two-Year Associate in Applied Science Degree

FIRST YEAR

First Semester Subject			Credit Hours	Second Semester Subject			Credit Hours
AB	141	Shop Practices	4	AB	144	Frame Straightening	4
AB	142	Body and Frame Construction	4	AB	145	Body Finishing	4
AB	143	Roughing & Alignment	4	AB	146	Painting	4
WELD	146	Welding Fundamentals	4	AB	147	Body Repair	4
PSYC	111	Psychology of Personal & Social Development	1				16
			17				

SECOND YEAR

First Semester Subject			Credit Hours	Second Semester Subject			Credit Hours
AB	241	Upholstery & Vinyl Top Repair	4	AB	242	Glass, Electrical & Power Accessory Serv.	4
AT	143	Brakes & Steering	4	AB	243	Management & Estimating	4
ENGL	139	Communications Skills	3	AT	145	Automotive Air Conditioning	4
TMTH	130	Technical Mathematic I	3	ENGL	239	Technical Writing	3
			14				15

TOTAL HOURS 62

AUTOMOTIVE SERVICE & REPAIR

A Two-Year Associate in Applied Science Degree

FIRST YEAR

First Semester Subject			Credit Hours	Second Semester Subject			Credit Hours
AT	140	Shop Practices & Safety	4	AT	141B	Internal Combustion Engine Service	4
AT	141A	Internal Combustion Engine Fundamentals	4	AT	144	Fuel Systems	4
AT	142	Automotive Electrical System	4	AT	147	Brake Systems	4
TMTH	130	Technical Mathematics I	3	Elctv*		Approved Elective	3-4
PSYC	111	Psychology of Personal & Social Development	1	PE		Physical Education	1
PE		Physical Education	1				16-17
			17				

SECOND YEAR

First Semester Subject			Credit Hours	Second Semester Subject			Credit Hours
AT	148	Steering & Suspension Systems	4	AT	146	Engine Diagnosis & Emission Control	4
AT	241A	Standard Transmissions & Differentials	4	AT	241B	Automatic Transmissions	4
AT	149	Ignition, Starting & Charging Systems	4	AT	145	Automotive Air Conditioning	4
Elctv*		Approved Elective	3-4	Elctv**		Elective	4
ENGL	139	Communications Skills	3				16
			18-19				

TOTAL HOURS 67-69

*WELD 141, WELD 146, MGMT 135, or other electives approved by appropriate college official.

**DIEM 141, DIEM 241, DIEM 242, or AT 242.

AVIATION MAINTENANCE TECHNOLOGY

A Two-Year Associate in Applied Science Degree

FIRST YEAR

First Semester Subject		Credit Hours
AVMT 131	Maintenance Publications	3
AVMT 132	Weight & Balance	3
AVMT 141	Basic Aircraft Electricity	4
ENGL 139	Communications Skills	3
Elctv	Approved Mathematics Elective	3
PSYC 111	Psychology of Personal & Social Development	1
PE	Physical Education	1
		18

Second Semester Subject		Credit Hours
AVMT 133	Aircraft Drafting	3
AVMT 134	Airframe Materials & Corrosion Control	3
AVMT 241	Aircraft Finishes	4
AVMT 251	Sheet Metal Structures	5
Elctv	Approved Elective	3
PE	Physical Education	1
		19

Summer Semester Subject		
AVMT 243	Airframe Inspection	4
AVMT 244	Aircraft Fuel Systems	4
AVMT 252	Hydraulics & Pneumatics	5
		13

SECOND YEAR

First Semester Subject		Credit Hours
AVMT 245	Aircraft Instruments Systems	4
AVMT 246	Engine Electrical Systems	4
AVMT 253	Aircraft Electrical Systems	5
AVMT 254	Powerplant Maintenance	5
		18

Second Semester Subject		Credit Hours
AVMT 247	Engine Lubrication Systems	4
AVMT 248	Engine Cooling Systems	4
AVMT 255	Engine Fuel System	5
AVMT 256	Aircraft Propellers	5
		18

TOTAL HOURS 86

CAREER PILOT

A Two-Year Associate in Applied Science Degree

FIRST YEAR

First Semester Subject		Credit Hours
CP 131	Aircraft Science	3
CP 133	Air Navigation	3
CP 130	Basic Flight	3
ENG*	Approved Communication Elective	3
MATH	Approved Mathematics Elective	3
PSYC 111	Psychology of Personal & & Social Development	1
PE	Physical Education	1
		17

Second Semester Subject		Credit Hours
CP 132	Propulsion Systems	3
CP 134	Intermediate Flight	3
CP 232	Meteorology	3
CP 135	Advanced Air Navigation	3
ENG*	Appv'd Communications Elective	3
PE	Physical Education	1
		16

CAREER PILOT (Cont'd)

SECOND YEAR

First Semester Subject			Credit Hours	Second Semester Subject			Credit Hours
CP	231	Aerodyamics	3	CP	233	Air Transportation	3
CP	234*	Advanced Flight	3	CP	237	Aviation Radio Systems	3
CP	230	Commercial Aviation	3	CP	235*	Commercial Flight	3
Elctv*		Approved Elective	3	Elctv*		Approved Elective	3
PHY	140	Survey of Physics	4	Elctv*		Approved Elective	3
PE		Physical Education	1	PE		Physical Education	1
			17				16

*Approved Communication Electives: Students in a four-year program should take ENGL 131 the first semester and ENGL 132 the second semester. Students in an Associate Degree Program may take ENGL 131, ENGL 139, ENGL 239, ENGL 132 (if qualified), or SPCH 131.

*Approved electives are: Career Pilot, Business Management, Social Science, Mathematics or other courses approved by appropriate college official.

*CP 235A and CP 235B are substitutes for CP 234 and CP 235 for Rotary Wing Transition students.

COMPUTER MAINTENANCE

A Two-Year Associate in Applied Science Degree

FIRST YEAR

First Semester Subject			Credit Hours	Second Semester Subject			Credit Hours
CM	140	Introduction to Computers & Computing	4	CM	142	Core & Memory Circuits	4
CM	141	Digital Circuits	4	CM	143	Computer Systems & Operational Programming	4
ET	131	Technical Mathematics I	3	ET	132	Technical Mathematics II	3
ET	135	Assembly Methods	3	ET	142	Alternating Current Circuits	4
ET	141	Direct Current Circuits	4	ET	143	Introduction to Electron Devices	4
PSYC	111	Psychology of Personal & Social Development	1	PE		Physical Education	1
PE		Physical Education	1				
			20				20

SECOND YEAR

First Semester Subject			Credit Hours	Second Semester Subject			Credit Hours
CM	247	Computer Circuit Analysis	4	CM	246	Microprocessors & Microcomputers	4
CM	248	Peripherals & Interfacing	4	CM	249	Computer System: Diagnosis & Maintenance	4
ET	144	Basic Test Equipment	4	ENGR	131	Engineering Graphics	3
ET	244	Solid-State Devices	4	ET	243	Special Intensive Study	4
ENGL	139	Communications Skills	3	ENGL	239	Technical Writing	3
			19				18

TOTAL HOURS 77

COMPUTER SCIENCE

A Two-Year Associate in Applied Science Degree

FIRST YEAR

First Semester Subject			Credit Hours
CS	143	Introduction to Computer Science & Computer Programming	4
CS	135	Introduction to Systems Analysis	3
Elctv*		Approved Elective	3
ENGL	131	Composition & Rhetoric I	3
MATH	**	Mathematics Option	3
PSYC	111	Psychology of Personal & Social Development	1
PE		Physical Education	1
			18

Second Semester Subject			Credit Hours
CS	138	COBOL Programming	3
CS	139	Computer Organization	3
CS	138A	RPG Programming or Programming Elective	3
ENGL	132	Composition & Rhetoric II	3
MATH	**	Mathematics Option	3
PE		Physical Education	1
			16

SECOND YEAR

First Semester Subject			Credit Hours
CS	234	Advanced COBOL	3
CS	243	Assembler Language Programming	4
Elctv*		Approved Elective	3
BUS	237	Principles of Accounting I	3
GOVT	231	State & Federal Government I	3
PE		Physical Education	1
			17

Second Semester Subject			Credit Hours
CS	239A	Introduction to Operating Systems & Job Control Language	3
CS	238	Systems Analysis	3
Elctv*		Approved Elective	3
BUS	238	Principles of Accounting II	3
GOVT	232	State & Federal Government II	3
PE		Physical Education	1
			16
		TOTAL HOURS	67

*Electives must be approved by appropriate college official.

**Students without a strong mathematics background should enroll in MATH 131 and MATH 135. All other students should take MATH 135 and MATH 136 or MATH 138.

CONSUMER ELECTRONICS SERVICING

A Two-Year Associate in Applied Science Degree

FIRST YEAR

First Semester Subject			Credit Hours	Second Semester Subject			Credit Hours
TV	141	Home Music System	4	ET	142	Alternating Current Circuits	4
ET	141	Direct Current Circuits	4	ET	143	Introduction to Electron Devices	4
ET	135	Assembly Methods	3	TV	145	Electronics Communications Fundamentals	4
ET	144	Basic Test Equipment	4	BUS	131	Introduction to Business	3
ENGL	137	Business English	3	PE		Physical Education	1
PSYC	111	Psychology of Personal & Social Development	1				16
PE		Physical Education	1				
			20				

SECOND YEAR

First Semester Subject			Credit Hours	Second Semester Subject			Credit Hours
TV	149	Television Theory and Servicing	4	TV	235	TV Shop Practices	3
TV	242	Radio Systems	4	TV	246	Sound Systems	4
TV	248	CATV and MATV Systems	4	TV	249	Advanced TV Servicing	4
CM	141	Digital Circuits	4	Elctv*		Approved Elective	4
PE		Physical Education	1	ENGL	239	Technical Writing	3
			17	PE		Physical Education	1
							19

TOTAL HOURS 72

*Electives must be approved by appropriate college official.

DIESEL MECHANICS

A Two-Year Associate in Applied Science Degree

FIRST YEAR

First Semester Subject			Credit Hours	Second Semester Subject			Credit Hours
AT	140	Shop Practices & Safety	4	DIEM	141	Fuel Injection Systems	4
AT	141A	Internal Combustion Engine Fundamentals	4	AT	141B	Internal Combustion Engine Service	4
AT	147	Brake Systems	4	AT	144	Fuel Systems	4
TMTH	130	Technical Mathematics I	3	AT	241A	Standard Transmission & Differential	4
PSYC	111	Psychology of Personal and Social Development	1	PE		Physical Education	1
PE		Physical Education	1				17
			17				

DIESEL MECHANICS (Cont'd)

SECOND YEAR

First Semester Subject			Credit Hours
DIEM	241	Diesel Engine Auxiliary Systems	4
AT	148	Steering & Suspension Systems	4
AT	149	Ignition, Starting & Charging Systems	4
Elctv*		Approved Elective	3-4
PE		Physical Education	1
			16-17

Second Semester Subject			Credit Hours
DIEM	242	Diesel Engine Service & Repair	4
AT	146	Engine Diagnosis & Emission Control	4
ENGL	139	Communications Skills	3
Elctv*		Approved Elective	3-4
PE		Physical Education	1
			16-17

TOTAL HOURS 66-68

*AT 142, AT 145, AT 241B, MGMT 135, MGMT 134, WELD 141, WELD 146, or other elective approved by the appropriate college official.

DRAFTING & DESIGN

A Two-Year Associate in Applied Science Degree

FIRST YEAR

First Semester Subject			Credit Hours
ENGR	131	Engineering Graphics	3
DD	141	Pictorial Drafting	4
DD	142	Technical Illustrations	4
TMTH	130	Technical Mathematics I	3
PSYC	111	Psychology of Personal and Social Development	1
PE		Physical Education	1
			16

Second Semester Subject			Credit Hours
DD	143	Machine Drawing	4
ENGR	132	Descriptive Geometry	3
DD	144	Structural Drafting	4
Elctv*		Approved Communication Elective	3
TMTH	131	Technical Mathematics II	3
PE		Physical Education	1
			18

SECOND YEAR

First Semester Subject			Credit Hours
DD	241	Pipe Drafting	4
DD	242	Architectural Drafting	4
DD	243	Electronic Drafting	4
Elctv*		Approved Elective	3-4
			15-16

Second Semester Subject			Credit Hours
DD	245	Topographic Drafting	4
DD	246	Industrial Practice	4
DD	248	Principles of Design	4
Elctv*		Approved Elective	3-4
			15-16

TOTAL HOURS 64-66

*Approved communication electives: ENGL 131, 132, 137, 139, or 239.

Other approved electives: DD 130, DD 131, DD 134, MATH 131, MATH 132, MATH 133, ART 131, OP 131, TV 145, or other elective approved by appropriate college official.

ELECTRONICS TECHNOLOGY

A Two-Year Associate in Applied Science Degree

FIRST YEAR

First Semester Subject			Credit Hours	Second Semester Subject			Credit Hours
ET	131	Technical Mathematics I	3	ET	132	Technical Mathematics II	3
ET	135	Assembly Methods	3	ET	142	Alternating Current Circuits	4
ET	141	Direct Current Circuits	4	ET	143	Introduction to Electron Devices	4
ET	144	Basic Test Equipment	4	CM	141	Digital Circuits	4
ENGR	131	Engineering Graphics	3	ENGL	137	Business English	3
PSYC	111	Psychology of Personal & Social Development	1	PE		Physical Education	1
PE		Physical Education	1				
			19				19

SECOND YEAR

First Semester Subject			Credit Hours	Second Semester Subject			Credit Hours
ET	242	Advanced Test Equipment	4	ET	234	Broadcast-Equipment Maintenance	3
ET	244	Solid State Devices	4	ET	243	Special Intensive Study	4
ET	245	Communications Circuits I	4	ET	247	Communications Circuits II	4
ENGL	239	Technical Writing	3	ET	249	Electronic Systems Troubleshooting	4
PE		Physical Education	1	Elctv*		Approved Elective	4
			16	PE		Physical Education	1
							20

*Electives must be approved by appropriate college official.

TOTAL HOURS 74

ENVIRONMENTAL CONTROL

A Two-Year Associate in Applied Science Degree

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FIRST YEAR

First Semester Subject			Credit Hours	Second Semester Subject			Credit Hours
EC	131	Water & Waste Water Technology	3	EC	132	Aquatic Biology	3
~~CHEM~~	~~141~~	~~General Chemistry I~~	~~4~~	EC	133	Solid Waste Management	3
ENGL	131	Composition & Rhetoric I	3	~~CHEM~~	~~142~~	~~General Chemistry II~~	~~4~~
SPCH	131	Fundamentals of Speech	3	ENGL	239	Technical Writing	3
PE		Physical Education	1	MATH	133	Trigonometry	3
			14	PE		Physical Education	1
							17

ENVIRONMENTAL CONTROL (Cont'd)

SECOND YEAR

First Semester Subject			Credit Hours	Second Semester Subject			Credit Hours
EC	231	Air Pollution	3	EC	233	Instrumentation	3
EC	232	Industrial Waste Control	3	EC	234	Water Quality Control	3
EC	221	Pollution Abatement Seminar	2	EC	222	Pollution Abatement Seminar	2
BIOL	144	Microbiology	4	EC	243	Water & Waste Water Chemistry	4
PHY	141	College Physics I	4	BUS	231	Principles of Economics I	3
PE		Physical Education	1	PE		Physical Education	1
			17				16
						TOTAL HOURS	64

FIRE PROTECTION TECHNOLOGY

A Two-Year Associate in Applied Science Degree

FIRST YEAR

First Semester Subject			Credit Hours	Second Semester Subject			Credit Hours
FPRT	131	Fundamentals of Fire Protection	3	FPRT	132	Fire Prevention	3
FPRT	133	Fire Protection Systems	3	FPRT	135	Fire Administration II	3
FPRT	134	Fire Administration I	3	FPRT	138*	Fire Service Chemistry II	3
FPRT	137*	Fire Service Chemistry I	3	MATH	137	Business Mathematics	3
ENGL	139	Communications Skills	3	SPCH	131	Fundamentals of Speech	3
PSYC	111	Psychology of Personal & Social Development	1	PE		Physical Education	1
PE		Physical Education	1				16
			17				

SECOND YEAR

First Semester Subject			Credit Hours	Second Semester Subject			Credit Hours
FPRT	231	Industrial Fire Protection I	3	FPRT	232	Industrial Fire Protection II	3
FPRT	233	Hazardous Material I	3	FPRT	236	Fire & Arson Investigation	3
FPRT	235	Building Codes & Construction	3	FPRT	244	Fire Fighting Tactics and Strategy	4
ENGL	239	Technical Writing	3	Elctv**		Fire Protection Technology Elective	3
GOVT	239	Introduction to Political Science	3	Elctv***		Approved Elective	3-4
PE		Physical Education	1	PE		Physical Education	1
			16				17-18
						TOTAL HOURS	66-67

*CHEM 141 & CHEM 142 may be substituted for FPRT 137 & FPRT 138.

**Fire Protection Technology Electives: FPRT 238, FPRT 239.

***EMT 141 or other elective approved by appropriate college official.

FOOD SERVICE MANAGEMENT

A Two-Year Associate in Applied Science Degree

FIRST YEAR

First Semester Subject		Credit Hours	Second Semester Subject		Credit Hours
RMGT 141	Food Preparation & Serving	4	MGMT 134	Work Organization	3
RGMT 132	Nutrition	3	RMGT 135	Food Purchasing	3
RGMT 133	Sanitation & Safety	3	RMGT 136	Menu Planning	3
MGMT 135	Introduction to Management	3	MATH 137	Business Mathematics	3
ENGL 139	Communication Skills	3	Elctv*	Approved Elective	3
PSYC 111	Psychology of Personal & Social Development	1	PE	Physical Education	1
PE	Physical Education	1			16
		18			

SECOND YEAR

First Semester Subject		Credit Hours	Second Semester Subject		Credit Hours
RMGT 234	Marketing & Sales Promotion	3	RMGT 233	Cafeteria Management	3
RMGT 237	Hospitality Industry Law	3	RMGT 235	Financial Management	3
RMGT 137	Meat Science	3	RMGT 236	Layout and Design	3
MGMT 232	Personnel Management	3	MGMT 239	Supervision	3
MGMT 234	Labor Management Relations	3	Elctv*	Approved Elective	2-4
PE	Physical Education	1	PE	Physical Education	1
		16			15-17

TOTAL HOURS 65-67

*Restaurant Management courses, HM 130, MGMT 136, or others approved by appropriate college official.

HOTEL-MOTEL MANAGEMENT

A Two-Year Associate in Applied Science Degree

FIRST YEAR

First Semester Subject		Credit Hours	Second Semester Subject		Credit Hours
HM 132	Hotel/Motel Organization and Administration	3	HM 130	Food and Beverage Management	3
RMGT 141	Food Preparation & Serving	4	HM 133	Front Office Procedures	3
MGMT 135	Introduction to Management	3	HM 134	Hotel/Motel Sales Promotion	3
ENGL 139	Communications Skills	3	RMGT 133	Sanitation and Safety	3
MATH 137	Business Mathematics	3	RMGT 135	Food Purchasing	3
PE	Physical Education	1	PE	Physical Education	1
PSYC 111	Psychology of Personal & Social Development	1			16
		18			

HOTEL-MOTEL MANAGEMENT (cont'd)

SECOND YEAR

First Semester Subject			Credit Hours	Second Semester Subject			Credit Hours
HM	232	Supervisory Housekeeping	3	HM	231	Hotel/Motel Law	3
Elctv*		Approved Elective	3	HM	234	Hotel/Motel Financial Management	3
MGMT	232	Personnel Management	3	Elctv*		Approved Elective	3
Elctv*		Approved Elective	3	RMGT	233	Cafeteria Management	3
BUS	237	Principles of Accounting I	3	BUS	238	Principles of Accounting II	3
			15				15

TOTAL HOURS 64

*HM 235, HM 236, RMGT 232, RMGT 233, or elective approved by appropriate college official.

INFORMATION SYSTEMS SPECIALIST

A Two-Year Associate in Applied Science Degree

FIRST YEAR

First Semester Subject			Credit Hours	Second Semester			Credit Hours
CS	130A	Introduction to Computer Concepts	3	CS	238	Systems Analysis	3
CS	135	Introduction to Systems Analysis	3	MGMT	135	Introduction to Management	3
BUS	131	Introduction to Business	3	MGMT	235	Business Law I	3
ENGL	131	Composition & Rhetoric I	3	BUS	237	Principles of Accounting I	3
MATH*		Approved Mathematics	3	MATH*		Approved Mathematics	3
			15				15

SECOND YEAR

First Semester Subject			Credit Hours	Second Semester Subject			Credit Hours
CS	244	MIS and Information Storage and Retrieval	4	CS	245	Data Information Structures	4
MGMT	136	Human Relations	3	MGMT	232	Personnel Management	3
BUS	238	Principles of Accounting II	3	BUS	235	Introduction to Managerial Accounting	3
ENGL	239	Technical Writing	3	Elctv*		Approved Elective	3-4
MATH	138	Elementary Statistics	3	Elctv*		Approved Elective	3-4
			16				16-18

TOTAL HOURS 62-64

*Approved Mathematics: MATH 131, MATH 132, or MATH 135, MATH 136.

*Approved Elective: CS 136, CS 138, CS 138A, CS 143, MGMT 234, MGMT 239, PSYC 231, or other courses approved by appropriate college official.

LAW ENFORCEMENT TECHNOLOGY

FIRST YEAR

First Semester Subject			Credit Hours	Second Semester Subject			Credit Hours
LE	131	Introduction to Law Enforcement	3	LE	137	Police-Community Relations	3
LE	132	Criminal Investigation	3	LE	138	Police Role in Crime and Delinquency	3
LE	133	Legal Aspects of Law Enforcement	3	LE	139	Police Organization and Administration	3
LE	134	Criminal Procedures and Evidence	3	ENGL	132	Composition & Rhetoric II	3
ENGL	131	Composition & Rhetoric I	3	SOC	231	Introduction to Sociology	3
PSYC	111	Psychology of Personal & Social Development	1	LE	121	Defensive Tactics	2
PE	218	Physical Conditioning	1				17
			17				

SECOND YEAR

First Semester Subject			Credit Hours	Second Semester Subject			Credit Hours
*LE		Law Enforcement Elective	3	**LE		Law Enforcement Elective	3
LE	234	Juvenile Procedures	3	LE	238	Patrol Administration	3
GOVT	231 or 232	State & Federal Government	3	SPCH	233	Business Speech	3
PSYC	231	Introduction to Psychology	3	*Elctv		Approved Elective	3
*Elctv		Approved Elective	3	*Elctv		Approved Elective	3
LE	221	Firearms	2				15
			17			TOTAL HOURS	66

*Students concentrating on PATROL/TRAFFIC Option should select from LE 135, LE 233, LE 236, and/or LE 239.
Students concentrating on CORRECTIONAL/COURTS Option should select from LE 136, LE 231, LE237, and or LE 239A.

***EMT 141-Emergency Medical Technician, Social Science courses or other Law Enforcement courses* with approval of appropriate college official.

MAINTENANCE TECHNOLOGY

A Two-Year Associate in Applied Science Degree

FIRST YEAR

First Semester Subject		Credit Hours
MTNT 141	Carpentry I	4
MTNT 143	Electricity I	4
AC 140	Air Conditioning & Refrigeration Theory & Application	4
MGMT 137A	Safety (OSHA)	3
MATH 137	Business Mathematics	3
PSYC 111	Psychology of Personal & Social Development	1
PE	Physical Education	1
		20

Second Semester Subject		Credit Hours
MTNT 142	Carpentry II	4
MTNT 144	Electricity II	4
AC 141	Basic Electrical Circuits	4
DD 130	Blueprint Reading	3
Elctv	Approved Small Gas Engine Repair Elective	4
PE	Physical Education	1
		20

SECOND YEAR

First Semester Subject		Credit Hours
MTNT 241	Masonry I	4
MTNT 243	Plumbing I	4
AC 142	Household Refrigeration Systems	4
WELD 141	Beginning Gas Welding	4
ENGL 139	Communications Skills	3
		19

Second Semester Subject		Credit Hours
MTNT 242	Masonry II	4
MTNT 244	Plumbing II	4
MTNT 245	Painting & Refinishing	4
AC 143	Heating Systems	4
Elctv	Approved Elective	3
		19

TOTAL HOURS 78

OFFICE MANAGEMENT

A Two-Year Associate in Applied Science Degree

FIRST YEAR

First Semester Subject		Credit Hours
OA 133*	Beginning Typewriting	3
OA 135	Clerical Practice	3
OA 234	Bookkeeping I	3
MATH 137	Business Mathematics	3
ENGL 137	Business English	3
PSYC 111	Psychology of Personal & Social Development	1
PE	Physical Education	1
		17

Second Semester Subject		Credit Hours
OA 134*	Intermediate Typewriting	3
OA 138	Business Correspondence	3
OA 235	Bookkeeping II	3
OA 139	Business Machines & Calculations	3
MGMT 135	Introduction to Management	3
PE	Physical Education	1
		16

OFFICE MANAGEMENT (Cont'd)

SECOND YEAR

First Semester Subject		Credit Hours	Second Semester Subject		Credit Hours
MGMT 134	Work Organization	3	MGMT 232	Personnel Management	3
MGMT 136	Human Relations	3	MGMT 236	Business Law II	3
MGMT 235	Business Law I	3	MGMT 239	Supervision	3
CS 130	Computers and Society	3	OA 237	Office Administration & Procedures	3
SPCH 233	Business Speech	3	Elctv**	Approved Elective	3
		15			15
				TOTAL HOURS	63

*Levels of typewriting will be determined by the student's previous training in this skill and/or by placement tests. Students who receive advanced standing in typewriting may select an approved elective to fulfill hour requirements.

**MGMT 231, MGMT 239A, OA 238, OA 239, or other electives approved by appropriate college official.

PETROLEUM TECHNOLOGY

A Two-Year Associate in Applied Science Degree

FIRST YEAR

First Semester Subject		Credit Hours	Second Semester Subject		Credit Hours
PETT 131	Introduction to Petroleum Technology	3	PETT 133	Rotary Drilling Fluids	3
PETT 132	Petroleum Geology	3	PETT 134	Oil Field Records	3
PETT 141	Rig & Drilling Equipment	4	PETT 142	Petroleum Logging & Mapping	4
CHEM 141	General Chemistry I	4	CHEM 142	General Chemistry II	4
TMTH 130	Technical Mathematics I	3	ENGL 137	Business English	3
PSYC 111	Psychology of Personal & Social Development	1			
		18			17

SECOND YEAR

First Semester Subject		Credit Hours	Second Semester Subject		Credit Hours
PETT 231	Pumping Equipment	3	PETT 233	Natural Gas Production	3
PETT 232	Well Completion Methods	3	PETT 242	Petroleum Refining Methods and Operations	4
PETT 241	Petroleum Production Methods	4	Elctv*	Petroleum Technology Elective	3
ENGL 239	Technical Writing	3	Elctv*	Petroleum Technology Elective	3
MGMT 137A	Safety (OSHA)	3	MGMT 239	Supervision	3
		16			16
				TOTAL HOURS	67

*Petroleum Technology Electives: PETT 234, PETT 235, PETT 236, PETT 237.

PHOTOGRAPHY

A Two-Year Associate in Applied Science Degree

FIRST YEAR

First Semester Subject		Credit Hours	Second Semester Subject		Credit Hours
PHOT 141	Introduction to Photography	4	PHOT 143	Advanced Photography	4
PHOT 142	Portrait Photography	4	PHOT 144	Commercial Photography	4
PHOT 146*	Color Photography I	4	PHOT 145	Advanced Printmaking	4
ENGL 139	Communication Skills	3	PHOT 147†	Color Photography II	4
MATH 137	Business Mathematics	3	Elctv‡	Approved Elective	3
PSYC 111	Psychology of Personal & Social Development	1	PE	Physical Education	1
PE	Physical Education	1			20
		20			

SECOND YEAR

First Semester Subject		Credit Hours	Second Semester Subject		Credit Hours
PHOT 231	Photography Internship I	3	PHOT 232	Photography Internship II	3
PHOT 243	Portrait Retouching	4	PHOT 244	Photographic Production	4
ENGL 239	Technical Writing	3	BUS 131	Introduction to Business	3
JOUR 141	Communications Media	4	OA 234	Bookkeeping I	3
Elctv*	Approved Elective	3	Elctv*	Approved Elective	3
PE	Physical Education	1	PE	Physical Education	1
		18			17
				TOTAL HOURS	75

*TELE 136 - Television Film I may be substituted for PHOT 146.

†TELE 237 - Television Film II/Electronic News Gathering may be substituted for PHOT 147.

‡Approved Electives: ART 130, SPCH 131, OP 132, TELE 133, TELE 232, TELE 238, or other elective approved by appropriate college official.

REAL ESTATE

A Two-Year Associate in Applied Science Degree

FIRST YEAR

First Semester Subject		Credit Hours	Second Semester Subject		Credit Hours
MGMT 135	Introduction to Management	3	MGMT 139R	Real Estate Fundamentals II	3
MGMT 136	Human Relations	3	MGMT 239	Supervision	3
MGMT 138R	Real Estate Fundamentals I	3	BUS 231	Principles of Economics I	3
BUS 131	Introduction to Business	3	MATH 137	Business Mathematics	3
Elctv	ENGL 130, 131, or 137	3	Elctv*	Approved Social Science Elective	3
PSYC 111	Psychology of Personal & Social Development	1	PE	Physical Education	1
PE	Physical Education	1			16
		17			

REAL ESTATE (Cont'd)

SECOND YEAR

First Semester Subject			Credit Hours	Second Semester Subject			Credit Hours
Elctv*		Real Estate Elective	3	MGMT	231	Marketing Principles	3
BUS	232	Principles of Economics II	3	Elctv*		Real Estate Elective	3
BUS	237	Principles of Accounting I	3	BUS	238	Principles of Accounting II	3
Elect*		Approved Real Estate or MGMT Elective	3	Elctv*		Approved Real Estate or MGMT Elective	3
Elctv*		Approved Elective	3	Elctv*		SPCH 131 or 233	3
			16				15

TOTAL HOURS 63

*All electives must be approved by appropriate college official.

Approved Real Estate electives are: MGMT 233R, MGMT 231R, MGMT 238R, MGMT 232R, or other Real Estate courses.

SMALL GAS ENGINE REPAIR

A Two-Year Associate in Applied Science Degree

FIRST YEAR

First Semester Subject			Credit Hours	Second Semester Subject			Credit Hours
SGER	141	Gas Engine Fundamentals	4	SGER	144	Carburetion Fuel and Lubrication Systems	4
SGER	142	Ignition Systems	4	SGER	145	Motorcycle Engine Service	4
SGER	143	Shop Practices	4	SGER	146	Lawn Care Equipment Service	4
TMTH	130	Technical Mathematics I	3	ENGL	139	Communications Skills	3
PSYC	111	Psychology of Personal & Social Development	1	WELD	141	Beginning Gas Welding	4
PE		Physical Education	1	PE		Physical Education	1
			17				20

SECOND YEAR

First Semester Subject			Credit Hours	Second Semester Subject			Credit Hours
SGER	241	Advanced Motorcycle Repair	4	SGER	244	Stationary Power Plant Service	4
SGER	242	Chain Saw Service	4	SGER	245	Recreational Vehicle Engine Service	4
SGER	243	Marine Inboard/Outboard Service	4	SGER	246	Special Projects	4
MGMT	137A	Safety (OSHA)	3	MGMT	239	Supervision	3
			15				15

TOTAL HOURS 67

TELECOMMUNICATIONS

A Two-Year Associate in Applied Science Degree

FIRST YEAR

First Semester Subject			Credit Hours	Second Semester Subject			Credit Hours
TELE	131	Introduction to Broadcasting	3	TELE	133	Beginning Television Production	3
TELE	132	Beginning Radio Production	3	TELE	134	Station Sales/Management	3
TELE	135	Radio-Television Announcing	3	TELE	136	Television Film I	3
JOUR	141	Communications Media	4	ENGL	132	Composition & Rhetoric II	3
ENGL	131	Composition & Rhetoric I	3	SPCH	131	Fundamentals of Speech	3
PSYC	111	Psychology of Personal & Social Development	1	PE		Physical Education	1
			17				16

SECOND YEAR

First Semester Subject			Credit Hours	Second Semester Subject			Credit Hours
TELE	235	Broadcast Writing	3	TELE	232	Advanced Television Production	3
TELE	237	Television Film II/Electronic News Gathering	3	TELE	233	Advanced Radio Production	3
TELE	239A	Teaching Aspect of Broadcasting	3	TELE	236	Communications Law	3
TELE	239B	Telecommunications Field Projects I	3	TELE	238	Telecommunications Practicum	3
Elctv*		Approved Elective	3	Elctv*		Approved Elective	3
			15				15
						TOTAL HOURS	63

*Approved electives: TELE 234, TELE 239C, TELE 239D, JOUR 142, or other electives approved by appropriate college official.

WELDING TECHNOLOGY

A Two-Year Associate in Applied Science Degree

FIRST YEAR

First Semester Subject			Credit Hours	Second Semester Subject			Credit Hours
WELD	141*	Beginning Gas Welding	4	WELD	151	Advanced Arc Welding	5
WELD	142**	Beginning Arc Welding	4	WELD	152	Advanced Welding Processes (MIG & TIG)	5
DD	131	Fundamentals of Drafting	3	ENGL	139	Communications Skills	3
TMTH	130	Technical Mathematics I	3	ENGR	131	Engineering Graphics	3
PSYC	111	Psychology of Personal & Social Development	1				16
			15				

WELDING TECHNOLOGY (Cont'd)

SECOND YEAR

First Semester Subject		Credit Hours	Second Semester Subject		Credit Hours
WELD 153	Weld Test Methods	5	WELD 155	Advanced Fabrication Methods	5
WELD 154	Welding Fabrication and Layout	5	WELD 156	Pipe Welding	5
MGMT 137A	Safety (OSHA)	3	WELD 157	Structural Welding	5
ENGL 239	Technical Writing	3	MGMT 239	Supervision	3
		16			18

TOTAL HOURS 65

*WELD 131 may be substituted in Alaska.
**WELD 132 may be substituted in Alaska.

Air Conditioning and Refrigeration (AC)

AC 140 Air Conditioning & Refrigeration Theory & Application (2-4) Credit: 4

This course deals with the basic physical principles of an air conditioning system. Introduction to heat, heat movement, temperature, pressure, refrigerants, temperature pressure relationship to refrigerants, the refrigeration cycle, the major components of refrigeration system and their relationship to each other. Introduction to the basic electrical devices found in air conditioning systems, i.e., motors, controls, etc. Use of special air conditioning tools and equipment, soldering and welding equipment. The use and care of specialized electrical testing and recording instruments is stressed.

AC 141 Basic Electrical Circuits (2-4) Credit: 4

Instruction in basic electricity and its application. Introduces the student to the various electrical devices, their importance in electrical circuits, including those used in residential wiring. Methods of wire connections for new and repair service, making and testing electrical circuits, and the use of electrical measuring and testing equipment.

AC 142 Household Refrigeration Systems (2-4) Credit: 4

Application of the refrigeration cycle to household refrigeration, including refrigerators, home freezers, and window air conditioning units. Instruction in service procedures for locating and correcting problems in the mechanical and electrical systems of units; trouble shooting, repairing and charging refrigeration equipment. Development of shop skills in the use of special refrigeration tools and equipment. Prerequisites: AC 140, AC 141.

AC 143 Heating Systems (2-4) Credit: 4

The study of types of heating equipment and their application. Service procedures for locating and correcting problems in heating systems. Study of manufacturers information on various heating units and equipment, to enable the student to determine proper installation. Prerequisites: AC 140, AC 141.

AC 144 Residential Air Conditioning (2-4) Credit: 4

Instruction in heat transfer through material, heat loss and heat gain calculations for residential heating and air conditioning systems, equipment selection and location, duct sizing and layout, controls and control circuits installation and service procedures. Prerequisites: AC 140, AC 141.

AC 241 Control Theory and Application (2-4) Credit: 4

Instruction in the operation of control devices, how they can be applied and varied to achieve the designed conditions. Includes interpretation and drawings of schematic and pictorial control circuit diagrams. Prerequisites: AC 140, AC 141.

AC 242 Commercial Refrigeration Systems (2-4) Credit: 4

Types of commercial refrigeration units and systems. Instruction in controls and control circuits in commercial refrigeration. Heat loss and heat gain calculations for commercial applications, equipment selections, locating and piping procedures. Instruction in installation and service procedures for different systems. Prerequisites: AC 140, AC 141.

AC 243 Commercial Air Conditioning Systems (2-4) Credit: 4

A course designed to cover heat transfer, heat loss and heat gain calculations as applied to commercial heating and air conditioning. Psychometrics of conditioned air, duct design and layout, equipment selection and location, shop drawings, controls and control circuits for automatic conditioning of air. Prerequisites: AC 140, AC 141.

Art (ART)

Art 130 Printing for Advertising Art (2-4) Credit: 3

Fundamentals of various graphic techniques, classification of printing methods, composition, copy and art preparation, paper selection, type and letter styles and usage, trademarks, handlettering.

Art 131 Freehand Drawing (2-4) Credit: 3

A study of the basic drawing skills, including both abstract and expressive drawing in charcoal, pencil, pen, wash, conte crayon, and mixed media.

AUTOMOTIVE BODY REPAIR (AB)

AB 141 Shop Practices (3-3) Credit: 4

This course is an introduction to shop safety methods (OSHA) and practices in the modern body shop, proper use of hand and power tools and precision measuring devices.

AB 142 Body and Frame Construction (2-4) Credit: 4

A course designed to provide an understanding of body frame construction of both conventional and unit bodies. Special emphasis will be placed on repair equipment and procedures to diagnosis, repair and align collision-damaged frames.

AB 143 Roughing and Alignment (2-4) Credit: 4

A course designed to provide an understanding of roughing and shaping procedures on automotive sheet metal necessary to make satisfactory body repairs with special emphasis on alignment of component parts such as hoods, doors, fenders, etc.

AB 144 Frame Straightening (2-4) Credit: 4

A course designed to provide the student with a working knowledge of the types of body frames, misalignment, frame alignment and straightening and the use of special equipment and measuring devices.

AB 145 Body Finishing (2-4) Credit: 4

A course designed to provide an understanding of the use of body fillers, metal preparation, finishing to the original contour and paint preparation.

AB 146 Painting (2-4) Credit: 4

A course designed to provide a working knowledge of the sanding, masking, cleaning of material to be painted, the proper use of the paint gun, pattern settings, spraying techniques and the uses of exotic paint materials. The course also covers paint problems such as blistering, wrinkling, bleeding and blushing.

AB 147 Body Repair (2-4) Credit: 4

A course designed to provide an understanding of body sheet metal repair with emphasis on the use of body materials and replacement of body parts including glass, hardware and trim.

AB 241 Upholstery and Vinyl Top Repair (2-4) Credit: 4

A course designed to provide the student with a knowledge of upholstery and head lining service and the recovering, repair of vinyl and convertible tops.

AB 242 Glass, Electrical & Power Accessory Service (2-4) Credit: 4

A course designed to provide the student with a knowledge in all types of glass and weathersealing devices and service, and various types of power assist repair.

AB 243 Management and Estimating (3-3) Credit: 4

A course designed to provide the student with the experiences of body shop management as it pertains to facilities, personnel, cost accounting, purchasing and stocking of supplies. The student will also receive instruction in collision repair estimation and the use of flat rate and material manuals.

Automotive Service and Repair (AT)

AT 140 Shop Practices and Safety (2-4) Credit: 4

A course designed to provide the student with basic automotive skills involving shop safety, automotive lifting devices, use of shop and flat rate manuals, measuring devices, fasteners, hand and power tool use, thread repair, soldering, automotive terminology, cleaning methods, and the basic nine systems of the automobile.

AT 141A Internal Combustion Engine Fundamentals (2-4) Credit: 4

This course is designed to provide the student with a knowledge of the internal combustion engine including the types, engine nomenclature, basic minor tune-up, pre-tear down diagnosis and engine removal procedures. Valve train service and valve grinding operations are also included. Prerequisite or corequisite: AT 140.

AT 141B Internal Combustion Engine Service (2-4) Credit: 4

This course covers a brief review of combustion engine fundamentals. Work experience in valve train service, engine disassembly, repair and replacement of pistons, rings, crankshafts, camshafts, timing gears and chains, lubrication and cooling system service, and engine rebuilding procedures are included in this course.

AT 142 Automotive Electrical Systems (2-4) Credit: 4

This course is designed to provide the student with a working knowledge of basic automotive electricity including Ohm's Law, wiring and wiring service, wiring diagrams, lighting circuits, magnetism, electrical accessory service, and the use of basic electrical test instruments. Prerequisite or corequisite: AT 140.

AT 144 Fuel Systems (2-4) Credit: 4

A course designed to provide an understanding of the theory, fundamentals of operation, and construction of the various types of carburetors, fuel pumps, and components of the fuel system, using established procedures, measuring tools, hand tools, and special testing equipment for testing and adjusting overhauled carburetors.

AT 145 Automotive Air Conditioning (2-4) 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 re-charging and compressor service.

AT 146 Engine Diagnosis and Emission Control (2-4) Credit: 4

A course designed to provide an understanding of engine trouble-shooting procedures, utilizing the oscilloscope analyzer and the theory of operation, adjustment, diagnosis, and repair of all types of emission control devices. Prerequisites: AT 140, AT 141A, AT 141B, AT 142, AT 144.

AT 147 Brake Systems (2-4) 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, shoe grinder, bleeder, and other equipment necessary to effect brake repairs will be taught with emphasis on power brake and dual braking systems.

AT 148 Steering and Suspension Systems (2-4) Credit: 4

A course 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, wheels, tires, steering gears, and linkages, wheel alignment factors, diagnosis repair and alignment procedures on live automobiles.

AT 149 Ignition, Starting, and Charging Systems (2-4) Credit: 4

This course covers a review of automotive electrical systems, starting motor operations and service, charging system theory and service, ignition system theory and service including conventional and transistor systems and engine operating principles. Prerequisite or corequisite: AT 140

AT 241A Standard Transmissions and Differentials (2-4) Credit: 4

A course designed to provide an understanding of the function, construction, operation, and maintenance of manual shift transmissions, clutches, drive lines, and differentials.

AT 241B Automatic Transmissons (2-4) Credit: 4

A study of the theory of operation, construction, and maintenance of fluid couplings and various automatic transmissions used in the modern automobile. This course emphasizes diagnostic repair and overhaul techniques applied on live units. Prerequisite: AT 241A.

AT 242 Shop Organization and 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 lay-out, general business practices and in the use of time, rate, and parts manuals. This course places special emphasis on established business principles and preparations for employment.

Aviation Maintenance Technology (AVMT)

AVMT 131 Maintenance Publications (2-2) Credit: 3

The basis of all maintenance is the proper use and interpretation of technical publications. This course deals with Federal Aviation Administration and manufacturer's publications. The student will be given instruction on the privileges and limitations of a mechanic according to FAR Part 65 and also be given practical work with descriptions of aircraft work performed and the completion of required maintenance forms and records.

AVMT 132 Weight and Balance (2-2) Credit: 3

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 133 Aircraft Drafting (2-2) Credit: 3

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 134 Airframe Materials & Corrosion Control (2-2) Credit: 3

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 non-destructive testing methods; performing penetrant, chemical etching and magnetic particle inspections; performing basic heat-breaking processes; identifying and selecting aircraft hardware and materials; identifying and selecting cleaning materials; and actually performing aircraft cleaning and corrosion control.

AVMT 141 Basic Aircraft Electricity (2-4) Credit: 4

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 241 Aircraft Finishes (2-4) Credit: 4

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 243 Airframe Inspection (2-4) Credit: 4

The objective of this course is to prepare the student to perform uniform conformity and airworthiness inspections 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 244 Aircraft Fuel Systems (2-4) Credit: 4

This course covers the theory and practical experiences in inspection, repair, and service of aircraft fuel systems that include fuel dump systems, fluid quantity indicators, and 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 245 Aircraft Instruments Systems (2-4) Credit: 4

This course is designed to instruct the student in the repair, inspecting, servicing, and installation of heading, speed, altitude, time, attitude, 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 246 Engine Electrical Systems (2-4) Credit: 4

This course is designed to give instruction in the trouble shooting, 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 247 Engine Lubrication Systems (2-4) Credit: 4

This course includes the identification and selection of lubricants as well as the repair, inspection, and trouble shooting of the components of the engine lubrication system. Also covered is the overhauling, repair, and inspection of magnetos and ignition harness for both reciprocating and turbine engines. Prerequisite: Successful completion of the general Aviation Maintenance Technology courses.

AVMT 248 Engine Cooling Systems (2-4) Credit: 4

This course covers the theory and practical applications of the repair, inspection, trouble shooting, and servicing of the engine cooling and exhaust systems. Prerequisite: Successful completion of the general Aviation Maintenance Technology courses.

AVMT 251 Sheet Metal Structures (2-6) Credit: 5

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 252 Hydraulics and Pneumatics (2-6) Credit: 5

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 253 Aircraft Electrical Systems (2-6) Credit: 5

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 254 Powerplant Maintenance (2-8) Credit: 5

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

AVMT 255 Engine Fuel Systems (2-8) Credit: 5

This course covers the inspection, repair, servicing, and trouble shooting 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 256 Aircraft Propellers (2-8) Credit: 5

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 trouble shooting of propeller synchronizing and ice controls, propeller control systems, fixed pitch, constant speed and propeller feathering and governing systems, removal and installation of propellers, balancing propellers and identifying and selecting proper propeller lubricants. Prerequisite: Successful completion of the general Aviation Maintenance Technology courses.

Biology (BIOL)

BIOL 141 General Biology I (3-3) Credit: 4

Fundamental priniciples of living organisms, including chemical and physical properties of life, tissue organization and function, cellular processes, and genetics. Audio tutorial method of instruction.

BIOL 244 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 (BUS)

BUS 131 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.

BUS 132 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.

BUS 231 Principles of Economics I (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. (Macroeconomics)

BUS 232 Principles of Economics II (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. (Microeconomics).

BUS 235 Introduction to Managerial Accounting (3-0) Credit: 3

A study of the methods by which accounting data are used by management in planning, coordinating, 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: BUS 238.

BUS 237 Principles of Accounting I (3-0) Credit: 3

Analysis and recording of business transactions; use of journal and ledgers; accounting statements; payroll records and payroll taxes; introduction to partnership accounting; special *journals and ledgers; voucher system.*

BUS 238 Principles of Accounting II (3-0) Credit: 3

Continuation of Principles of Accounting 237. Internal control; partnership and corporation accounting for manufacturing concerns; analysis and interpretation of statements. Prerequisite: BUS 237.

Career Pilot (CP)

CP 130 Basic Flight (.8-2.8) Credit: 3

Flight training for completion of the Private Pilot Certificate. A minimum of 57 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 12 hours of oral instruction and briefings. The instruction in the course more than meets the requirements for a Private Pilot Certificate. Prerequisite: CP 133, or concurrent enrollment.

CP 131 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.

CP 132 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.

CP 133 Air Navigation (3-0) Credit: 3

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 for the Private Pilot Certificate.

CP 134 Intermediate Flight (.8-3.1) Credit: 3

First phase of Commercial Pilot training. A minimum of 63 hours of instruction is provided, including 15 hours of dual, of which 2 hours will be in the simulator. Thirty-five hours of solo flight and thirteen hours of oral instruction and briefings.

CP 135 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: CP 133.

CP 230 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: CP 135.

CP 231 Aerodynamics (3-0) Credit: 3

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

CP 231A Turbine Engines (3-0) Credit: 3

Gas Turbine (or Jet) Engines have had a tremendous growth and refinement in the aircraft industry. Aircraft Jet Engine theory is presented, as well as the simplified mathematical relationship which is an integral part of any study dealing with Jet Engine theory. Fuel metering is a critical factor in correct engine operation and encompasses an in-depth study. Related systems and performance factors are included.

CP 232 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.

CP 233 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.

CP 234 Advanced Flight (.9-3.4) Credit: 3

Commercial and instrument flight training. A minimum of 69 hours of instruction is provided, included 20 hours of dual instruction with 4 hours in the simulator, 35 hours of solo, and 14 hours of oral briefings. Prerequisites: CP 134 and CP 230, or concurrent enrollment.

CP 235 Commercial Flight (.8-3.1) Credit: 3

Commercial and instrument flight training to prepare the student for the FAA Commercial Pilot Certificate with Instrument Rating. A minimum of 63 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 thirteen hours of oral instruction and briefings. Prerequisites: CP 234 and CP 237, or concurrent enrollment.

CP 235A Commercial Transition Flight I (.8-3.1) Credit: 3

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 63 hours of instruction which includes 20 hours of dual flight with one hour in the simulator, 30 hours of solo flight, and 13 hours of oral instruction and briefings. Prerequisites: FAA Commercial Rotorcraft Helicopter Rating, Class II FAA Medical and CP 230 or concurrent enrollment.

CP 235B Commercial Transition Flight II (.8-3.1) Credit: 3

A continuation of CP 235A to complete the requirements for a Commercial Single Engine Land Aircraft Rating. The course consists of 63 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 hours of solo flight with 5 hours in a complex aircraft, and 13 hours of oral instruction and briefings. Prerequisite: CP 235A.

CP 236 Multi-Engine Flight (.8-.8) Credit: 3

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 24 hours of instruction is provided, including 12 hours of dual flight, and 12 hours of oral instruction and briefing. Prerequisite: CP 235 or a Commercial Pilot Certificate.

CP 237 Aviation Radio System (3-0) Credit: 3

Basic radio fundamentals as 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), and others. Charts and approach plates as adapted to the radio navigation, including the use of the Flight Information Manual and ATC procedures. Prerequisite: CP 230.

CP 238 Instructor Rating (2.5-1.6) Credit: 3

This flight course prepares the experienced pilot for the FAA Certified Flight Instructor Certificate for airplane. Includes 25 hours of dual flight and 40 hours of oral instruction and briefings. Prerequisite: Commercial Pilot Certificate.

CP 238A Instrument Flight Instructor (1.4-1.4) Credit: 3

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 44 hours of instruction is provided, including 20 hours of dual flight and two hours of FAA check flight and 22 hours of oral instruction and briefings. Prerequisite: Certified Flight Instructor Certificate and Instrument Rating.

CP 238B Multi-Engine Flight Instructor (1.4-1.4) Credit: 3

This course is designed to prepare an applicant for the FAA Multi-Engine Flight Instructor Flight Test. A minimum of 40 hours of instruction is provided, including 20 hours of dual flight instruction, two hours for the FAA check flight and 22 hours of oral instruction and briefings. Prerequisites: FAA Multi-Engine Rating and FAA Flight Instructor Single—Engine Land Rating.

CP 238C Commercial Helicopter Rating (.9-3.2) Credit: 3

Additional Category Commercial Helicopter Rating Course. A minimum of 66 hours of instruction is provided, including 30 hours of dual instruction, 20 hours solo, and 15 hours oral instruction and briefings; and one hour for the FAA check flight. Prerequisite: FAA Commercial Pilot Rating Single-Engine Land.

CP 238D Helicopter Instructor Rating (2.5-1.6) Credit: 3

This course prepares a pilot that is helicopter rated for the FAA Certified Flight Instructor Certificate for helicopter. This course includes 40 hours of ground training and 25 hours of instructor training, which involves 20 hours of dual flight in a helicopter, and 5 hours of practice ground instruction by the student. Prerequisite: Commercial Pilot Certificate with a helicopter category rating.

CP 239 Airline Transport Pilot (1.7-1.7) Credit: 3

The Airline Transport Pilot Rating is the most comprehensive rating issued by the Federal Aviation Administration. Flight and ground training to qualify for the instruction is provided, which includes 25 hours of dual flight, two flight hours for the FAA Check Flight, and 27 hours of oral instruction and briefings. Prerequisites: First Class FAA Medical Certificate; Age 23; 1,500 hours of approved flight time; and Instrument Rating.

Chemistry (CHEM)

CHEM 140 Introduction to General Chemistry (3-3) Credit: 4

The course covers the fundamentals of general and descriptive chemistry with applications from modern living, medicine, agriculture, etc. This course is designed for the non-science major, the agriculture major, the home economics major, the nursing major and any student needing a laboratory science credit.

CHEM 141, 142 General Chemistry I & II (3-4) Credit: 8

A thorough study of the modern concepts and fundamental principles of chemistry. Quantitative experiments are stressed during the first semester of laboratory and the qualitative analysis of the common cations and anions and an introduction to quantitative analysis is studied in the second semester laboratory. The course is designed for science majors and minors. The course includes three hours lecture, one hour recitation, and three hours of laboratory per week. Prerequisite: Two years of high school algebra and MATH 132, or consent of instructor.

Computer Maintenance (CM)

CM 140 Introduction to Computers and Computing (3-3) Credit: 4

An introductory course to familiarize the student with the terminology, hardware, and basic programming skills necessary for advancement in the computer field. The student will become proficient in programming to the point that he/she can write programs to solve problems given in other electronic courses.

CM 141 Digital Circuits (3-3) Credit: 4

A review of the 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.

CM 142 Core and Memory Circuits (3-3) Credit: 4

A study of the selection of memory devices, principles of storage, timing controls, operation, analysis of memory problems, troubleshooting and repair. Prerequisite: CM 141, or equivalent.

CM 143 Computer Systems & Operational Programming (3-3) Credit: 4

The study of the 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.

CM 246 Microprocessors and 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 microcomputer system.

CM 247 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 computer.

CM 248 Peripherals and Interfacing (3-3) Credit: 4

The study of selected machine and peripheral interface techniques, to include mag tape and disk, paper tape, CTR, and printer. Prerequisite: CM 143

CM 249 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: CM 247, or equivalent.

Computer Science (CS)

CS 130 Computers and Society (3-0) Credit: 3

A non-technical survey course, intended for non-computer science majors, which studies the role that computers play in our society. The purpose is to give a basic, general, and accurate picture of what computers are, do and can do, and to lay to rest myths and mystiques concerning computers. The effects the computers have had and are having on society are studied and used to project what effect they may have in the future. An introduction to data representation flow-charting and computer program logic is presented to the non-computer science major to write a simple computer program.

CS 130A Introduction to Computer Concepts (3-0) Credit: 3

An overview of applications of computers. The course describes major computer system components; stresses the process of information system development, strength and limitations of the application of computer technology, and the relationship between the user of computer and information systems with the technical specialist.

CS 131 Beginning Keypunching (1-3) Credit: 3

Elements of keypunch operation. Designed to give the typist beginning skills in keypunch operation. Recommended for all beginning keypunch operators. Drills and exercises to develop punching accuracy and speed. *Prerequisite:* Typing speed of 30 wpm.

CS 132 Advanced Data Entry (1-3) Credit: 3

Advanced keypunch and verifier operation; program card design and preparation direct data entry techniques; drills to develop maximum efficiency and speed; some on-the-job training is required for the completion of the course. Prerequisite: CS 131

CS 133 Computer Library Management (2-3) Credit: 3

Concepts of data processing library management. Introduces card, tape, and disk library management. Some on-the-job training is required for completion of the course.

CS 134 Computer Center Operations (3-0) Credit: 3

This course covers operational theories, concepts, and terminology that is necessary for an understanding of how software and hardware interface together to provide a total system. *Modern computer center workflow and throughput are emphasized in the course.* Prerequisite: CS 140 or concurrent enrollment in CS 139.

CS 135 Introduction to Systems Analysis (3-2) Credit: 3

Introduction to problems from business and science using logical and mathematical techniques particularly suited to characteristics of the digital computer. Problems involve qualification of descriptive data, manipulation of these data, and expression of analysis in descriptive terms. Includes documentation and flow-charting methods. Prerequisite: CS 143 or concurrent enrollment.

CS 136 Introduction to Computer Operations (2-3) Credit: 3

Basic card handling procedures and machine applications with job execution at local and remote job entry stations. Includes concepts for operation of unit record and computer card systems.

CS 138 COBOL Programming (3-2) Credit: 3

This course is designed to provide the student with skills and fundamentals in solving business data processing problems using Full American National Standard COBOL. The student becomes effective in COBOL programming techniques involving sequential files. Table searching, control breaks, and a coverage of Indexed Sequential file handling are presented.

CS 138A RPG Programming (2-3) Credit: 3

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.

CS 139 Computer Organization (3-0) Credit: 3

This course is designed to give the student an understanding of the fundamental principles by which computers work and how these principles affect and govern programming techniques. Emphasis is placed on the IBM System 360/370 because of its prominence in the marketplace. Prerequisite: CS 143.

CS 140 Introduction to Computer Operations and Library Management (3-3) Credit: 4

This course includes modern concepts and operation of input and output devices and PCM equipment currently in use by the Data Processing Industry. The duties and responsibilities of I/0 control clerks and the computer librarian are emphasized.

CS 141 Advanced Operations Lab (1-15) Credit: 4

This course consists of supervised work in the college computer center. The students learn to operate the computer and the peripheral equipment. Prerequisite: CS 140. Corequisite: CS 134 and approval of Department Manager.

CS 143 Introduction to Computer Science and Computer Programming (3-3) Credit: 4

This course is intended to be the first course for Computer Science majors and no prior knowledge of computers or programming is assumed. The program language, FORTRAN, and flow-charting are introduced at the beginning of the course so that the student will have a better idea of what a computer does before investigating how it functions.

Approximately half of the lectures and nearly all of the laboratories are devoted to programming and flow-charting. Programming assignments will run concurrently with other fundamental topics such as historical development of computers, typical present-day hardware and software and computer applications.

CS 231 Introduction to 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.

CS 232A FORTRAN Programming (3-2) Credit: 3

This course is designed for the computer science major to augment algorithmic and programming talents, and to offer the non-computer science major a thorough coverage of the FORTRAN language to employ as a tool to solve business or scientific problems. Emphasis is placed on multi-dimensional arrays, use of functions and subprograms, searching and sorting techniques, and direct access processing. Prerequisite: 6 hours of mathematics.

CS 232B Programming for Business Statistics (3-2) Credit: 3

Relevance of data processing in business; impact of computer systems on decision making, heuristic and algorithmic computing techniques using FORTRAN or BASIC to include computation of means and standard deviations, simple regression, contingency tables, and curve plottings. Prerequisites: Math 135 and CS 143.

CS 234 Advanced COBOL (3-2) Credit: 3

This course is designed to offer the student of COBOL programming an in-depth study of the theory, programming techniques, and needed programming efficiences that will be required of the prospective COBOL programmer. A thorough coverage is given to tile design and the special features of ANS COBOL language. Emphasis is placed on multi-dimensional table handling, searching and sorting techniques, and Indexed Sequential and Random Access file manipulation. Prerequisite: CS 138.

CS 235 PL/1 Programming (3-2) Credit: 3

Business and scientific computer applications are developed using PL/1. Emphasis is placed on advanced programming concepts. Prerequisites: CS 143, CS 138.

CS 236 Conversational Languages (3-2) Credit: 3

Programming and testing sample programs written in a remote terminal-oriented language, such as BASIC, Conversational FORTRAN and APL. Prerequisite: CS 143 or consent of Instructor.

CS 237 Field Projects (1-5) Credit: 3

Practical application of course work in systems analysis and commercial or scientific programming, depending upon student's degree options. Prerequisite: Consent of instructor.

CS 238 Systems Analysis (3-2) Credit: 3

The methodology, techniques, and tools used in performing in-depth analysis of information systems destined for computer implementation are described in their relationships within the overall study. The use and requirements associated with decision tables, study plans, testing plans, and documentation are emphasized. Prerequisites: CS 135, CS 138.

CS 239A Introduction to Operating Systems and Job Control Language (2-2) Credit: 3

A study of computer operating system concepts, including program libraries, program intercommunication, and the structure and transportation of data sets. A Job Control Language (JCL) is taught in addition to the use of standard Utility Programs. Prerequisites: CS 234 and CS 243.

CS 239B Introduction to Teleprocessing Systems (3-2) Credit: 3

Requirements and fundamentals of a teleprocessing system's design and programming; transmission capabilities and control; program protection and relocation; features and applications of transmission devices. Prerequisite: CS 243.

CS 243 Assembler Language Programming (3-3) Credit: 4

Assembler language programming for the current college system. Programming and debugging of business oriented problems, with emphasis on the standard and decimal instruction set and the sequential access method. Prerequisites: CS 139 and CS 143.

CS 244 MIS and Information Storage and Retrieval (3-2) Credit: 4

A study of file organizations and search strategy techniques. It will include the study of design, construction and use of MIS systems with an in-depth look at the advantages and disadvantages of such systems.

CS 245 Data and Information Structures (3-2) Credit: 4

Basic concepts of data. Linear lists, strings, arrays, and orthogonal lists. Representation of trees and graphs. Storage systems and structures, and storage allocation and collection. Multi-linked structures. Symbol tables and searching techniques. Sorting (ordering) techniques. Formal specification of data structures, data structures in programming languages and generalized data management systems.

Consumer Electronics Service (TV)

TV 141 Home Music System (3-3) Credit: 4

A study in the specifications, theory of operation, and the interrelationships of those components used in the modern home music system, including Stereo and Quad receivers and amps; turntables; tape decks, including reel to reel, eight-track, and cassette formats; equalization networks, and mixing systems.

TV 145 Electronic Communications Fundamentals (3-3) Credit: 4

Course covers those basic electrical and electronic fundamentals and circuits used in modern applications, such as communications, sound, and test equipment.

TV 149 Television Theory and Servicing (3-3) Credit: 4

A study of electron tube and semiconductor circuits peculiar to television receivers, and practical methods for troubleshooting and servicing. Prerequisite: TV 145, or equivalent.

TV 235 TV Shop Practices (1-6) Credit: 3

An 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: TV 149, or equivalent.

TV 241 Music System Servicing (3-3) Credit: 4

A study in the analysis, diagnosis, and correction of a wide range of problems that appear in modern electronic music systems. Prerequisite: TV 242.

TV 242 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. Prerequisites: TV, 141, TV 145.

TV 243 Tape Recorders and Turntables (3-3) Credit: 4

A study of both the mechanics (including gears, pulleys, belts, and drive mechanisms), and electric circuits (for amplification, biasing, and equalization), in tape recorders and turntables. Prerequisites: TV 141, TV 145.

TV 245 Electronic Trouble-Shooting (3-3) Credit: 4

A study of those trouble-shooting techniques that apply to certain categories of electronic equipment. This course may be taken twice for credit with the approval of the program director, provided a different category of equipment is covered. Prerequisite: ET 242

TV 246 Sound Systems (3-3) Credit: 4

A fundamental course covering the components, specifications, and installation techniques of sound reinforcement, public address, paging, and sound distribution systems.

TV 247 Closed Circuit TV (3-3) Credit: 4

The principles of closed circuit television systems and components, including the theory and servicing techniques as applied to cameras, monitors, and coupling networks. Prerequisite: TV 149.

TV 248 CATV and MATV Systems (3-3) Credit: 4

Course covers fundamentals of design and servicing of TV antenna and head end systems and the distribution of TV signals in small or large "cable" systems.

TV 249 Advanced Television Servicing (2-4) Credit: 4

The operation and service 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: TV 149.

Developmental Studies (DS)

DSCO 030 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 syllabication, phonetic analysis, context clues, word elements, sequence, setting, main ideas, drawing conclusions, and making inferences.

DSED 030 College Study Skills (1-2) 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 notetaking, marking tests, learning through media, concentration, retention of information, and taking examinations.

DSMA 030 Developmental Mathematics I (1-2) Credit: 3

An introductory course including instruction in mathematical operations with rational numbers, the application of measurement systems to geometric problems, and an introduction to basic probability and statistics.

DSMA 031 Developmental Mathematics II (1-2) Credit: 3

A mathematical approach to consumer-oriented and family living problems, including budgeting, balancing a checkbook, calculating wages and payroll deductions, and completing Federal income tax forms.

DSMA 032 Developmental Mathematics III (1-2) Credit: 3

Developmental mathematics for technical fields, including algebra, integers, mathematical sentences, rational numbers, and polynominals.

DSRE 030 Reading and Comprehension I (1-2) Credit: 3

A course offered in a laboratory setting, using varied instruction techniques, designed to help students improve their proficiency in reading comprehension and rate, word recognition and vocabulary development.

DSRE 031 Reading and Comprehension II (1-2) Credit: 3

This course is a continuation of DSRE 030 and places emphasis on further improvement of reading comprehension and rate, word recognition and vocabulary development.

DSSP 030 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 030 Developmental Writing I (1-2) Credit: 3

A course offered in a laboratory setting, using varied instructional techniques, designed to identify deficiencies and improve basic writing skills necessary for the student who intends to pursue college-level academic work.

DSWR 031 Developmental Writing II (1-2) Credit: 3

A course in a laboratory setting to develop the ability to locate specific types of material, interpret and summarize information, analyze data and draw conclusions, and to prepare and present the findings in written form.

DSWR 032 Developmental Writing III (1-2) Credit: 3

A course designed to extend reading, research, and writing skills. Emphasis is placed on reference materials relating to consumers, including deceptive trade practices, terms used in written contracts, and a wide variety of consumer oriented literature.

Diesel Mechanics (DIEM)

DIEM 141 Fuel Injection Systems (2-4) Credit: 4

A course of study designed to provide the student with an understanding of the theory of operation of the fuel injection system. The course of study includes the functions and applications of various injectors, nozzles, pumps, filters, and distribution systems. Prerequisites: AT 140, AT 141A, AT 141B,AT 142A, and AT 144.

DIEM 241 Diesel Engine Auxiliary Systems (2-4) Credit: 4

A course study designed to provide the student with an understanding of the theory of operation, construction, design, classification, and application peculiar to diesel engines. The course of study includes two and four cycle diesel engine functions, systems and components, heat, combustion, lubrication, fuels, intake and exhaust systems, supercharging, scavenging and cooling systems. Prerequisite: DIEM 141.

DIEM 242 Diesel Engine Service and Repair (2-4) Credit: 4

This course covers service techniques and a complete overhaul procedure of a diesel engine. Trouble-shooting, repairing, operating the engine, and performing test procedures is emphasized in this course. Prerequisite: DIEM 241

Drafting and Design (DD)

DD 130 Blueprint Reading (2-2) Credit: 3

The fundamentals of blueprint and sketching as they apply to machine drawing.

DD 131 Fundamentals of Drafting (2-4) Credit: 3

An overview of drafting to include shape and size description, lettering, dimensioning, pictorial drawings, copy reproduction, and the use of equipment essential to the field of drafting.

DD 134 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.

DD 141 Pictorial Drafting (3-3) Credit: 4

A course mainly concerned with pictorials. Includes the theory of oblique and isometric drawings. Also covered are one and two point perspectives of shade and shadow application. Prerequisite: ENGR 131 or concurrent enrollment.

DD 142 Technical Illustration (3-3) Credit: 4

Introduction to pictorial drawings as used in industrial catalogs, assembly sheets, newspaper publications, and promotional literature. Work to be done in various media to include pencil, ink, transfer tapes, and air brush. Prerequisites: ENGR 131, DD 141, or concurrent enrollment.

DD 143 Machine Drawing (2-4) Credit: 4

Drawings 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 131, DD 141 or concurrent enrollment.

DD 144 Structural Drafting (2-4) Credit: 4

A study of the A.I.S.C. 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: ENGR 131

DD 241 Pipe Drafting (2-4) Credit: 4

Design and detailing of pipe systems making use of standard practices and symbols; includes single line, double line, plan profile and isometric drawings of pipe systems. Prerequisite: ENGR 131.

DD 242 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: ENGR 131.

DD 243 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: ENGR 131.

DD 245 Topographic Drafting (3-3) Credit: 4

This is an introductory course in map drafting, utilizing surveyors field notes as a basis for calculating bearings and closures and drawing plats, contours and profiles. This course also includes a unit on surveying which consists of actual field problems of transient tape-stadia surveying. Prerequisites: ENGR 131, ENGR 132, TMTH 130, TMTH 131, or permission of the Department Manager.

DD 246 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. Note: Must be taken during the last semester of the sophomore year.

DD 248 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: ENGR 131, DD 141, DD 142.

Electronics Technology (ET)

ET 131 Technical Math I (3-0) Credit: 3

A study of the basic concepts of math and algebra and the use of the slide rule and the electronic calculator in their manipulation.

ET 132 Technical Math II (3-0) Credit: 3

A study in the solution of trigonometric problems through the use of tables, slide rule, and the electronic calculator. Prerequisite: ET 131, or equivalent.

ET 135 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.

ET 141 Direct Current Circuits (3-3) Credit: 4

A study of the elementary principles of electronics, including DC circuits as related to series and parallel resistive, capacitive, and inductive networks, and the use of Ohm's Law, Kirchoff's Law, and the power formulas in analyzing these networks.

ET 142 Alternating Current Circuits (3-3) Credit: 4

A study of single and polyphase AC circuits and the use of Kirchoff's Laws as well as Thevenin's, Norton's, and Superposition Theorems in analyzing these circuits. Prerequisite: ET 141, or equivalent.

ET 143 Introduction to Electron Devices (3-3) Credit: 4

An introduction to vacuum tubes, transistors and other semiconductors, their composition, characteristics, theory of operation and circuit applications. Prerequisite or corequisite: ET 142

ET 144 Basic Test Equipment (3-3) Credit: 4

The use, theory of operation, and repair of the basic electronic test equipment ranging from the VOM through the Dual Beam Oscilloscope. Prerequisite or corequisite: ET 141

ET 151 Basic Electricity for Electronics (4-3) Credit: 5

A study of the elementary principles of electricity including voltage, current, resistance, power, magnetism, their relationships and interactions. Mathematics topics covered will include decimals, fractions, scientific notation, roots, powers, exponents, Ohm's law, power formulas and the laws of series and parallel circuits.

ET 152 Intermediate Electricity for Electronics (4-3) Credit: 5

A study in principles of electricity as related to complex series, parallel, and series-parallel circuits. The use of Kirchoff's Law and Thevenin and Norton's theorems in their analysis. The course will include an introduction to inductance, inductive reactance, capacitance, capacitive reactance as applied to simple series and parallel circuits. Those principles of math to be covered include algebra for complex electronic circuits, simultaneous equation, powers of ten, percentages and an introduction to trigonometry.

ET 153 Advanced Electricity for Electronics (4-3) Credit: 5

A study of AC circuits containing inductive and capacitive reactance combined with resistance for single and polyphase sources and the application of laws and theorems for solving these complex circuits. Math topics covered in this course include trigonometry, efficiencies, impedance matching, inductive and capacitive reactance, Pythagorean theorem, resonant circuits, power factors, logarythmic and mathematical tables.

ET 234 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. Prerequisite: ET 245 or equivalent.

ET 242 Advanced Test Equipment (3-3) Credit: 4

The use and calibration of Test Equipment used in servicing complex electronic hardware. Observation of waveforms of electronic apparatus. Prerequisite: ET 144 or equivalent.

ET 243 Special Intensive Study (1-9) Credit: 4

An intensive study in the design, theory of operation, and construction techniques used in a field which holds special interest to the student. Prerequisite: Approval of the Department Manager, prior to registration.

ET 244 Solid State Devices (3-3) Credit: 4

The study of the solid state devices used throughout industry, their characteristics and relations to circuits in both low and high frequency applications. Prerequisite: ET 143 or equivalent.

ET 245 Communications Circuits I (3-3) Credit: 4

A study of those basic circuits used throughout industry today. Prerequisite: ET 143 or equivalent.

ET 246 Integrated Devices (3-3) Credit: 4

A basic study of the many types of IC's in use today. The course will include digital, linear, and LED type devices. Prerequisite: ET 143

ET 247 Communications Circuits II (3-3) Credit: 4

A study of communications circuits necessary for the successful acquisition of an FCC first-class license. Prerequisite: ET 245 or equivalent.

ET 248 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. Prerequisite: ET 142, 143 or equivalent.

ET 249 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.

Emergency Medical Technician (EMT)

EMT 141 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 and to be eligible to take the examination and become a Registered Emergency Medical Technician-Ambulance Technician.

Engineering (ENGR)

ENGR 131 Engineering Graphics (2-4) Credit: 3

Freehand and instrument drawing, dimensioning, fastening, pictorial methods, charts and graphs, projections drawings, geometry of graphical construction. Required for beginning engineering students.

ENGR 132 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 131.

English (ENGL)

ENGL 131 Composition and Rhetoric I (3-0) Credit: 3

Composition of short papers, with emphasis on sentence structure, paragraph development, and paper organization. Analysis of expository prose.

ENGL 132 Composition and Rhetoric II (3-0) Credit: 3

An introduction to literature; the short story, poetry, drama, and the novel. Composition of short papers with emphasis on interpretation and analysis of literary selections, optional research paper. Prerequisite: ENGL 131 or advanced standing.

ENGL 137 Business English (3-0) Credit: 3

Fundamentals of grammar, punctuation, and sentence structure as employed in written business communications. A review of word study, sentence analysis, punctuation, paragraphing. Required for all students majoring in Office Administration.

ENGL 139 Communications Skills (3-0) Credit: 3

This course includes topics of instruction in grammatical construction, spelling; punctuation; writing effective business letters;preparation of technical reports, business forms and blanks; speaking to groups; business meetings; personal interviews; telephone conversations; *and social speech situations.*

ENGL 239 Technical Writing (3-0) Credit: 3

This course is designed to provide an opportunity to apply the principles of exposition to the preparation of formal written and oral technical reports. Various types of reports that utilize modern style and format are covered in this course.

Environmental Control (EC)

EC 131 Water and Waste Water Technology (3-0) Credit: 3

A study of method of disease transmission, hygienic excreta disposal, municipal and industrial waste water collection and treatment, characteristics of water, water treatment, protection of ground water insect and rodent control, solid waste collection and disposal, milk and food sanitation, swimming pool sanitation, and industrial hygiene.

EC 132 Aquatic Biology (2-3) Credit: 3

A study of fresh water as an environment, its physical and chemical characteristics; and characteristics of plant and animal communities which inhabit it. The morphology, life history, and taxonomy of fresh water aquatic organisms. (Field trips required.)

EC 133 Solid Waste Management (3-0) Credit: 3

Types of solid waste, physical and chemical method of handling solid waste, possibilities of re-cycling (re-using) solid waste material, possibilities for by-products from solid waste.

EC 221 Pollution Abatement Seminar I (2-0) Credit: 2

Particular problems involving pollution and control in our environment are to be presented and discussed by students in oral reviews. The "how, why, and what-to-do" aspects of pollution are to be stressed.

EC 222 Pollution Abatement Seminar II (2-0) Credit: 2

A continuation of EC 221.

EC 231 Air Pollution (2-3) Credit: 3

Sources of air pollution - industrial, municipal, automotive; physical and chemical nature of air pollutants. Laboratory techniques for detecting air pollutants. Control and treatment of air pollution.

EC 232 Industrial Waste Control (2-3) Credit: 3

Company policies, organizational problems, legal responsibilities in waste control, investigations into possible regional pollution, and preventive tactics that could be employed.

EC 233 Instrumentation (2-3) Credit: 3

An elementary study of hydraulic, pneumatic, mechanical, electronic control systems and components. It includes a basic description, analysis, and explanation of instrumental controls for a waste water plant. Typical performance characteristics, accuracy, and application of instruments are studied.

EC 234 Water Quality Control (2-3) Credit: 3

A study of basic principles of water purification, including aeration, sedimentation, rapid sand filtration, chlorination, treatment chemicals, taste and odor control, bacteriological control, mineral control, design criteria, maintenance programs, and operational problems. New processes and recent developments are studied. Criteria rules, regulations, forms, and records associated with the field are considered.

EC 243 Water and Waste Water Chemistry (3-3) Credit: 4

Theory and laboratory techniques for all control tests of water purification and analysis, including color, turbidity, pH, hardness, coagulation, chlorides, fluorides, iron, manganese, bactericides, nitrates, and organic compounds which may be present in water. Qualitative and quantitative analysis are to be stressed in this area.

Fire Protection (FPRT)

FPRT 131 Fundamentals of Fire Protection (3-0) Credit: 3

History and philosophy of fire protection: review of statistices 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 132 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 133 Fire Protection Systems (3-0) Credit: 3

Study of the required standard for water supply; special hazards protection systems; automatic sprinklers and special extinguishing systems; automatic signaling and detection systems; rating organizations and underwriting agencies.

FPRT 134 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 135 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; measurements 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 137 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 138 Fire Service Chemistry II (3-0) Credit: 3

A continuation of FPRT 137. Prerequisite: FPRT 137.

FPRT 231 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 situations and prevention methods. Gaining cooperation between the public and private fire department organization. Study of elementary industrial fire hazards in manufacturing plants.

FPRT 232 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 231

FPRT 233 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 137.

FPRT 235 Building Codes & 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 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 236 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.

FPRT 238 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 radio-active 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. Prerequisites: FPRT 233, 137.

FPRT 239 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 examination and study of the physical and psychological variables related to the occurrence of casualities. Safe storage, transportation and handling techniques are stressed to eliminate or control potential risks.

FPRT 244 Fire Fighting Tactics & Strategy (3-0) Credit: 3

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.

Food Service Management (RMGT)

RMGT 132 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.

RMGT 133 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 National Institute for the Food Service Industry (N.I.F.I.) sanitation examination.

RMGT 134 Work Organization (2-2) 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.

RMGT 135 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.

RMGT 136 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 controls; types of menus for various public and private institutions.

RMGT 137 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.

RMGT 141 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.

RMGT 221 Food Service Terminology (2-0) Credit: 2

This course is an introduction to the terminology utilized in the food service industry.

RMGT 232 Restaurant Merchandising (2-3) Credit: 3

Sales promotion; interior decor; types and uniformity of service; food and beverage display; menu and room styling.

RMGT 233 Cafeteria Management (3-0) Credit: 3

This course points out the specific differences between an industrial cafeteria and a conventional restaurant and explains how to cope with the unusual problems of industrial and institutional feeding.

RMGT 234 Marketing 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 of countless products, converts these prospects into customers, and keeps customers returning and buying.

RMGT 235 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.

RMGT 236 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.

RMGT 237 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.

RMGT 241 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.

RMGT 242 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.

Government (GOVT)

GOVT 231, 232 State & Federal Government I & II (3-0) Credit: 6

Fulfills the legislative requirements for six hours of American Government. A functional study of the American constitutional and governmental system, federal, state, and local. Special attention to Texas. The origins and development of the American governmental system; federal-state and interstate relations; lesser units of government; the individual as a citizen, person, and voter; political parties. Legislative, executive, and judicial functions in federal and state governments; financing governmental activities; foreign relations and national defense; governmental services and functions.

GOVT 239 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.

History (HIST)

HIST 131 History of the United States to 1877 (3-0) Credit: 3

English colonization; the Revolution; adoption of the Constitution; growth of nationalism; cotton and the slavery problem; war for southern independence. Reconstruction.

HIST 132 History of the United States from 1877 (3-0) Credit: 3

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 231 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.

Hotel-Motel Management (HM)

HM 130 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.

HM 132 Hotel/Motel Organization & Administration (3-0) Credit: 3

This course includes management and organization of hotel industry, communications, accounting, personnel relations and administration, management of guests. Planning for today and tomorrow.

HM 133 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 form for accounting controls.

HM 134 Hotel/Motel Sales Promotion (3-0) Credit: 3

This course includes sales planning, media advertising to include outdoor, radio, and TV; mail advertising, personal sales; telephone selling; individual and group room business; food and beverage sales and sales incentive.

HM 231 Hotel/Motel Law (3-0) Credit: 3

This course includes a study of the consequences resulting from a lack of foresight on the part of management, understanding of the attitudes of courts toward innkeepers involved in litigations, and an awareness of the responsibilities law imposes upon the innkeeper.

HM 232 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.

HM 234 Hotel/Motel Financial Management (3-0) Credit: 3

This course includes accounting of business for creditors, owners, and government; control of payroll and other operational expenses; and profit making management.

HM 235 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 and signal system, kitchen equipment, fire prevention and protection, and elevator systems.

HM 236 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.

Journalism (JOUR)

JOUR 141 Communications Media (3-3) Credit: 4

This course is designed to give the student an understanding and respect for the mass media of the modern world. It includes a survey of all the mass communicative media, their purposes, and methods of operation.

JOUR 142 News Gathering and Reporting (3-3) Credit: 4

Designed to acquaint the student with fundamental news gathering and writing techniques for the print medium. It includes instruction and practice in interviewing, writing, and discussion of news sources and values.

Law Enforcement (LE)

LE 121 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. These techniques are learned skills and are indispensible to the professional officer and the potential police student.

LE 131 Introduction to Law Enforcement (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.

LE 132 Criminal Investigation (3-0) Credit: 3

Introduction to the fundamentals of criminal investigation, including theory and history, conduct at crime scenes, collection and preservation of evidence.

LE 133 Legal Aspects of Law Enforcement (3-0) Credit: 3

History and philosophy of modern criminal law, including the structure, definition and application of statutes and leading case law, the elements of crimes and penalties; general provisions of the Penal Code.

LE 134 Criminal Procedures and Evidence (3-0) Credit: 3

Introduction to the rules governing the admissibility of evidence and types of evidence; criminal procedures in various courts, review of the Model Code of Criminal Procedure, including laws of arrest, search and seizure, and leading case law on each topic.

LE 135 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.

LE 136 Survey of Corrections (3-0) Credit: 3

A general course describing the history and evaluation of the corrections process. Covers all aspects of institutional and community based corrections.

LE 137 Police-Community Relations (3-0) Credit: 3

The role of the individual officer in achieving and maintaining positive public response; intergroup relations and public information.

LE 138 Police Role in Crime and Delinquency (3-0) Credit: 3

Study of deviate behavior and current criminological theories, with emphasis on police applications; crime prevention and the phenomena of crime as it relates to juveniles.

LE 139 Police Organization and Administration (3-0) Credit: 3

Principles of organization and management as applied to law enforcement agencies; introduction to concepts of organizational behavior.

LE 221 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. General state laws affecting the use of firearms as a means of fatal force will be discussed.

LE 231 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 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.

LE 233 Law Enforcement Seminar (3-0) Credit: 3

A problems course dealing with current criminal justice trends, issues, and literature. Prerequisite: Approval of Department Manager

LE 234 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.

LE 236 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.

LE 237 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.

LE 238 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.

LE 239 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 command.

LE 239A 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.

Maintenance Technology (MTNT)

MTNT 141 Carpentry I (2-4) Credit: 4

This course covers the theory and practical application of the use of basic hand and power tools, safety; an overview of residential and light commercial building construction, including foundations, exterior and interior walls, and roof framing.

MTNT 142 Carpentry II (2-4) Credit: 4

This course is a continuation of MTNT 141, with additional emphasis placed on cabinetry, exterior and interior trim and finish work, including door and hardware installation. Prerequisite: MTNT 141 or consent of Department Manager.

MTNT 143 Electricity I (2-4) Credit: 4

This course covers the theory and practical applications of basic electricity, including Ohm's Law, AC/DC circuits, control devices, motor starters, transformers, and rectifiers.

MTNT 144 Electricity II (2-4) Credit: 4

This course is a continuation of MTNT 143, with special emphasis on electrical maintenance, service and repair procedures for residential and light commercial buildings. Topics of study include wiring with romex cables, exterior and interior lighting systems, and motor installation. Prerequisite: MTNT 143 or consent of Department Manager.

MTNT 241 Masonry I (2-4) Credit: 4

This course covers the theory and practical applications of laying common brick, concrete tile, and instruction in applying ceramic tile.

MTNT 242 Masonry II (2-4) Credit: 4

This course is a continuation of MTNT 241, with additional emphasis placed on setting forms and the pouring and finishing of concrete slabs. Prerequisite: MTNT 241 or consent of Department Manager.

MTNT 243 Plumbing I (2-4) Credit: 4

This course covers the theory and practical application of the use of basic hand and power tools used in plumbing; safety; the cutting, threading and joining of different types of pipe.

MTNT 244 Plumbing II (2-4) Credit: 4

This course is a continuation of MTNT 243, with special emphasis on plumbing maintenance, service, and repair procedures for residential and light commercial buildings. Prerequisite: MTNT 243 or consent of Department Manager.

MTNT 245 Painting and Refinishing (2-4) 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, the preparation of surfaces to be painted, use of hand and power tools, refinishing damaged furniture surfaces, and the proper maintenance of finished surfaces.

Management, Business (MGMT)

MGMT 130A Organization and Management (3-0) Credit: 3

Organizational structure can have considerable impact on the manner in which an organization functions. The student studies 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, in specific terms, with how the organization must be structured to fit its environment and operation.

MGMT 134 Work Organization (2-2) 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 134A Fundamentals of Industrial Management (3-0) Credit: 3

Application of the systems 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 135 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 136 Human Relations (3-0) Credit: 3

A study of "Human Relations" as an emerging scientific discipline of study in which basic concepts and principles concerning man at work are emphasized. It is structured to explain the "ways" and wherefores of the behavior of industrial man.

MGMT 137 Insurance (3-0) Credit: 3

Introduction to theory and practice of insurance, including life, fire, automobile, and personal and business risk.

MGMT 137A 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 138R Real Estate Fundamentals I (3-0) Credit: 3

This course includes a study of the economic and social impact of real estate, contracts, property rights, various real estate instruments such as deeds, deeds of trust, mortgages, leases and liens; insurance and investment factors.

MGMT 139 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 139R Real Estate Fundamentals II (3-0) Credit: 3

This course includes a study on sources of funds; influences of the Federal Reserve System; secondary mortgage market; agency operation and functions; title search, examination, registration and closing procedures; residential and income property valuation; urban land development; and city, state, and federal land planning regulations.

MGMT 230 Credit and Collections (3-1) Credit: 3

The elements of merchantile and consumer credit; organization of a credit department; sources of credit information; collection tolls and procedures.

MGMT 230R Real Estate Brokerage (3-0) Credit: 3

Techniques and skills required to effectively operate a broker's office in today's economy, including organization of brokerage operations; personnel selecting, training, and retention; sales, marketing, and advertising policy formulation, and general functions of the modern brokerage office. Prerequisite: MGMT 138R or consent of Department Manager

MGMT 231 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 231R Real Estate Appraisal (3-0) Credit: 3

This course includes an analysis and valuation of real estate as needed by buyer, sellers, lendors, and investors. Emphasis is placed on cost income and market data approaches to appraisal. Case methods are used to demonstrate appraisal principals and practices.

MGMT 232 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 232A 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 his subordinates in the areas of law and legal assistance.

MGMT 232B 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 232R Real Property Management (3-0) Credit: 3

Introduction to the property management field, including professional organizations, management responsibilities, lease negotiations, insurance and tax aspects, advertising and public relations. Prerequisite: MGMT 138R or consent of Department Manager.

MGMT 233R Real Estate Finance (3-0) Credit: 3

This course includes the study of federal and state practices in mortgages and real estate finance, also includes a survey of savings and loan associations, commercial banks, life insurance companies, and mortgage bankers. Prerequisite: MGMT 138R or consent of Department Manager.

MGMT 234 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 235 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 236 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 and estates, sales, bankruptcy.

MGMT 237 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 238R Real Estate Law (3-0) Credit: 3

Contains a study of sources of real estate law, legal estates and ownership, deeds, contracts, law of agency and brokerage, escrow agreements, closing of sales, title assurance methods, mortgages, liens, leases, homesteads, wills, administration of estates, zoning and building ordinances, property taxation, and other matters of law which pertain to real estate transactions.

MGMT 239 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 239A Personnel Counseling (3-0) Credit: 3

Systematic study of major theories of personnel counseling with supervised experience in role-playing utilizing these approaches.

Mathematics (MATH)

MATH 130 Introductory Algebra (3-0) Credit: 3

Designed for students desiring a review of fundamental algebraic operations. This course may not be used as a part of the requirements for a major in mathematics. Topics considered include operations with signed numbers, exponents, operations with polynomials, factoring, operations on rational expressions, solving linear equations.

MATH 131 Intermediate Algebra (3-0) Credit: 3

Includes a brief review of fundamental algebraic operations, linear equations, systems of linear equations, determinants, quadratic functions, inequalities, exponential functions, logarithmic functions. Prerequisite: MATH 130 or equivalent.

MATH 132 College Algebra (3-0) Credit: 3

Includes consideration of quadratic functions, systems of quadratic equations, quadratic inequalities, matrices, binominal theorem, exponential functions, sequences, progressions, series, and applications. Prerequisite: MATH 131 or equivalent.

MATH 133 Trigonometry (3-0) Credit: 3

Wrapping function, circular functions, trigonometric functions, use of tables, identities, applications to right triangles and oblique triangles, inverse functions, trigonometric equations, logarithms. Prerequisite: MATH 131 or equivalent.

MATH 135 Finite Mathematics I (3-0) Credit: 3

Symbolic logic, set theory, induction, permutations, combinations, counting methods, probability. Prerequisite: MATH 131 or equivalent.

MATH 136 Finite Mathematics II (3-0) Credit: 3

A continuation of MATH 135. Introduction to statistics, graphing, vectors, matrices, linear programming, and theory of games. Prerequisite: MATH 135.

MATH 137 Business Math (3-0) Credit: 3

Introduction to the arithmetic processes in business, incuding interest, mortgages, taxes, insurance, payroll, inventory deductions, discounts, depreciation, annuities.

MATH 139 Modern Math (3-0) Credit: 3

An introduction to topics taught in the modern elementary curriculum - modern algebra, geometry, sets, number systems, relations, functions, equivalence, congruence.

Mathematics, Technical

TMTH 130 Technical Mathematics I (3-0) Credit: 3

A course designed to fill the needs of students in industrial and technical programs. To perform calculations and measurements and to solve mathematical problems for the shop, construction site, design and drafting rooms. It covers arithmetic fundamentals, development of "number sense", basic algebra, and geometry.

TMTH 131 Technical Mathematics II (3-0) Credit: 3

This course is a continuation of Technical Mathematics I, and includes a study of algebra, trigonometric functions, graphs of trigonometric functions, solution of triangles, and plane and solid geometry. Prerequisites: MATH 130, TMTH 130, or permission of the Department Manager.

Office Administration (OA)

OA 131 Beginning Shorthand (3-3) Credit: 3

An introduction to shorthand. Students will receive initial training in shorthand emphasizing reading, writing, theory principles, brief forms and related activities.

OA 132 Intermediate Shorthand (3-3) Credit: 3

Students will continue shorthand training and reinforcement of theory. Prerequisite: OA 131 or equivalent.

OA 133 Beginning Typewriting (3-3) Credit: 3

A beginning course in touch typewriting for the mastery of machine parts and the keyboard. Special emphasis of speed development, including an introduction to letter writing, tabulating, and preparing manuscripts.

OA 134 Intermediate Typewriting (3-3) Credit: 3

A continuation of OA 133. Additional skills in term of accuracy and speed will be evidenced by students. Composition and typing of business letters, tabulations and manuscripts of more demanding content will be instructed.

OA 135 Clerical Practice (2-1) Credit: 3

Procedures of filing and finding operations employed in business offices, standard filing systems. Training in the operation of spirit duplicators, mimeograph, and dry copy machines. Training in proficiency in handling the mail, telephone techniques, and handling receptionist duties. Considerable emphasis and training in integrating these activities into an office environment will be instructed.

OA 136 Secretarial Practice (3-1) Credit: 3

This course is designed for the student who wishes to prepare for a career as an executive secretary. More advanced mailable letters, typing from transcribing machines, organization of meetings and conferences, travel arrangements, information sources, and human relations skills are studied. Students are trained in word processing procedures. Students are introduced to various "needs" theories such as Abraham Maslow's hierarchy of needs. Students are guided into the solution of office problems due to personality problems. Group work, group dynamics, and student evaluations are utilized extensively in this course.

OA 138 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. Typing ability and sound background in English are strongly recommended.

OA 139 Business Machines and Calculations (3-3) Credit: 3

Technique familiarization in the operation of the most commonly used office machines. Computations; calculations, speed drills; percentages, discounts and net values, chain discounts; business forms.

OA 231 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. Prerequiste: OA 132 or equivalent.

OA 232 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.

OA 233 Advanced Transcription (3-3) Credit: 3

Students will continue skill building in shorthand with concentration on transcribing into mailable copy from office-style dictation. Special emphasis will be given to the inter-relatedness of specialized office activities and terminologies as they relate to an administrative secretarial position. Prerequisite: OA 231.

OA 234 Bookkeeping I (3-3) Credit: 3

Elementary principles of bookkeeping, journalization; posting, statements, special journals; subsidiary ledgers. Special emphasis is placed on personal, family and small business accounting systems.

OA 235 Bookkeeping 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; payroll records and payroll taxes; introduction to partnership accounting; special journals and ledgers; business papers and business procedures relating to accounting voucher system. Prerequisite: OA 234 or equivalent.

OA 237 Office Administration and Procedures (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 the various systems that affect the modern office. Prerequisite: Sophomore standing or consent of the instructor.

OA 238 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 followng areas: typewriting, filing, duplication, use of telephone, preparation of correspondence, voice transcription machine, record-keeping, proofreading, etc.

OA 239 Office Administration Internship (1-5) Credit: 3

Students will be provided a combination of occupational related classwork instruction and on-the-job training in cooperation with Office Administration offices and other campus offices. Students will demonstrate advanced competencies with work experiences in the following areas: taking dictation, typewriting, letter composing, telephone procedures, filing, work scheduling, financial calculating, duplicating, transcribing from dictation equipment, etc.

Offset Printing (OP)

OP 131 Introduction to Offset Printing (2-4) Credit: 3

This course offers the student an introduction to 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.

OP 132 Camera & Darkroom Procedures Stripping & Platemaking I (2-4) Credit: 3

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.

Petroleum Technology (PETT)

PETT 131 Introduction to Petroleum Technology (3-0) Credit: 3

General study of the industry, including history of the industry, chemistry of petroleum, its occurrence in nature and its importance in the world economy, leasing and royalty exploration, drilling and production methods, conservation, transportation and refining, economics of the oil industry.

PETT 132 Petroleum Geology (3-0) Credit: 3

A rapid survey course covering the principles of petroleum geology. Topics covered are geographic and stratigraphic distribution, types of structures, properties of petroleum, origin of petroleum, methods of migration, and petroleum discovery methods. Different fields are studied to determine the characteristics of fields as based on different types of traps.

PETT 133 Rotary Drilling Fluids (3-0) Credit: 3

Testing methods, determining drilling fluid characteristics, drilling fluid problems, use of special drilling fluids, laboratory exercises consisting of practice in altering the properties of fresh water and special drilling fluids for drilling through troublesome zones with the rotary system.

PETT 134 Oil Field Records (3-0) Credit: 3

A study of records kept by oil companies and reports made within companies and to the regulatory agencies.

PETT 141 Rig and Drilling Equipment (3-3) Credit: 4

Technical information covering the care and use of drilling equipment, hoists, power units, derricks, pumps, and derrick equipment. Trips to examine different types of drilling equipment in actual operation in the field. Also trips to service companies to study their drilling tools.

PETT 142 Petroleum Logging and Mapping (3-3) Credit: 4

A study of theories of electrical, micro-electrical radiation, optical chemical, and mechanical well logging methods and application of these theories, field examples and problems.

PETT 231 Pumping Equipment (3-0) Credit: 3

A theoretical study of the motors, engines, compressors, and pumps used in the movement of petroleum products; including a survey of the different types of equipment available for specific conditions and loads.

PETT 232 Well Completion Methods (3-0) Credit: 3

Included in this course are basic types of completion methods, such as open hole, liner and screen, perforated casing. Permanent type completions and multiple completions are studied. Remedial measures including recompletion, shutting off bottom hole water, reducing high gas oil ratios, sand control, fracturing, and redrilling are studied.

PETT 233 Natural Gas Production (3-0) Credit: 3

A survey course in the handling of natural gas. from discovery to use; with emphasis on efficient transportation and the use of proper equipment for distribution. Gas regulations, control and measuring devices will be studied.

PETT 234 Petroleum Transportation (3-0) Credit: 3

A study of the methods and practices of transporting crude and refined petroleum products by pipeline, tanker and by land.

PETT 235 Petroleum Pollution Control (3-0) Credit: 3

A study of the various contaminants of air, water, and soil and their effect on ecology. The types of contaminants released by the petroleum industry and petroleum products to the air and water, and methods used to minimize them will be studied. A survey of the various pollutants, their effects on materials, and their control.

PETT 236 Hydraulics (3-0) Credit: 3

A study of hydraulics related to drilling, oil pipelines, and artificial lift.

PETT 237 Refinery Operations (3-0) Credit: 3

A study of theoretical and practical approaches to the operation of refinery.

PETT 241 Petroleum Production Methods (3-3) Credit: 4

Various elements of crude oil production are studied, including subsurface pumps, gaslifting, emulsion treating, separation of oil and water, separation of oil and gas. Instrumentation of leases is discussed, including flow-meters, automatic lease operation, and automatic custody transfer; also a study of oil field corrosion problems, and secondary recovery methods.

PETT 242 Petroleum Refining Methods & Operations (3-3) Credit: 4

The chemical structure of the hydrocarbon is studied in this course. A survey of modern refining methods of gasoline, petrochemicals and other related chemicals is included.

Photography (PHOT)

PHOT 141 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 publications included.

PHOT 142 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 story-telling pictures for fashion and advertising is provided. Prerequisite: PHOT 141 or consent of instructor.

PHOT 143 Advanced Photography (3-2) Credit: 4

This course includes elements of composition and film exposure development for specific gamma studied 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 141 or consent of instructor.

PHOT 144 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. Prerequisite: PHOT 141 and PHOT 142, or consent of instructor.

PHOT 145 Advanced Printmaking (3-2) Credit: 4

This course includes special instruction and laboratory work in advanced printmaking, mounting, display, toning and tinting and special procedures in graphic techniques in printmaking with higher contrast materials. Preparation of a black and white portfolio is included. Prerequisite: PHOT 141, PHOT 142, PHOT 143, PHOT 144 or consent of instructor.

PHOT 146 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.

PHOT 147 Color Photography II (3-2) Credit: 4

Positive and negative color film processing, sensitometry, and color printing. Prerequisite: PHOT 146.

PHOT 231 Photography Internship I (1-5) Credit: 3

Supervised off-campus laboratory and work experience in photography or closely allied fields. Students usually work as laboratory technicians, cameramen, and salespersons. Prerequisite: PHOT 141, PHOT 142, PHOT 144 or consent of instructor.

PHOT 232 Photography Internship II (1-5) Credit: 3

Supervised off-campus laboratory and work experience in photography or closely allied fields. Students usually work as laboratory technicians, cameramen, and salespersons. Prerequisite: PHOT 231 or consent of instructor.

PHOT 243 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 142.

PHOT 244 Photographic Production (3-2) 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. Prerequisite: PHOT 141, PHOT 142, PHOT 144, PHOT 146, and PHOT 147.

Physics (PHY)

PHY 140 Survey of Physics (3-3) Credit: 4

A survey of the fundamental principles of physics designed to acquaint students with the basic concepts of physics, contemporary physics, and modern thinking.

Physical Education (PE)

PE 218 Physical Conditioning (1-1) Credit: 1

PE 235 Safety and 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.

Psychology (PSYC)

PSYC 111 Psychology of Personal and Social Development (1-0) Credit: 1

Designed to orient the student to college life, and to help him/her understand personal problems, such as separation from family, study habits, use of time, vocational changes.

PSYC 231 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. Recommended for students of sophomore standing.

Small Gas Engine Repair (SGER)

SGER 141 Gas Engine Fundamentals (2-4) Credit: 4

This course covers the theory and repair practices on two cycle, four cycle, and wankel engines, both air cooled and water cooled.

SGER 142 Ignition Systems (2-4) Credit: 4

This course covers the theory and repair practices on the various component parts of the ignition system. Proper testing and service procedures are performed on battery ignition systems, solid state ignitions, capacitor discharge systems, and on magneto systems.

SGER 143 Shop Practices (2-4) Credit: 4

The course covers an introduction to shop safety, use of hand and power tools, use of precision measuring instruments, and other special tools used in small engine repairs.

SGER 144 Carburetion, Fuel, & Lubrication Systems (2-4) Credit: 4

This course is designed to provide the student with knowledge and skills to rebuild and service different types of caburetors, lubrication systems, exhaust systems, and flame arrestors that are found on the various types of small gas engines.

SGER 145 Motorcycle Engine Service (2-4) Credit: 4

This course is designed to provide the student the necessary skills to disassemble and assemble motorcycle power plants, repair and replace drive train components, use special tools particular to motorcycle repairs, and to use applicable parts and service manuals.

SGER 146 Lawn Care Equipment Service (2-4) Credit: 4

This course covers the theory and repair practices on all types of power lawn care units including lawn mowers, riding mowers, garden tractors, rotary tillers, and other similar items of equipment.

SGER 241 Advanced Motorcycle Repair (2-4) Credit: 4

This course is a continuation of SGER 145 with special emphasis placed on chassis and system repair including front and rear suspension systems, hub and wheel repair, transmissions, and brakes. Prerequisite: SGER 145.

SGER 242 Chain Saw Service (2-4) Credit: 4

This course covers the theory and repair practices on all types of modern chain saws and related equipment.

SGER 243 Marine Inboard/Outboard Service (2-4) Credit: 4

This course covers the theory and practical lab work including disassembly and assembly of the power head and lower drive unit, analysis of engine malfunctions component inspection, use of special tools, and the use of service and parts manuals that are applicable to marine inboard/outboard engines.

SGER 244 Stationary Power Plant Service (2-4) Credit: 4

This course covers the theory and repair practices necessary on stationary power plants, self-contained generating units and related units.

SGER 245 Recreational Vehicle Engine Service (2-4) Credit: 4

This course covers the theory and repair practices that are necessary to service snowmobiles, off-the-road vehicles, and other related units.

SGER 246 Special Projects (1-8) Credit: 4

The purpose of this course is to allow the student to develop one or more special projects related to small gas engine repair under the supervision of the program instructor. Prerequisite: Sophomore standing and 24 semester hours of Small Gas Engine Repair courses.

Sociology (SOC)

SOC 231 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.

SOC 232 Contemporary Social Problems (3-0) Credit: 3

Identification and analysis of contemporary social problems, development of criteria for evaluating problems for social betterment.

SOC 233 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.

Speech (SPCH)

SPCH 131 Fundamentals of Speech (3-0) Credit: 3

Instruction is given in speech preparation and delivery with emphasis on communication through audience analysis, gesturing, and vocal variety. Students will have opportunity for practice in the researching, outlining, and presentation of speeches.

SPCH 233 Business Speech (3-0) Credit: 3

Designed to aid the prospective business or professional person in preparing various types of speaking assignments such as he might encounter in his career. It is planned for agriculture, business, and home economics majors. Emphasis is on structure and techniques of presentation.

Telecommunications (TELE)

TELE 131 Introduction to Broadcasting (3-3) 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 132 Beginning Radio Production (3-3) Credit: 3

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 133 Beginning Television Production (3-3) Credit: 3

This course is designed to give the student the fundamental skills of camera operation, microphone techniques, basic set design, basic graphics, and lighting. In addition, each student will produce and direct his own commercials. A basic study of the operations of a television station will be covered.

TELE 134 Station Sales/Management (3-0) Credit: 3

This course is designed to give the student a working knowledge of the broadcast industry; how individual radio and television stations program, sell spots and time, set up management responsibilities, negotiate scheduling with network, and advertising. It also covers the legal and ethical aspects of broadcasting through a use of the FCC Rules and Regulations. Audience measurement and what it means will also be studied.

TELE 135 Radio-Television Announcing (3-3) Credit: 3

This course covers the duties and responsibilities of the announcer, such as operation of the 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 136 Television Film I (3-3) Credit: 3

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 232 Advanced Television Production (3-3) Credit: 3

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.

TELE 233 Advanced Radio Production (3-3) Credit: 3

The 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 an actual radio station.

TELE 234 Broadcast Operations (3-3) Credit: 3

This course is designed to provide the student of broadcasting with specific areas of study in promotion, graphics, traffic, continuity, and programming for both radio and television. The laboratory for this course wil be the study of and implementation of an assessment of audience needs survey.

TELE 235 Broadcast Writing (3-3) 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 actual radio stations.

TELE 236 Communications Law (3-0) Credit: 3

This course is an in-depth study of the Federal Communications Commissions Rules and Regulations, treaties, and laws pertaining to the overall operation of the broadcast station; a survey of copyright laws, libel and slander laws, contracts and other legal responsibilities associated with broadcasting.

TELE 237 Television Film II/Electronic News Gathering (3-3) Credit: 3

Advanced film production, color processing, and editing are covered during the first half of the semester. Electronic news gathering techniques with mini-cameras are covered the second half of the semester. Much emphasis is given to news photography and on-the-job training. Students are given weekly assignments for television newscasts.

TELE 238 Telecommunications Practicum (1-6) Credit: 3

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 study practicum from any of the following broadcast-related areas: Graphic arts, set design, photography, cinematography, broadcast journalism, radio production, television production, broadcast promotion, traffic and continuity.

TELE 239A Technical Aspects of Broadcasting (3-0) Credit: 3

This course will help the student develop a broad technical vocabulary and 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 239B Telecommunications Field Projects I (1-5) Credit: 3

The field 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 and/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 132 and TELE 133.

TELE 239C 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.

TELE 239D Telecommunications Field Projects II (1-5) Credit: 3

A continuation of Telecommunications 239B, this course consists of on-the-job training as a production member of radio or television stations for on-air operations. Prerequisite: TELE 239B.

Welding (WELD)

WELD 131 Basic Gas Welding (2-1) Credit: 3

This course covers the theory and practice of oxyacetylene cutting and welding of metals in horizontal, vertical and overhead positions.

WELD 132 Basic Arc Welding (2-1) 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 141 Beginning Gas Welding (2-4) Credit: 4

Intensive classroom instruction will be conducted in oxy-acetylene welding. Fusion type welds will be made using many materials and under a variety of positions and conditions. Instruction will include use and operation of oxy-acetylene cutting torch.

WELD 142 Beginning Arc Welding (2-4) Credit: 4

Intensive classroom instruction will be conducted in electric arc welding. Welds will be made in all positions with various types of electrodes. Students will gain a basic understanding of metal properties and characteristics.

WELD 151 Advanced Arc Welding (2-6) Credit: 5

Theory and practice of shielded metal arc welding on tests required by industry. Emphasis *will be placed on preparing the student for certification tests. Prerequisite:* WELD 142.

WELD 152 Advanced Welding Processes (MIG & TIG) (2-6) Credit: 5

Theory and practice of MIG and TIG welding. Course to include study of shielding gases used in these processes.

WELD 153 Weld Testing Methods (2-6) Credit: 5

Theory and practice of making basic destructive and non-destructive weld test. This will include guided bend, nick break, liquid penetrant, and magnetic particle testing. Prerequisite: WELD 142.

WELD 154 Welding Fabrication and Lay-Out (2-6) Credit: 5

Practical application of steel fabrication and general lay-out work. Blueprints with welding symbols will be used on all projects. Prerequisite: WELD 142 and DD 131.

WELD 155 Advanced Fabrication Methods (2-6) Credit: 5

The advanced welding student selects and develops comprehensive welding fabrication project under the direction of the supervising instructor. Special Emphasis is placed on the utilization of special metals, including stainless steel, carbon steel, aluminum and the newer space-age exotic metals. Prerequisite: WELD 154.

WELD 156 Pipe Welding (2-6) Credit: 5

This course covers the theory and practice of the arc welding of pipe in roll-out and in horizontal positions. Different sizes, schedules and materials of pipe are used in the course. Special emphasis is placed on preparing for pipe welding certification examinations. Prerequisite: WELD 151 and WELD 152.

WELD 157 Structural Welding (2-6) Credit: 5

This covers the theory and practice of arc welding on the various structural steel shapes used in the construction and steel fabrication industry. Special emphasis is placed on preparing for the various welding certification examinations. Prerequisite: WELD 151.

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. Generally, classes 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.

SUPPLEMENTAL TRAINING AND EDUCATION (STEP): This program was developed to meet military educational needs to provide adult, non-credit, technically specific course work related to military occupational skills. The purpose of this program is to improve skill performance, deepen technical expertise in subject areas identified by local commands, and provide professional development. Individual mission requirements and service member training needs are addressed through joint course development. Course content, location of class offerings and time schedules for instruction are provided to accommodate military requirements. Course development is provided in two categories: 1) military occupational skills, and 2) professional development.

BUSINESS
Federal Service Entrance Exam
Fundamentals of Tax Preparation
Prepare for ACT, SAT & College Boards
Interpersonal Communications
Real Estate Appraisal, Brokers, Prep

EDUCATIONAL SELF DEVELOPMENT
Automotive Orientation
Defensive Driving
Dog Obedience Training
Driver Education
Gourmet Cooking
Interior Decoration
Intermediate Sewing
Motorcycle Tune Up
Personal Cosmetology
Sewing I
Small Engine Repair
You, Your Child and Drugs

S.T.E.P. COURSES
Advanced Drafting
A.C./D.C. Circuits
Architectural Blueprint Reading
Assembly Methods
Automotive Electrical Systems
Automotive Engines
Ballistics Mathematics
Climate and Weather
Engineering Graphics
Food Preparation & Serving
Geography, Map Reading
Machine Drawing
Manual Transmission
Medical Technology
Menu Planning
Military Correspondence
Nutrition
Sanitation and Safety
Steering and Suspension
Technical Mathematics
Test Equipment

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.

CURRICULUM AND COURSE INDEX

RELATED COURSES

	Course Prefix	Course Descriptions Page
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Biology	(BIOL)	57
Business Administration	(BUS)	57
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Engineering Graphics	(ENGR)	69
English	(ENGL)	70
Government	(GOVT)	74
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Mathematics	(MATH)	81
Offset Printing	(OP)	84
Physics	(PHY)	86
Physical Education	(PE)	86
Psychology	(PSYC)	87
Sociology	(SOC)	88
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SCHEDULE OF FEES
ALL CONTINENTAL AND OVERSEAS 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 $5.00 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 $10.00 is payable at the time a student applies for a Degree.

Transcript Fee - A fee of $2.00 is charged for each transcript issued.

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

TEXTBOOK COSTS

Costs are based on publisher prices plus transportation costs and may vary from term to term. Prices are available from the Field Registrar. Textbook costs are not refundable unless the class is cancelled by the College and the book is returned unused and unmarked to the Field Registrar.

NOTE: For further information, see page 7.

GENERAL INDEX

NOTES