



DALLAS COUNTY COMMUNITY COLLEGE DISTRICT

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TEXAS ACADEMIC SKILLS PROGRAM AND DALLAS COUNTY COMMUNITY COLLEGES

In 1987, the Texas Legislature passed House Bill 2182. This bill, which became effective with the 1989 Fall Semester, requires that all Texas public college and university students be tested for reading, writing and mathematics skills. This legislation applies to students enrolling in the Dallas Community Colleges - Brookhaven, Cedar Valley, Eastfield, El Centro, Mountain View, North Lake and Richland.

Q. What is the Texas Academic Skills Program (TASP)?

- A.** TASP is a diagnostic testing program to assess the academic skills of students entering Texas public colleges and universities. It is designed to determine if students have the reading, writing and math skills necessary to succeed in college courses. The results of the test will point to specific academic strengths and weaknesses and will help advisors and counselors place students in courses in which they can do well and develop the necessary skills for college success. If students score poorly in one or more areas of the test, TASP requires them to enroll and participate in appropriate remediation until all sections of the test are passed.

Q. Who must take the TASP test?

- A.** Since the Fall 1989 semester, all college students must take TASP either before or during the semester of completing 15 college-level credit hours. Such scores must be reported to the college prior to the next registration. **ALL** students planning to become a certified teacher in Texas **MUST** take and pass TASP.

Q. Are there any exemptions from taking the TASP test?

- A.** Students who have completed at least three (3) credit hours of college-level work prior to the 1989 Fall Semester will be exempt from taking TASP. Courses that count toward this exemption are those taken at the DCCCD or other regionally-accredited colleges or universities and which will count toward graduation; also, various credit-by-exam programs taken prior to Fall 1989 will result in an exemption. Students enrolled in a DCCCD academic program leading to a certificate may receive a waiver from TASP.

The following DCCCD courses or their equivalents will NOT count toward the three hours: Any course numbered below 100, Art 199, College Learning Skills 100, Developmental Communications 120, Human Development 100, Human Development 110, Library Skills 101, Music 199, and Theatre 199.

Q. Must a student take TASP prior to entering a DCCCD college?

- A.** No, it is not necessary that a student take TASP prior to enrolling. However, DCCCD students must take TASP prior to completing fifteen (15) hours of college-level courses and report scores prior to the next registration. In most cases, 5 courses will equal 15 hours of credit. **ALL PERFORMANCE GRADES (A - F)** earned in courses will count toward the 15 hours of credit.

Q. If students must take TASP by the completion of their 15th credit hour, does this mean they must pass TASP by that same time?

- A.** No, students are required only to take TASP prior to completing their 15th credit hour, and report scores before their next DCCCD registration. If students do not "pass" a section or sections of TASP, they will be mandated into remediation. Students must pass all sections of TASP before they can be awarded a degree from the DCCCD. Students who transfer to a four-year state college or university will not be allowed to take junior or senior courses until they have passed all sections of TASP.

Q. How and when will the TASP test be given?

- A.** The three-part (reading, writing and mathematics) test will be given on a statewide basis at designated testing sites, much like the SAT and ACT tests. Each DCCCD college is a test site. During 1992, the test will be given on June 20, July 18, September 19 and November 14. During 1993, the test dates are February 20, April 24, June 19 and July 24. TASP registration materials are available in the Counseling Centers and/or Testing Centers of each of the DCCCD colleges.

Q. What is the cost of the TASP test? Is there a study guide available?

- A.** The cost for the total test is \$26. An Official TASP Study Guide can be purchased in DCCCD College Book Stores or it can be ordered by writing to TASP Project, P.O. Box 1403478, Austin, Texas, 78714-0347. Study Guides are available for reference use in each of the DCCCD college libraries.

Q. How will TASP affect students planning to attend a DCCCD college?

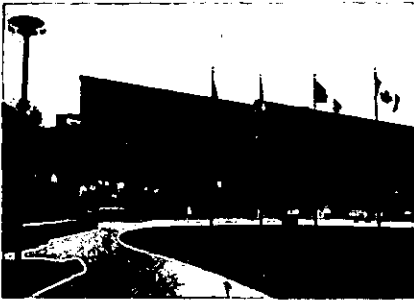
- A.** Students planning to attend a DCCCD college will continue to complete the usual steps for enrollment. TASP scores should be reported after being admitted by those who have taken TASP. However, for students who have not taken TASP, the college will indicate whether or not they should take the DCCCD's assessment test. Then, before completing their 15th credit hour, students must take the TASP test and report their scores before their next registration.

Q. Are students transferring into the DCCCD required to take TASP?

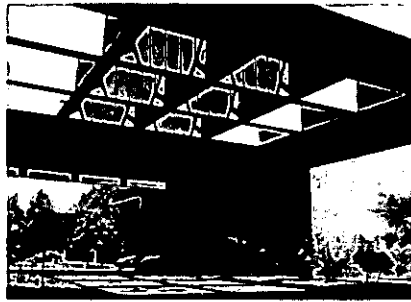
- A.** Unless the transfer student qualifies for one of the exemptions discussed above, he or she is required to take TASP. Transfer students from another Texas public college/university are expected to take TASP no later than the semester of enrollment in 15 college-level credit hours, and the hours earned at other Texas public colleges **ARE USED** in computing the 15 credit hours. Such students must report scores before registering for college-level hours in the DCCCD. Hours earned at private or out-of-state colleges/universities **ARE** used in computing such 15 credit hours. If transfer students from such institutions have already exceeded 15 hours, they must take TASP within their next nine hours.

If you would like more information on the Texas Academic Skills Program, please contact the college's Counseling Center.

1992-93 Dallas County Community College District Catalog



Brookhaven College
3939 Valley View Lane
Farmers Branch, Texas 75244



Cedar Valley College
3030 North Dallas Avenue
Lancaster, Texas 75134



Eastfield College
3737 Motley Drive
Mesquite, Texas 75150



El Centro College
Main & Lamar Streets
Dallas, Texas 75202



Mountain View College
4849 West Illinois Avenue
Dallas, Texas 75211



North Lake College
5001 North MacArthur Boulevard
Irving, Texas 75062



Richland College
12800 Abrams Road
Dallas, Texas 75243

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This publication prepared by the Dallas County Community College District Office of Public Information.

Educational opportunities are offered by the Dallas County Community College District without regard to race, color, age, national origin, religion, sex, or handicap.

Academic Calendar for 1992-93

Summer Sessions, 1992

First Summer Session: (Based on 4 day class week)

May 25 (M)	Memorial Day Holiday
May 27 (W)	Registration (Richland Only)
May 28 (R)	Registration (All Campuses)
June 1 (M)	Classes Begin
June 4 (R)	4th Class Day
June 18 (R)	Last Day to Withdraw With a Grade of "W"
June 20 (S)	TASP Test Administered
July 2 (R)	Final Exams
July 2 (R)	Semester Ends
July 3 (F)	Fourth of July Holiday
July 6 (M)	Grades Due in Registrar's Office by 10:00 a.m.

Second Summer Session: (Based on 4 day class week)

July 8 (T)	Registration (All Campuses)
July 9 (W)	Classes Begin
July 10 (F)	Class Day (Only Friday Class Day)
July 14 (T)	4th Class Day
July 18 (S)	TASP Test Administered
July 30 (R)	Last Day to Withdraw With A Grade of "W"
August 11 (T)	Final Exams
August 11 (T)	Semester Ends
August 13 (R)	Grades Due in Registrar's Office by 10 a.m.

Fall Semester, 1992

August 24 (M)	Faculty Reports
August 24-27 (M-R)	Registration Period (Varies by Campus)
August 28 (F)	Faculty Professional Development
August 31 (M-R)	Classes Begin (M-R) Classes
September 4 (F)	Friday Only Classes Begin
September 5 (S)	Saturday Only Classes Begin
September 7 (M)	Labor Day Holiday
September 14 (S)	12th Class Day
TBA	TASP Test Administered
November 5 (R)	Last Day to Withdraw With A Grade of "W"
TBA	TASP Test Administered
November 26 (R)	Thanksgiving Holidays Begin
November 30 (M)	Classes Resume
December 11 (F)	Final Exams for Friday Only Classes
December 12 (S)	Final Exams for Saturday Only Classes
December 14-17 (M-R)	Final Exams for M-R Classes
December 17 (R)	Semester Ends
December 21 (M)	Grades Due in Registrar's Office by 10 a.m.
December 25 (F)	College Buildings and Offices Closed for the Holidays

Spring Semester, 1993

January 4 (M)	College Buildings and Offices Reopen
January 11 (M)	Faculty Reports
January 11-14 (M-R)	Registration Period (Varies by Campus)
January 15 (F)	Faculty Professional Development
January 18 (M)	Martin Luther King, Jr. Day Holiday
January 19 (M)	Classes Begin (M-R) Classes
January 22 (F)	Friday Only Classes Begin
January 23 (S)	Saturday Only Classes Begin
February 1 (M)	12th Class Day
February 18 (R)	District Conference Day
February 19 (F)	Faculty Professional Development (TJCTA)
February 19 (F)	Friday Only Classes Meet
February 20 (S)	Saturday Only Classes Meet
TBA	TASP Test Administered
March 15 (M)	Spring Break Begins
March 19 (F)	Spring Holiday for All Employees
March 22 (M)	Classes Resume
March 25 (R)	Last Day to Withdraw With A Grade of "W"
April 9 (F)	Holidays Begin
April 12 (M)	Classes Resume
TBA	TASP Test Administered
May 7 (F)	Final Exams--Friday Only Classes
May 8 (S)	Final Exams--Saturday Only Classes
May 10-13 (M-R)	Final Exams for M-R Classes
May 13 (R)	Semester Ends
May 13 (R)	Graduation
May 17 (M)	Grades Due in Registrar's Office by 10 a.m.

Summer Sessions, 1993

First Summer Session: (Based on 4 day class week, except for first week)

May 31 (M)	Memorial Day Holiday
June 2-3 (W-R)	Registration (Varies By Campus)
June 7 (M)	Classes Begin
June 10 (R)	4th Class Day
June 11 (F)	Class Day (Only Friday Class Day)
TBA	TASP Test Administered
June 24 (R)	Last Day to Withdraw With a Grade of "W"
July 5 (W)	Fourth of July Holiday
July 8 (R)	Final Exams
July 8 (R)	Semester Ends
July 12 (M)	Grades Due in Registrar's Office by 10:00 a.m.

Second Summer Session: (Based on 4 day class week except for first week)

July 14 (W)	Registration (All Campuses)
July 15 (R)	Classes Begin
July 16 (F)	Class Day (Only Friday Class Day)
July 20 (T)	4th Class Day
TBA	TASP Test Administered
August 5 (R)	Last Day to Withdraw With A Grade of "W"
August 17 (T)	Final Exams
August 17 (T)	Semester Ends
August 19 (R)	Grades Due in Registrar's Office by 10:00 a.m.

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Vice President of the R. Jan LeCroy Center for Educational Telecommunications	Pamela K. Quinn

I. GENERAL INFORMATION

History of the Dallas County Community College District

The Dallas County Community College District is comprised of seven colleges located strategically throughout Dallas County. Together the colleges enroll approximately 50,000 credit and 40,000 non-credit students per long semester and employ over 1,900 full-time faculty and staff members.

The growth of the District into an educational system with such impact was not by chance. In May, 1965, voters created the Dallas County Junior College District and approved a \$41.5 million bond issue to finance it. The next year the District's first college, El Centro, began operation in downtown Dallas. Eastfield and Mountain View Colleges enrolled their first students in 1970, and the plans for a multi-campus district became a reality. Richland College became the District's fourth college in 1972.

The voters of Dallas County approved the sale of an additional \$85 million in bonds in September, 1972. This step provided for expansion of the four existing colleges and the construction of three more colleges. A key part of the expansion program was the remodeling and enlarging of El Centro College, a project completed in 1979. Construction of new facilities resulted in the opening of Cedar Valley College and North Lake College in 1977. Brookhaven College, the final campus in the seven college master plan, opened in 1978.

In 1989, the Bill J. Priest Institute for Economic Development opened south of downtown Dallas. Named for the DCCCD's founding chancellor, the BJPIED serves the community through the Business and Professional Institute, Edmund J. Kahn Job Training Center, Small Business Development Center, Center for Government Contracting, Business Incubation Center and International Trade Resource Center.

District Philosophy And Goals

Since 1972, the District has been known as the Dallas County Community College District. The name shows that the District has outgrown the term "junior college." The name also reflects the District's philosophy. The colleges truly are community institutions, meeting the varied educational needs of the growing Dallas County region. The primary goal of the District and its colleges is to help students of all ages achieve effective living and responsible citizenship in a fast-changing region, state, nation and world. Each college is therefore committed to providing a broad range of educational programs for the people it serves.

The needs, abilities and goals of each student are considered important. The focus is on creating an educational program for the individual rather than squeezing or stretching the individual to fit an "educational mold."

The District, therefore, has a place for different kinds of students. There is a place for the young person

setting forth toward a degree in medicine, and a place for the adult delving into an interesting hobby to enrich leisure hours. There is a place for the person preparing to enter a trade or technical field with a year or two of studies, and a place for the employed individual wanting to improve occupational skills. There is a place for the very bright high school student ready to begin college work in advance of high school graduation, and a place for the high school dropout who now sees the need for education in today's complex society. In short, there is a place for everyone.

How do the colleges meet the educational needs of such a varied family? The answer is found in four categories of programs:

1. For the student working toward a bachelor's or higher degree, the colleges offer a wide range of first-year and second-year courses which transfer to senior colleges and universities.

2. For the student seeking a meaningful job, the colleges offer one-year and two-year programs in technical and occupational fields.

3. For the employed person wishing to improve job skills or to move into a new job, the colleges offer credit and non-credit adult educational courses.

4. For the person who simply wants to make life a little more interesting, the colleges offer continuing education programs on cultural, civic and other topics.



Additional programs are available for the high school student, dropout and others with special needs. The colleges help each student design the educational program that best meets individual needs. Every student is offered intensive counseling to define goals and identify

abilities. Continued guidance is available throughout the student's college career in case goals and plans change. This emphasis on counseling, rare for some institutions, is routine at all District colleges.

District Responsibilities

To carry out the District philosophy, the colleges obviously must offer a wide range of programs and courses,

including guidance services. These programs and courses must help each individual attain a high level of technical competence and a high level of cultural, intellectual and social development. In addition, high professional standards for the academic staff must be maintained within a framework prescribed by the Board of Trustees. At the same time, the program and organization of each college must make maximum use of faculty and facilities.

The colleges have a basic responsibility to provide educational and cultural leadership to the community. They must be sensitive to changing community needs and adapt readily to those needs. Individuals capable of continuing their educational development should be given the opportunity to improve their skills. Finally, to continue to meet its responsibilities in changing times, the college system must guard against stagnation. Creativity and flexibility are therefore fostered at the District level and on each campus.

League for Innovation

The Dallas County Community College District is a member of the League for Innovation in the Community College. The League is composed of 19 outstanding community college districts throughout the nation. Its purpose is to encourage innovative experimentation and the continuing development of the community college movement in America. Membership commits the District to research, evaluation and cooperation with other community college districts. The goal is to serve the community with the best educational program and the fullest use of resources.

Equal Educational And Employment Opportunity Policy

The Dallas County Community College District is committed to providing equal educational and employment opportunity regardless of sex, marital or parental status, race, color, religion, age national origin or disability. The District provides equal opportunity in accord with federal and state laws. Equal educational opportunity includes admission recruitment, extra-curricular programs and activities, access to course offerings, counseling and testing, financial aid, employment, health and insurance services and athletics. Existing administrative procedures of the College are used to handle student grievances. When a student believes a condition of the College is unfair or discriminatory, the student can appeal to the administrator in charge of that area. Appeals to a higher administrative authority are considered on the merits of the case.



Family Educational Rights And Privacy Act Of 1974

In compliance with the Family Educational Rights and Privacy Act of 1974, the College may release information classified as "directory information" to the general public without the written consent of the student. Directory information includes: (1) student name, (2) student address, (3) telephone number, (4) dates of attendance, (5) educational institution most recently attended and (6) other information, including major field of study and degrees and awards received.

A student may request that all or any part of the directory information be withheld from the public by giving written notice to the Registrar's Office during the first 12 class days of a fall or spring semester or the first four class days of a summer session. If no request is filed, information is released upon inquiry. No telephone inquiries are acknowledged; all requests must be made in person. No

transcript or academic record is released without written consent from the student stating the information to be given, except as specified by law.

Student Consumer Information Services

Pursuant to the Educational Amendment of 1980, Public Law 96-374, the College provides all students with information about its academic programs and financial aid available to students.

Standard Of Conduct

The college student is considered a responsible adult.

The student's enrollment indicates acceptance of the standards of conduct published in this catalog.

If you are unable to complete the course (or courses) for which you have registered, it is your responsibility to withdraw formally from the course (or courses). Failure to do so will result in your receiving a performance grade, usually an "F."

II. IMPORTANT TERMS AND ABBREVIATIONS

Academic advisor: A member of the college staff who helps students set educational goals and select courses to meet those goals.

Add: During any single semester, to enroll in additional course(s) after registration.

Admission: Formal application and acceptance as a credit student. A person wishing to enroll must complete an application, be accepted and receive a letter of acceptance from the Registrar before registering.

Audit: Enrollment in a credit course without receiving academic credit.

Catalog: The book containing course descriptions, certificate and associate degree requirements and general information.

Class schedule: A booklet which is published prior to each semester listing classes, sections, dates, times, instructors' names and meeting places. This booklet is used by students in preparing personal class schedules each semester.

Common Course Numbers: Some course descriptions also indicate a Common Course Number. Beginning in the Fall of 1994, the Common Course Number will become the official number of the course. This same Common Course Number is being used for this same course by a number of colleges throughout Texas to help students identify how a course will transfer. However, the lack of a Common Course Number does not necessarily mean a course will not transfer.

Common Learning: "General Education" as defined by the DCCCD. Common Learning courses contain learning experiences which provide knowledge and skills necessary for living well and functioning competently in rapidly-changing local, state, national and world communities.

Concurrent enrollment: (a) Enrollment by the same student in two different DCCCD colleges at the same time; (b) Enrollment by a high school senior in one of the DCCCD colleges while still enrolled in high school; (c) Enrollment by a student in two related courses in the same semester; (d) Enrollment in both a DCCCD institution and a four-year institution at the same time; (e) Enrollment in both credit and Continuing Education courses at the same time.

Course Load: The number of hours or courses in which a student is enrolled in any given semester.

Credit: The numerical value assigned to a course (see "CREDIT HOURS/SEMESTER HOURS").

Credit hours/semester hours: The unit of credit earned for course work. Each college course is worth a certain number of credit or semester hours. This number is determined by the type of class and the number of hours per week it meets. For example, a 3-credit-hour class (English, history, etc.) meets 3 hours per week during the fall/spring semesters; a 4-credit-hour class (science, languages, etc.) meets 6 hours per week. Check this catalog or the current class schedule for the value of any course you wish to take.

Credit/non-credit: Credit classes are those which

award academic credit and may apply toward a degree. Non-credit classes do not apply toward a degree and are usually offered through Continuing Education.

DCCCD: Dallas County Community College District comprised of Brookhaven, Cedar Valley, Eastfield, El Centro, Mountain View, North Lake and Richland Colleges, plus the Bill J. Priest Institute for Economic Development.

Developmental studies courses: Courses which develop prerequisite skills in reading, writing and mathematics. Because of the nature of these courses, the credit earned will not count toward graduation requirements and may not be transferred to colleges outside the DCCCD.

Drop: The act of officially withdrawing from a particular course without penalty before a specified date. See the calendar at the first part of this catalog for "Last Day To Withdraw." It is the student's responsibility to drop a course by the date published.

Dual credit: Credit earned for both high school and college via concurrently enrolled high school students.

Electives: Courses which do not count toward a major but are required for most college degrees. Electives are selected for personal interest, skill development or to increase one's knowledge or understanding. Consult with an advisor before deciding upon electives.

Fee: A charge which the college requires for services in addition to tuition charges.

Flexible-entry course:

A course beginning and ending

on dates which are different from the regular semester. This is also referred to as "flex-entry" or "short semester registration." Consult the class schedule for further information.

Former student: One who has attended a DCCCD college in the past but not during the previous long semester.

Full-time student: A student who is enrolled for at least 12 credit hours during a semester or for 6 credit hours during a summer session.

GPA: Grade Point Average. Two different ways of computing a G.P.A. are utilized. For further explanation, see catalog section entitled "Scholastic Standards."

Grade points: See catalog section entitled "Scholastic Standards."

Grades: See catalog section entitled "Scholastic Standards."

Lab hours: The number of hours a student spends each week in a laboratory or other learning environment.



Lecture hours: The number of hours a student spends each week in a classroom other than a laboratory.

Major: The subject or field of study in which the student plans to specialize. For example, one "majors" in automotive technology, business, etc.

Part-time student: A student who is enrolled for less than 12 credit hours during a semester or less than 6 credit hours in a summer session.

Performance grade: A grade of A, B, C, D or F. This does not include the grades of W, I or WX. See catalog section on "Academic Information" for more on grades and grade point averages.

Prerequisite: A requirement which must be met BEFORE enrolling for a specific course. For example, the prerequisite for English 102 is the successful completion of English 101. A prerequisite may be another course (high school or college), an appropriate assessment score or permission of the instructor.

Probation: A warning for a student whose academic work or behavior is unsatisfactory. Students on academic probation may be suspended if their academic performance does not improve.

Registration: The official process for enrolling in courses. This involves selecting classes with the help of an advisor, completing all registration forms and paying fees. Check the class schedules for registration dates.

Section: A number indicating day/evening, hour, room number and name of instructor for a particular course. For example, the section number differentiates among the various classes of English 101.

Semester: A term denoting the length of time a student is enrolled in a specific course. For example, there are two long semesters (Fall and Spring) which last approximately 16 weeks. There are two summer sessions or "semesters" (Summer I and Summer II) which last approximately 5 1/2 weeks.

Skills for Living: Skills need for living well with oneself, others and changing environments. Skills for Living are discussed and learned throughout the curriculum and provide basic goals for all Common Learning courses.

Student services fee: A fee for activities and services to students, which are considered separate and apart from the regularly scheduled academic functions of the college. Such activities and services include, but are not necessarily limited to, the following: health and medical services; recreational activities; automobile parking privileges; intramural and intercollegiate athletics; artists and lecture series; cultural entertainment series; student publications; and/or student government.

TASP: Texas Academic Skills Program; see special section in this catalog about this testing program.

Technical/occupational courses: Courses which lead to a certificate or Associate of Applied Science Degree in a technical or occupational program. These courses are designed to aid the student in developing entry-level skills to be utilized in the job market. Consult an advisor regarding transferability if you plan to attend a four-year institution.

Telecourses: Courses providing flexibility and convenience for students seeking college credit with minimum campus visits. Students watch the course television programs at home on regular broadcasts or cablecasts, complete the study guide and reading assignments, take tests on campus and attend optional discussion meetings. Instructors are available during regular office hours or via telephone when assistance is needed.

Transfer courses: Courses which are designed to transfer to other colleges and universities. Students need to consult with an advisor or counselor about the transferability of specific courses. Because a course will transfer does not mean it will apply toward a specific major or degree at a four-year college or university.

Transcript: An official copy of a student's academic record which can be obtained through the Admissions Office. An official transcript must have the seal of the college affixed and the signature of the Registrar.

Withdrawal: The act of ending enrollment in classes. A student withdrawing must go through a formal procedure. It is the student's responsibility to withdraw officially by the appropriate date. See the calendar in this catalog or the class schedule for the "Last Day to Withdraw."

III. ADMISSIONS AND REGISTRATION

General Admissions Policy

The College has an "open door" admissions policy. It insures that all persons who can profit from post-secondary education have an opportunity to enroll. The College requires certain assessment procedures for use in course placement prior to admission to a certificate or degree program, but the assessment is not used to determine admission.

Admission Requirements

Documentary evidence of Texas residency must be provided by all applicants claiming Texas residence and requesting resident tuition classification.



This evidence must be submitted with the application for admission and must prove twelve (12) months of Texas residency immediately prior to the semester of enrollment. Failure to provide evidence will result in an applicant being classified as a non-resident for tuition/fee purposes. Contact the Admissions Office for specific information detailing required documentation.

Beginning Freshmen

Students enrolling in college for the first time who fit one of the following categories may apply for admission:

- a. Graduates from an accredited high school;
- b. Graduates of an unaccredited high school who are 18 years of age or older;
- c. Those who have earned a General Education Diploma (G. E. D.);
- d. Those who are at least 18 years of age and who do not have a diploma or G.E.D. may be admitted by individual approval;
- e. Those who are under the age of 18 and who do not have a diploma or G.E.D. may be admitted upon the written recommendation of the principal or superintendent of the last high school attended;
- f. High school seniors recommended by their high school principal. The College admits a limited number of students in this category. The student may enroll for no more than TWO college courses per semester;
- g. It is recommended, although not required, that students have adequate immunization for diphtheria, rubeola, rubella, mumps, tetanus and poliomyelitis.

Transfer Students

Transfer applicants are considered for admission on the basis of their previous college records. Academic standing for transfer applicants is determined by the Registrar's Office according to standards established by the College. Students on scholastic or disciplinary suspension from another institution must petition the Committee on Admissions and Academic Relations for special approval. Contact the Admissions Office for further information.

Students transferring from a Texas public college or university are subject to the same TASP requirements as are "native" DCCCD students. (See special TASP section). Therefore, transfer students from Texas public colleges and universities who began their college careers in the 1989 Fall Semester and who have accumulated at least 15 hours of college-level credit must have TASP scores on file with the DCCCD college. Otherwise, enrollment will be limited to remedial and/or other courses which will not count toward graduation.

Students transferring from a non-Texas public college or university who began their college career in the 1989 Fall Semester will have to take the TASP test either before or during their semester of enrollment in their 15th credit hour of college-level coursework in the DCCCD.



Former Students

Students formerly enrolled in the Dallas County Community College District must submit an application for readmission to any District college. Students with unsettled financial debts or whose record is blocked for any other reason at any District college will not be allowed to register.

Non-Credit Students

Students enrolling for non-credit courses apply through the Office of Continuing Education.

International Students

The College is authorized under federal law to enroll non-immigrant alien students. International students are not admitted, however, until all admissions requirements are complete. International students must:

1. complete a personal interview with the international student counselor and receive approval from the college;
2. present TOEFL (Test of English as a Foreign Language) test scores of 525 or higher and take the DCCCD assessment tests (students who have English as their primary language may be excused from the TOEFL requirement);
3. be proficient in English and provide a letter in their own handwriting indicating educational and vocational plans;
4. show evidence of sufficient financial support for the academic year by submitting an I-134 (Affidavit of support) Immigration and Naturalization Services document;
5. provide written proof of negative tuberculin skin test or chest x-ray, polio immunization if applicant is under nineteen years of age, measles and rubella vaccines taken since January 1, 1968, and diphtheria/tetanus injections taken within the last ten years;
6. fulfill all admission requirements for international students at least 30 days prior to registration;
7. enroll as a full-time student (minimum of 12 credit hours);
8. supply official transcripts for all previous academic work with a minimum "C" average.

In addition to the requirements stated above, international students wishing to transfer from another U.S. higher education institution must also:

1. present documentation indicating "bona fide" non-immigrant status as an F-1 or M-1 student;
2. have pursued a full course of study at the institution last authorized to attend by I.N.S.;
3. present official transcripts verifying that the student:
 - a. was "in-status" for the term immediately preceding this transfer, and
 - b. has a minimum G.P.A. of 2.00 in all college work attempted.

International students are subject to the requirements of the Texas Academic Skills Program (TASP).

Contact the Admissions Office for information.

Application and Admissions Procedures

Applications may be submitted any time prior to registration. Earlier application is desirable because the student's place in registration is determined by the date of



the applicant's file; submitting admissions documents early also insures that there is adequate time for effective counseling and schedule planning. A later place in registration often means that the classes a student desires are already filled, as all District colleges conduct early registration in some form. Applicants must submit the following material to the

Admissions Office to have a complete admissions file:

- a. An official application, available from the Admissions Office;
- b. Official Transcripts: The following **MUST** be submitted—(1) a beginning student is required to furnish a transcript of the student's high school record; (2) a college transfer student is required to furnish official transcripts of all college work attempted. The College accrediting agency requires transcripts, and the College uses them in program advisement. **IT IS ABSOLUTELY ESSENTIAL THAT TRANSFER STUDENTS SUBMIT OFFICIAL TRANSCRIPTS FROM PREVIOUS COLLEGES ATTENDED.** If transcripts are not submitted, future enrollment of the student will be blocked and a transcript of work attempted at any DCCCD institution will not be released.

An official transcript must bear the institution's embossed seal and signature of the Registrar. Although transcripts sent electronically over the Electronic Transcript Network will be considered official, a photocopy or facsimile (FAX) is not an official transcript.

All applicants may select only those classes available when they register. Students may enroll in certain courses at times other than regular semester registration. See the Flexible Entry courses section in this catalog and contact the Registrar's Office for additional information.

Students entering with academic deficiencies or low assessment scores may be admitted on probation and will be required to enroll in developmental or other programs designated by the college.

Reciprocal Tuition Agreement

The following Associate of Applied Science Degrees offered by the Dallas County Community College District may be taken by Tarrant County residents at in-county tuition rates:

PROGRAM	CAMPUS
Apparel Design	ECC
Automotive Technology	BHC
Aviation Technology	MVC
Air Cargo	
Air Traffic Control	
Aircraft Dispatcher	
Airline Marketing	
Career Pilot	
Fixed Base Operations	
Avionics	MVC
Commercial Music	CVC
Construction Management	NLC
Educational Personnel	RLC
Electrical Technology	NLC
Engineering Technology	RLC
Film/Video Technology	NLC
Food & Hospitality Service	ECC
Human Services	EFC
Interior Design	ECC
Machine Shop	MVC
Mortgage Banking	NLC
Pattern Design	ECC
Physical Fitness Technology	NLC
Plumbing and Pipefitting	NLC
Social Work Associate	EFC
Veterinary Technology	CVC
Visual Communications	BHC
Vocational Nursing	ECC

(Continues following tuition schedule page.)

TUITION AND STUDENT SERVICES FEE Fall and Spring Sessions

Semester Credit Hours	Dallas County			Out-of-District			Out-of-State or Country		
	Tuition	Fee	Total	Tuition	Fee	Total	Tuition	Fee	Total
1	\$ 42	\$10	\$ 52	\$100	\$10	\$110	\$ 200	\$10	\$ 210
2	42	10	52	100	10	110	200	10	210
3	42	10	52	100	10	110	200	10	210
4	56	10	66	132	10	142	252	10	262
5	70	10	80	165	10	175	315	10	325
6	84	10	94	198	10	208	378	10	388
7	98	10	108	231	10	241	441	10	451
8	112	10	122	264	10	274	504	10	514
9	126	10	136	297	10	307	567	10	577
10	140	10	150	330	10	340	630	10	640
11	152	10	162	342	10	352	693	10	703
12	164	10	174	354	10	364	756	10	766
13	176	10	186	366	10	376	819	10	829
14	188	10	198	378	10	388	882	10	892
15	200	10	210	390	10	400	945	10	955
16	212	10	222	402	10	412	1,008	10	1,018
17	224	10	234	414	10	424	1,071	10	1,081
18	236	10	246	426	10	436	1,134	10	1,144
19	248	10	258	438	10	448	1,197	10	1,207
20	260	10	270	450	10	460	1,260	10	1,270

TUITION Summer Sessions

Semester Credit Hours	Dallas County			Out-of-District			Out-of-State or Country		
	Tuition	Fee	Total	Tuition	Fee	Total	Tuition	Fee	Total
1	\$ 48	\$10	\$ 58	\$100	\$10	\$110	\$200	\$10	\$210
2	48	10	58	100	10	110	200	10	210
3	48	10	58	138	10	148	200	10	210
4	64	10	74	184	10	194	276	10	286
5	80	10	90	230	10	240	345	10	355
6	96	10	106	276	10	286	414	10	424
7	106	10	116	286	10	296	483	10	493
8	116	10	126	296	10	306	552	10	562
9	126	10	136	306	10	316	621	10	631

The following definitions are brief guidelines only; please discuss any questions regarding proper tuition classification with admissions office personnel.

TUITION REQUIREMENTS FOR LONG TERM:

- Dallas County Residents** \$14.00 per credit unit through ten credit units and \$12.00 for each additional credit unit over ten credit units; minimum of \$42.00
- Out-of-District Residents** \$33.00 per credit unit through ten credit units and \$12.00 for each additional credit unit over ten credit units; minimum of \$100.00
- Out-of-State Residents** \$63.00 per credit unit; minimum of \$200.00
- Out-of-Country Residents** \$63.00 per credit unit; minimum of \$200.00

SUMMER SESSION

- Dallas County Residents** \$16.00 per credit unit through six credit units and \$10.00 for each additional credit unit over six credit units; minimum of \$48.00
- Out-of-District Residents** \$46.00 per credit unit through six credit units and \$10.00 for each additional credit unit over six credit units; minimum of \$100.00
- Out-of-State Residents** \$69.00 per credit unit; minimum of \$200.00
- Out-of-Country Residents** \$69.00 per credit unit; minimum of \$200.00

The charge for auditing a course is the same as taking the course for credit.

Provided he has established legal residence in the State of Texas, a student's county of residence is the county in which his legal guardian resides, if he is under 18 years of age. Students 18 years of age and older are deemed to be residents of the county in which they reside.

An "Out-of-State Resident" is defined to be a student of less than 18

years of age, living away from his family and whose family resides in another state or whose family has not resided in Texas for twelve months immediately preceding the date of registration; or a student 18 years of age or older who has not been a resident of the state twelve months subsequent to his 18th birthday or for the twelve months immediately preceding the date of registration.

The description of resident and non-resident status contained above are generally applicable, but the determination of residence status for tuition purposes is specifically governed by the provisions of V.T.C.A. Education Code, Section 54.052, the rules and regulations of the Coordinating Board, Texas College and University System, and judicial and/or administrative interpretations thereof. In the event of conflict between the above-noted descriptions and the latter authorities, the latter shall govern.

A foreign national on any other than a permanent resident visa must pay out-of-country tuition and fees.

The tuition schedule above is subject to change without notice by action of the District Board of Trustees or the State of Texas.

By law (TEC: section 4, subchapter B, chapter 54; sec. 54.0521, 1985), the STATE OF TEXAS requires that the OATH OF RESIDENCY be signed.

The law states that if the institution later determines that the individual was not entitled to be classified as a resident at the time of the individual's registration, the individual shall pay to the institution the amount the individual should have paid as a non-resident. **If the individual fails to make a timely payment as required, the individual is not entitled to receive a transcript or to receive credit for courses taken during the time the individual was falsely registered as a resident student.**

THE OATH OF RESIDENCY IS NOT ACCEPTABLE IN LIEU OF DOCUMENTARY EVIDENCE.

If you are a non-resident or an out-of-country student AND if you (or the parent on whom you are dependent) own property subject to ad valorem tax by the College District, you may qualify for a waiver of tuition to the In-District rate. Please check with the college Admissions Office for additional details.

Tuition

Tuition is charged on a sliding scale according to the number of credit hours for which a student is enrolled and the student's place of legal residence. Tuition is subject to change without notice by the Board of Trustees or the Texas Legislature.

Additional Fees

Additional fees may be assessed as new programs are developed with special laboratory costs. These fees will always be kept to a practical minimum. A graduation fee is not assessed, but each student must pay for cap and gown rental.

Special Fees And Charges

Registration Fee (Non-refundable: There will be a \$5 non-refundable Registration Fee assessed each semester.

Laboratory Fee: \$4 to \$12 a semester (per lab).

Class Fee: Variable special costs of course not otherwise defined as "Laboratory Fee." Rental costs of specialized equipment and off-campus facilities are examples of "class fees."

Physical Education Activity Fee: \$5 a semester.

Dance Activity Fee: \$5 a semester.

Bowling Class Fee: Student pays cost of lane rental.

Private Music Lesson Fee: \$45 for one hour per week (maximum) for one course, \$25 for one half hour per week.

Audit Fee: The charge for auditing a course is the same as if the course were taken for credit.

Credit by Examination: A fee will be charged for each examination. This fee can change without prior notice.

Refund Policy

The refund policy of the District is based upon state regulations and on the fact that student tuition and fees provide only a fraction of the cost of offering educational opportunities. When students enroll in a class, they reserve places which cannot be made available to other students until they officially drop the class. In addition, the original enrollment of students represents a sizable cost to the District regardless of continuance in that class. Therefore, a refund is made only under the following conditions:

(1) Official withdrawal:

Students who officially withdraw from the institution shall have their tuition and mandatory fees refunded according to the following schedule:

Fall and Spring Semesters

Prior to the first class day of the semester.....100%

During the first five class days of the semester...80%

During the second five class days of the semester....70%

During the third five class days of the semester...50%

During the fourth five class days of the semester...25%

After the fourth five class days of the semester...NONE

Summer Semesters

Prior to the first class day of the semester...100%

During the first, second or third class day of the semester...80%

During the fourth, fifth or sixth class day of the semester...50%

After the sixth class day of the semester...NONE

(2) Official drop of a course or courses:

Students who reduce their semester credit hour load by officially dropping a course or courses and remain enrolled at the institution will have applicable tuition and fees refunded according to the following schedule:

Regular Session

During the first twelve class days of the semester...100%

After the twelfth class day of the semester...NONE

Summer Session

During the first four class days...100%

After the fourth class day...NONE

* The first "class day" is to be counted as the officially published date when the semester begins. The first "class day" means the first day ALL classes begin for the semester, not the first day a student's class is scheduled to meet. No refunds are issued after the last class day of each semester.

Separate refund schedules may be established for optional fees such as intercollegiate athletics, cultural entertainment, parking, etc.

Tuition and fees paid directly to the institution by a sponsor, donor or scholarship shall be refunded to the source rather than directly to the student.

(3) A student dropping a portion of his or her class load after the twelfth class day of a fall or spring semester (fourth class day of a summer session) is not entitled to a refund unless approved by the Refund Petitions Committee.

(a) Refund petitions, accompanied by an explanation of any existing circumstances, shall be submitted to the Refund Petitions Committee on the campus.

(b) If the petition is approved by the committee, the student shall be notified and shall receive a refund of tuition and fees according to the appropriate schedules in this policy.

(4) The student must submit the request for refund before the end of the semester or summer session for which the refund is requested. Cash refunds are not issued. Refund checks are mailed to the student at the address on file in the Admissions/Registrar's Office.

(5) Mandatory fees shall include, but not be limited to,

registration fee, student activity fees, laboratory fees, private lesson fees and physical education activity fees.

(6) Flexible entry courses are to be handled as regular semester-length courses. The refund schedule will be prorated accordingly.

(7) Refund checks normally require a minimum of one month from date of approval for processing.

(8) The college academic calendar and the class schedule shall specify the last day for withdrawal with refund.

Returned Checks

Checks returned to the Business Office must be paid with cash or a cashier's check within the time limits prescribed by the notification letter. An additional fee is added for returned checks. If a check for tuition is returned by the bank for any reason, including stop payment, the College Business Office may submit the check to the Justice of the Peace for appropriate legal action and collection. The Vice President of Student Development may also implement disciplinary procedures. Students may be dropped from courses due to returned checks.

Assessment and Advisement Procedures

Assessment is the process of evaluating readiness for certain college courses and the probabilities for success in those courses. The College has an assessment and advisement program for entering students which is a required part of the enrollment process.

The assessment program includes the completion of a questionnaire which documents information on career and work plans, previous academic achievement and other relevant information. Assessment also includes an examination of individual skill levels in reading, writing and mathematics. Information on skills may come from ACT, SAT, previous college-level work or from scores on the standardized tests administered free of charge by the College. Students who have taken TASP also need their TASP scores.

Because of the importance of such information, students should have official copies of ACT, SAT or TASP scores and transcripts mailed to the Admissions Office or bring them personally at the time of application. It is the responsibility of the student to make these available.

The assessment program provides information needed in advisement. Academic advisement sessions provide a framework for informed decision-making on the

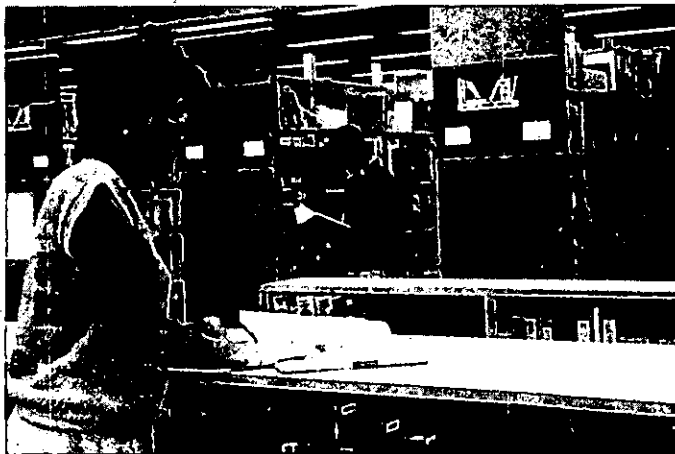
part of students and advisors. Information on a student's skills, abilities, career plans, educational background, life experiences and motivation is important in helping the student and advisor make selections from the many educational options available. However, the College reserves the right to insist students enroll in the appropriate remediation should assessment results indicate a need for the improvement of skills in reading, writing and/or mathematics.

Details of assessment and advisement procedures are available through the College Counseling Center, International Center or in the "Schedule of Classes" each semester.

Students who did not have at least 3 college-level credit hours prior to the 1989 Fall Semester must take the TASP (Texas Academic Skills Program) test either prior to, or during, their semester of enrollment in 15 college-level credit hours. Such students must report TASP scores prior to their next semester of enrollment. Should students fail either the reading, writing or mathematics section of TASP, they will be required to enroll continuously and participate in the appropriate remediation until the failed section is passed.

Change Of Schedule

Students should be careful in registering to schedule courses only for the days and hours they can attend. Students requesting class changes should contact the Registrar's Office during the time specified in the current class schedule. No change is complete until it has been processed by the Registrar's Office.



Non-Credit Student (Audit)

A person who meets the admission requirements of the District may, with the consent of the division chairperson and instructor, enroll in a credit course as a non-credit student. A non-credit student may attend class, but may not receive a final grade nor credit for a course. An instructor may give an examination if he or she determines the examination is an essential component of the learning process. The fee in a credit course is the same for a non-credit student as for a credit student, except that a student service fee may not be charged.

Acceptance of Credit In Transfer

Undergraduate credits in transfer will be accepted from colleges and universities recognized by a national accrediting agency equivalent to the Commission on Colleges of the Southern Association of Colleges and Schools. Credits earned through other education programs, such as credit-by-examination, military experience, the U.S. Armed

Forces Institute, are reviewed by the Registrar and credit is granted, if applicable.

Official transcripts from all higher education institutions and a request for a degree plan evaluation must be on file before the evaluation can be accomplished in the Registrar's Office. Any questions concerning the validity of the document(s) will result in the need to have an official transcript(s) sent directly from the other institution(s) to the Registrar's Office. Transfer students admitted with a grade point deficiency cannot graduate until the deficiency is cleared by earning additional grade points.

Address Changes And Social Security Number

Each student has the responsibility to inform the Registrar's Office of changes in name or address. Each applicant for admission is asked to furnish a Social Security number. This number doubles as a student identification number and insures accuracy of student records. If a student does not have a Social Security number, a student identification number will be assigned.

TASP (Texas Academic Skills Program) Test

The Texas Academic Skills Program (TASP) is required by state law to ensure that students enrolled in Texas public colleges possess the academic skills needed to perform effectively in college-level coursework. TASP includes a testing component designed to identify and provide diagnostic information about the reading, mathematics and writing skills of students.

Students who entered the DCCCD Fall, 1989, or thereafter, must take the TASP test prior to accumulating, or during the semester of enrollment in, 15 hours of college credit, and must report TASP scores prior to their next DCCCD enrollment. Students who have had at least 3 hours of college-level credit prior to Fall, 1989 are exempted from the TASP requirement. Students enrolled in certain DCCCD Certificate programs may be exempt from the TASP requirement.

TASP scores may be utilized in place of the DCCCD Assessment Program, except in math. Students scoring below the state-determined level must continuously participate in appropriate remediation until such time as the TASP Test is passed. A student who wishes to withdraw from a mandated remediation course must drop all college-level courses. The successful completion of TASP may be a prerequisite to enrollment in some courses. In addition, course placement also may be based on the results of the DCCCD assessment.

DCCCD students must pass all sections of TASP prior to being awarded the Associate of Arts and Sciences Degree, or the Associate of Applied Science Degree. Students planning to transfer must pass all TASP sections before enrolling in upper division (junior or senior level) courses.

For more complete information on TASP, contact the Counseling Center; to obtain a copy of the TASP

Registration Bulletin, contact the Testing/Appraisal Center. Students must preregister to take TASP. All test fees are borne by the student although financial aid may be available to offset the cost for students deemed eligible.

IV. ACADEMIC INFORMATION

Scholastic Standards: Grades And Grade Point Average

Final grades are reported for each student for every course according to the following grading system.

Grade	Interpretation	Grade Point Value
A	Excellent	4 points
B	Good	3 points
C	Average	2 points
D	Poor	1 point
F	Failing	0 points
I	Incomplete	Not Computed
WX	Progress; re-enrollment required	Not Computed
W	Withdrawn	Not Computed
CR	Credit	Not Computed

Grade points earned for each course are determined by multiplying the number of points for each grade by the number of credit hours the course carries. For example, a student who takes a three hour course and earns an "A" accumulates 12 grade points for that course. A student's grade point average is computed by adding the total grade point values for all courses and dividing by the number of credit hours attempted during the same period. For example, a student who takes the following courses and earns the following grades has a grade point average 2.93:

Credit Hours	Grade	Grade Points
2-hour course	A	8
3-hour course	B	9
4-hour course	B	12
3-hour course	C	6
Total Credit Hours:		Total Grade Points:
12		35
	$\frac{35}{12} = 2.93$	

The student's transcript and grade reports will indicate two different G.P.A.'s. G.P.A.(1) is based upon all DCCCD courses in which the student received a performance grade of A-F. G.P.A.(1) is utilized to determine Suspension/Probation status, athletic participation eligibility, and financial aid eligibility. G.P.A.(2) is based upon grade points earned in all DCCCD courses with the exception of those courses numbered 099 and below, Art 199, College Learning Skills 100, Developmental Communications 120, Human Development 100 and 110, Library Skills 101, Music 199, and Theatre 199 in which a student received a

performance grade of A-F. G.P.A. (2) is utilized to determine eligibility for graduation, honor rolls, and eligibility in Who's Who in American Junior Colleges. It is also the G.P.A. which may be considered by four-year institutions when a student transfers.

For repeated courses, only the latest grade earned is included in cumulative grade point averages, even if the latest grade is lower than a preceding grade. However, transcripts do indicate all work attempted and completed in the District. When a student withdraws from a course being repeated, the cumulative grade point average is calculated by using the immediately preceding grade in the same course.

If a student believes an error has been made in determining a course grade, the instructor or appropriate division office should be contacted as soon as possible. Requests for grade changes will not be considered later than two years following the last day of the semester for which the grade was assigned.

An incomplete grade "I" may be given when an unforeseen emergency prevents a student from completing the work in a course. The "I" must be converted to a performance grade (A-F) within 90 days after the first day of classes in the subsequent regular semester. If the work is not completed after 90 days, the "I" is converted to a performance grade.

An Incomplete Contract is used to convert an incomplete grade to a performance grade and states the requirements for the satisfactory completion of the course. The Incomplete Contract must be agreed upon and signed by the instructor, the student and the division chairperson and submitted with the final grade report. When an Incomplete Contract must be submitted without the student's signature, the instructor must include a statement indicating that the student is aware of and in agreement with the contract.

Students who do not complete course requirements may receive a "WX" grade when the instructor determines that reasonable progress has been made and when the student can reenroll for course completion prior to the certification date in the next regular semester. If the student does not complete the course requirements, the "WX" is converted to a performance grade.

Acceptable Scholastic Performance

College work is measured in terms of credit hours. The number of credit hours offered for each course is given with the course description.

Acceptable scholastic performance is the maintenance of a grade point average, based on G.P.A.(1), of 2.0 (on a 4.0 scale) or better. Students may not be graduated from any degree or certificate program unless they have a cumulative grade point average of 2.0, based on G.P.A.(2), or better. Grade points and hours earned in courses numbered 99 and below, Art 199, College Learning Skills 100, Developmental Communications 120, Human Development 100, Human Development 110, Library Skills 101, Music 199, and Theatre 199 cannot be used to meet

graduation requirements.

Recommended Academic Load

The maximum academic load is 18 credit hours of course work per semester or five classes plus physical education. Students must receive permission of the appropriate college official to carry a heavier load. Employed students carrying a full load (12 credit hours or more) should not work more than 20 hours per week. Students working more hours should reduce their academic load proportionately. The recommended load limit for day or evening students who are employed full-time is six credit hours. The recommended load limit in a six-week summer session is six credit hours. A total of 14 credits is the maximum that may be earned in any 12-week summer period.

Classification Of Students

Freshman:

A student who has completed fewer than 30 credit hours.

Sophomore:

A student who has completed 30 or more credit hours.

Part-time:

A student carrying fewer than 12 credit hours in a Fall or Spring semester.

Full-time:

A student carrying 12 or more credit hours in a Fall or Spring semester.

Class Attendance

Students are expected to attend regularly all classes in which they are enrolled. Students have the responsibility to attend class and to consult with the instructor when an absence occurs.



instructors are responsible for describing attendance policies and procedures to all students enrolled in their classes. If a student is unable to complete a course (or courses) in which he/she is registered, it is the student's responsibility to withdraw from the course by the appropriate date. (The date is published in the academic calendar each year and in each semester's class schedule.) If the student does not withdraw, he/she will receive a performance grade, usually a grade of "F".

Students who are absent from class for the observance of a religious holiday may take an examination or complete an assignment scheduled for that day within a reasonable time after the absence if, not later than the 15th day of the semester, the student notified the instructor(s) that the student would be absent for a religious holiday. Sec. 51.911 Tx. Educ. Code.

Dropping A Course Or Withdrawing From College

To drop a class or withdraw from the College, students must obtain a drop or withdrawal form and follow the prescribed procedure. It is the student's responsibility to drop or withdraw. Failure to do so will result in receiving a performance grade, usually a grade of "F." Should circumstances prevent a student from appearing in person to withdraw from the College, the student may withdraw by mail by writing to the Registrar. A drop/withdrawal request by mail must be received in the Registrar's Office by the semester deadline. No drop or withdrawal requests are accepted by telephone. Students who drop a class or withdraw from the College before the semester deadline receive a "W" (Withdraw) in each class dropped. The deadline for receiving a "W" is indicated on the academic calendar and the current class schedule. See "Refund Policy" for possible eligibility for a refund.

STUDENTS WHO WITHDRAW FROM A MANDATED REMEDIATION COURSE AS A RESULT OF TASP PERFORMANCE MUST ALSO WITHDRAW FROM ALL COLLEGE-LEVEL COURSES.

Academic Recognition

Full-time students who complete at least 12 hours of college-level credit and earn a grade point average of 3.5-3.79 are listed on the Vice President's Honor Roll. Full-time students who complete at least 12 hours of college-level credit and average 3.8-4.0 are placed on the President's Honor Roll. Part-time students who take six-11 college-level credit hours and maintain a 3.5 or higher grade point average are placed on the Academic Recognition List. G.P.A.(2) is utilized to determine honor roll inclusion.

Scholastic Probation And Scholastic Suspension

Full-time and part-time students who have completed a total of 12 credit hours are placed on probation if they fail to maintain a 2.0 cumulative grade point average, utilizing G.P.A.(1). Students may be removed from probation when they earn a 2.0 cumulative grade point average, utilizing G.P.A.(1). Students on scholastic probation who achieve



either a cumulative grade point average of 1.5 or above or a previous semester grade point average of 2.0 or above are continued on scholastic probation. Students on probation who do not meet the requirements for continued probation are placed on scholastic suspension. Students on suspension for the first time may not register for the immediately following semester or summer sessions without special permission. Suspended students must file a petition for readmission. The conditions for readmission are established and administered by the Vice President of Student Development. Summer coursework does not affect scholastic status.

Grade Reports

A grade report is mailed to the address on record of enrollment to each student at the end of each semester. The grade report contains a listing of all credit courses attempted within the DCCCD, as well as information on academic standing. Interim grade reports are issued for other-than-semester length classes.

DCCCD Transcript of Credit

The DCCCD transcript of credit is a chronological listing of college credit courses attempted within the seven college system of the DCCCD. The transcript is official if the document is embossed with the college seal and imprinted with the signature of the Registrar. It includes both GPA(1) and GPA(2).

Upon written request of the student, the Registrar's Office will send an official transcript to the individual student or to any college or agency named. There is a minimum of two working days required for processing. A transcript will be released only if all obligations to the DCCCD have been settled.

The Electronic Transcript Network permits member colleges to send transcripts to one another through a computer network. Member colleges prefer to receive transcripts in this fashion rather than through the generation of an "official transcript."

Transfer credits from other institutions are not recorded on DCCCD transcripts. If a student desires a transcript of work completed at another institution, the student should secure it from that institution.

Degree Requirements

The College confers the Associate of Arts and Sciences Degree and the Associate of Applied Science Degree upon students who have completed all requirements for graduation. Each degree candidate must earn the last 15 hours as a resident student in the District colleges or accrue 45 hours in residence. The last 15 credit hours required for graduation in any degree or certificate may not be earned through credit-by-examination except as approved by the college Vice President of Instruction.

Students seeking certificates or associate degrees must submit official transcripts of all previous work attempted before a certificate or degree will be awarded. Failure to submit official transcripts directly from the institutions attended will result in the degree or certificate not being awarded.

The degree must be awarded by the college which offers the program in which the student majored. If two or more schools offer the program, the student is granted the degree where the majority of the hours were taken. Correspondence work must be approved by the Registrar for graduation credit. No more than one-fourth of the work required for any degree or certificate may be taken by correspondence.

Students entering the DCCCD Fall 1989, or thereafter, must successfully complete all sections of the TASP (Texas Academic Skills Program) Test before a degree can be awarded. See the TASP catalog section for additional information.

The Common Learning Curriculum

The Common Learning curriculum is composed of required courses and clusters of courses designed to advance the learning which is common to all candidates for a degree, and may include the following goals:

- I. Living with Yourself: Each DCCCD college will provide direction and opportunities for students to become more competent in developing themselves as individuals.
- II. Living with Others: Each DCCCD college will provide opportunities for students to become more proficient in establishing and maintaining satisfying relationships with others.
- III. Living with Environments: Each DCCCD college will provide opportunities for students to understand the relationship between individuals and their environment and make responsible decisions about the use of natural, human, technological, and spatial resources.

IV. Living as a Producer: Each DCCCD college will provide opportunities for students to become more competent as producers.

V. Living as a Consumer: Each DCCCD college will provide opportunities for students to become more competent as consumers.

VI. Living in the Community: Each DCCCD college will provide opportunities for students to become more competent in using their skills and initiative to serve their local, national, and world communities and to improve their quality of life.

VII. Living Creatively: Each DCCCD college will provide opportunities for students to become more proficient in the assessment, development, and application of their creative abilities.

VIII. Living in the Future: Each DCCCD college will provide opportunities for students to become more proficient in anticipating and accommodating change and to become more competent in examining possible alternatives for the future.

IX. Living as a Learner: Each DCCCD college will provide students opportunities to develop learning skills (reading, writing, speech communication, and computation) through assessment, advisement, and instruction.

The Core Curriculum consists of English 101, Speech Communication 101, and a math course numbered 100 or above. A grade of "C" or better in each of the three courses is required for graduation. Students

are strongly advised to enroll in these courses in the first two semesters of study because skills necessary for success in other courses are taught in Core courses.

Common Learning course requirements beyond the Core are designed to help ensure that all graduates have general knowledge as well as the specific knowledge ordinarily associated with a major course of study or a technical program. Candidates for the Associate of Arts and Sciences must take 34-36 hours in approved Common Learning courses beyond the Core. Candidates for the Associate of Applied Science must choose six to eight hours of course work from two of the following clusters: Laboratory Science, Behavioral/Social Science, Business, and Humanities.

Associate of Arts and Sciences Degree

Students must have a minimum of 61 credit hours, a grade of "C" or better in each of the three Core courses (English 101, Speech Communication 101, and math course numbered 100 or above), a grade point average of at least "C" (2.0), based on G.P.A.(2), and a passing score on all



sections of TASP (if students who are not TASP exempt) to receive the Associate of Arts and Sciences Degree. These 61 hours may be earned at any district college and must include:

- English 101 (3 credit hours) [A CORE COURSE REQUIREMENT; A GRADE OF "C" OR BETTER MUST BE EARNED]

- Speech Communication 101 (3 credit hours) [A CORE COURSE REQUIREMENT; A GRADE OF "C" OR BETTER MUST BE EARNED]

- A math course numbered 100 or above (3 credit hours) [A CORE COURSE REQUIREMENT; A GRADE OF "C" OR BETTER MUST BE EARNED]

- English 102 (3 credit hours).

- A sophomore literature course (3 credit hours) to be chosen from English 201, 202, 203, 204, 205, 206, 215, OR 216 (English 209 and English 210 do not meet the sophomore literature requirements.)

- Laboratory Science (8 credit hours) to be chosen from Astronomy, Biology, Chemistry, Geology, Physical Science, OR Physics. (For Astronomy to meet this requirement, the student must successfully complete Astronomy 101 in combination with 103, and Astronomy 102 in combination with 104 OR successfully complete Astronomy 111-112.)

- Humanities (3 credit hours) to be chosen from: Art 104, a foreign language, Humanities 101, English 201, 202, 203, 204, 205, 206, 215 or 216, Music 104, Philosophy 101 OR Theatre 101.

- Physical Education activity course (1 credit hour) (NOTE: Neither chronological age nor military service are acceptable excuses for waiving the physical education requirement.)

- Behavioral Science (3 credit hours) to be chosen from Anthropology, Human Development, Psychology, OR Sociology

- History 101 AND 102 (6 credit hours)

(NOTE: Only three credit hours of History may be earned through credit-by-examination.)

- Government 201 AND 202 (6 credit hours)

(NOTE: Only three credit hours of Government may be earned through credit-by-examination.)

- Business (3 credit hours) to be chosen from Business, Accounting, Management 136, • Computer Information Systems, OR Economics. Cooperative Work Experience courses may not be used to meet Common Learning requirements

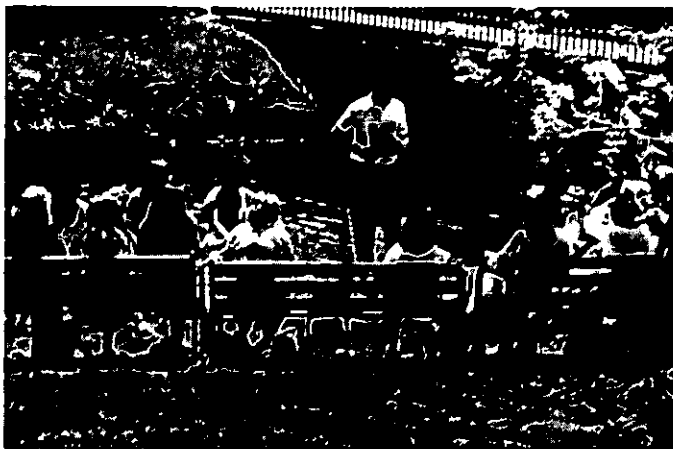
- Electives (16 - 18 credit hours)

A maximum of four physical education activity hours may be counted as credit toward requirements for graduation. The G.P.A. for graduation is based on the credit earned for all DCCCD work and all credit which is transferred from other institutions. The following courses will not count toward graduation nor the G.P.A. for graduation: Courses numbered 099 and below, Art 199, College Learning

Skills 100, Developmental Communications 120, Human Development 100, Human Development 110, Library Skills 101, Music 199 and Theatre 199.

All students planning to transfer to a four-year institution may complete their four semester requirements in physical education during their freshman and sophomore years. Students are urged to consult the catalogs of the institutions to which they may transfer for their special requirements.

These catalogs should be used by students and advisors in planning programs.



Associate of Applied Science Degree

Students must have a minimum of 60 credit hours, a grade of "C" or better in each of the three Core courses (English 101 OR Communications 131, Speech Communication 101, AND a math course numbered 100 or above), a grade point average of at least "C" (2.0), based on G.P.A.(2), and a passing score on all sections of TASP (if students are not TASP exempt) to receive the Associate of Applied Science Degree. These 60 hours must include:

- English 101 OR Communications 131 (3 credit hours) [A CORE COURSE REQUIREMENT; A GRADE OF "C" OR BETTER MUST BE EARNED]

- Speech Communication 101 (3 credit hours) [A CORE COURSE REQUIREMENT; A GRADE OF "C" OR BETTER MUST BE EARNED]

Guarantee For Job Competency

The DCCCD makes certain guarantees to its students who earn its Associate of Applied Science degree. If an Associate of Applied Science (A.A.S.) graduate is judged by his/her employer to be lacking in technical job skills identified as exit competencies for his/her specific degree program, the graduate will be provided up to nine tuition-free hours of additional skill training by a District college under the conditions of the guarantee policy.

Special conditions which apply to the guarantee are as follows:

1. The graduate must have earned the A.A.S. Degree beginning May, 1992 or thereafter in an occupational program identified in the college catalog.

2. The graduate must have completed the A.A.S. Degree at the District (with a majority of the credits being earned at the District) and must have completed the degree within a four-year time span.

3. Graduates must be employed full-time in an area directly related to the area of program concentration as certified by the Vice President of Instruction.

4. Employment must commence within 12 months of graduation.

5. The employer must certify in writing that the employee is lacking entry-level skills identified by the DCCCD as the employee's program competencies and must specify the areas of deficiency within 90 days of the graduate's initial employment.

6. The employer, graduate, division dean, job placement counselor and appropriate faculty member will develop a written educational plan for retraining.

7. Retraining will be limited to nine credit hours related to the identified skill deficiency and to those classes regularly scheduled during the period covered by the retraining plan.

8. All retraining must be completed within a calendar year from the time the educational plan is agreed upon.

9. The graduate and/or employer is responsible for the cost of books, insurance, uniforms, fees and other course-related expenses.

10. The guarantee does not imply that the graduate will pass any licensing or qualifying examination for a particular career.

11. Students sole remedy against District and its employees for skill deficiencies shall be limited to nine credit hours of tuition-free education under conditions described above.

12. The program can be initiated through a written contract with the office of the college president.

Certificate Programs

The requirements for certificates are detailed under specific programs in the Technical/Occupational Programs section of this catalog. A "C" (2.0) grade point average, based on G.P.A.(2), is required. The G.P.A. for a certificate is based only on the hours used to meet certificate requirements. Continues following chart.

- A math course numbered 100 or above (3 credit hours) [A CORE COURSE REQUIREMENT; A GRADE OF "C" OR BETTER MUST BE EARNED]

- Six to eight credit hours chosen from TWO of the following clusters:

-Laboratory Science: Astronomy, Biology, Chemistry, Geology, Physical Science, OR Physics. (For Astronomy to count as a lab science, the student must successfully complete Astronomy 101 in combination with 103 and Astronomy 102 in combination with 104 OR successfully completed Astronomy 111-112.

Behavioral/Social Science: Anthropology, Government, History, Human Development, Psychology, OR Sociology

-Humanities: Art 104, a foreign language, Humanities 101, Music 104, Philosophy 101, Theatre 101, English 201, English 202, English 203, English 204, English 205, English 206, English 215, OR English 216

-Business: Business, Accounting, Management 136, Computer Information Systems, or Economics. Cooperative Work Experience courses may not be used to meet Common Learning degree requirements

Where a technical/occupation program heavily emphasizes a specific cluster as part of its requirements, students are encouraged to select from other clusters to satisfy this requirement. For example, students pursuing an A.A.S. degree in accounting must enroll in many courses from the business cluster as part of their program requirements. Therefore, to meet Common Learning requirements, the 6-8 additional hours should be selected from the other three clusters: Behavioral/Social Sciences, Humanities, or Laboratory Science.

For some programs, more than 60 credit hours are required. All prescribed requirements for the specific technical/occupational program in which the student is enrolled must be completed. These programs may also have other criteria in addition to degree requirements. See the Technical/Occupational Programs section of the catalog for a more detailed explanation. A maximum of four physical education activity hours may be counted as credit toward graduation. The G.P.A. for an Applied Science Degree is based only on the hours used to meet degree requirements. The following courses will not count toward graduation nor the G.P.A. for graduation: Courses numbered 099 and below, Art 199, College Learning Skills 100, Development Communications 120, Human Development 100, Human Development 110, Library Skills 101, Music 199, and Theatre 199.

ASSOCIATE OF ARTS AND SCIENCES DEGREE

IN ORDER TO BE ELIGIBLE TO RECEIVE AN ASSOCIATE OF ARTS AND SCIENCES DEGREE, A STUDENT MUST:

- (1) Complete a minimum of 61 credit hours
- (2) Receive a grade of "C" or better in each of three CORE courses
- (3) Have a passing score on all sections of TASP (for students entering the DCCCD Fall, 1989 or thereafter)
- (4) Complete 61 hours, including the following courses:

Students who plan to transfer to a four-year institution must consult the catalog of that institution to insure that selected courses will both transfer and apply toward the intended major. Material about transfer information is available in the Counseling Center.

REQUIREMENTS	CREDIT HOURS TO BE COMPLETED	REQUIREMENTS	CREDIT HOURS TO BE COMPLETED
CORE COURSES		SOCIAL SCIENCE	
English 101	3	History 101	3
Speech Communication 101	3	History 102	3
*Math (100 level or above courses)	3	Government 201	3
Note: You must receive a grade of "C" or better in each of these courses.		Government 202	3
*See an advisor for the appropriate course selection for your major.		Only 3 hours of History and 3 hours of Government may be earned through credit-by-exam.	
English 102	3	BUSINESS	3
Sophomore Literature	3	3 credit hours to be chosen from:	
(Select from English 201, 202, 203, 204, 205, 206, 215, or 216)		Accounting	
Note: English 209 or 210 will not meet this requirement		Business	
LAB SCIENCE	8	Computer Information Systems	
8 credit hours to be chosen from:		Economics	
Biology		or	
Chemistry		Management 136	
Astronomy (Must be either 111 or 101 plus 103; Must be either 112 or 102 plus 104)		Cooperative Work Experience will not meet this requirement.	
Geology		PHYSICAL EDUCATION	1
Physics		A maximum of 4 physical education activity hours may be counted toward graduation requirements	
or		ELECTIVE CREDIT	16
Physical Science		Any credit course offered in the DCCCD will count toward graduation with the EXCEPTION of the following courses:	
See an advisor for the appropriate course selection for your major.		Courses numbered 099 and below	
HUMANITIES	3	Art 199	
3 credit hours to be chosen from:		College Learning Skills 100	
Art 104		Developmental Communications 120	
Humanities 101		Human Development 100	
Music 104		Human Development 110	
Philosophy 101		Library Science 101	
Theater 101		Music 199	
Foreign Language		Theater 199	
or			
Literature			
(Select from English 201, 202, 203, 204, 205, 206, 215, or 216)			
BEHAVIORAL SCIENCE	3		
3 credit hours to be chosen from:			
Anthropology			
Human Development			
(with the exception of HD 100 and HD 110)			
Psychology			
or			
Sociology			
		TOTAL	61

ments. The following courses will not count toward graduation nor the G.P.A. for graduation: Courses numbered 099 and below, Art 199, College Learning Skills 100, Development Communications 120, Human Development 100, Human Development 110, Library Skills 101, Music 199, and Theatre 199. Students working toward a certificate may be waived from the TASP requirement; the student may enroll only in courses leading toward the certificate in order to maintain their TASP Waived status.

Procedure For Filling Degree And Certificate Plans And For Graduation

Students should request a degree plan from the Registrar's Office at the end of their freshman year. Official transcripts of all previous college work must be on file at the time of request for degree plans. Students following a one-year certificate program should request an official plan during the first semester of their enrollment. Application for the granting of the degree or certificate should be filed in the Registrar's Office prior to the deadline announced by the Registrar.

An annual graduation ceremony is held at the conclusion of the spring semester. Participation is ceremonial only and confers on a student no rights to a degree. December graduates may participate in the next commencement if they desire and July and August graduates may participate in the spring commencement if they desire, but neither is required to do so. The Registrar's Office should be notified if the student wishes to participate. Instructions for graduation are mailed to all candidates prior to commencement.

In addition to other graduation requirements, students are expected to complete within five (5) years the course and hour degree requirements as outlined in the catalog in effect at the time of their entrance to a DCCCD college. Students may have the option to select a more recent catalog year in which they were enrolled, provided the degree requirements are met within five (5) years of the catalog selected and the requisite courses are still offered.

The college reserves the right to modify curricula or to make changes as appropriate.

The student has the ultimate responsibility to select



and register for courses meeting graduation requirements.

Waiving Of Scholastic Deficiency

Any student in an academic transfer program may transfer to Applied Science degree or Certificate program. In such a case, the student may choose to have any grades below "C" disregarded. However, the procedure for disregarding low grades may only be exercised while the student is in a career program. If the student changes to an academic transfer program, the original conditions of the academic transfer program must be followed, including the calculation of a cumulative grade point average of all college credits earned. The procedure for waiving scholastic deficiency applies both to students of this college and to students transferring from other institutions. The student who wishes to use the procedure for waiving scholastic deficiency should so state in writing to the Registrar prior to registration and should inform a counselor of such intentions during the pre-registration advisement session.

V. EDUCATIONAL AND SPECIAL OPPORTUNITIES FOR STUDENTS WISHING TO TRANSFER

Academic Transfer Programs

The Dallas County Community College District offers a broad range of educational opportunities for the student whose goal is to transfer to a four-year institution. In addition to offering a strong, creative foundation for the freshman and sophomore years, the academic transfer curriculum is coordinated with several Texas four-year institutions to insure the transfer of credits. Although each four-year school is different, students may guarantee transferability of their courses by being active and responsible in the advisement process. By consulting the four-year institution regularly and taking advantage of the resources available at each of the DCCCD colleges, students may insure that the transfer process is a positive experience.

The Texas Education Code Section 61.078 enacted by the 71st Texas Legislature (SB 457) provides a means to aid students in resolving disputes regarding the transfer of course credits. To qualify as a dispute the course(s) in question must be listed in the Community College General Academic Course Guide Manual and be offered at the receiving institution. The sending institution, or the student working through the senior institution, must initiate the dispute. From the date a student is notified of the denial of credit, the law allows a maximum of 45 calendar days for the resolution of the dispute by the sending and receiving institutions.

In order to challenge the denial of credit, a "Transfer Dispute Resolution" form, available through the District Office of Student and International Programs (telephone

214-746-2410) must be completed within 15 days after the student has been notified of the denial of credit. This form is sent to the receiving institution.

The receiving institution must then inform the student, the sending institution and the State Commissioner of Higher Education of the resolution. If need be, the Commissioner, or designate, may be called upon to resolve the dispute.

Earning An Associate Degree Prior To Transferring

During the time of attendance in the DCCCD, students may elect to earn a two year associate degree. The Associate of Arts and Sciences Degree is designed specifically for those students who plan to transfer to a Texas four-year institution. The AAS Degree requires students to complete many of the core courses that will also be required by most senior institutions. The flexibility of this degree program also allows students to complete many of the introductory courses specifically related to their major field of study. Additional information regarding the AAS Degree can be found elsewhere in this catalog or from a counselor or advisor.

There are many advantages to completing the Associate of Arts and Sciences Degree program prior to transferring to a four-year institution. In addition to completing many of the requirements for a four-year degree program, students are able to attend college close to home, enjoy small class sizes, pay lower costs for tuition and fees, and take advantage of many personalized and creative programs. In addition, students who complete this degree may become more marketable in the work place should plans to complete the bachelor's degree become delayed or unobtainable. However, it is not required that a student complete the AAS Degree prior to transferring.

Choosing A Major And Developing An Educational Plan

Some students will enter college with a clear idea of what major they will choose and to which senior institution they will transfer. However, the fact is that most students do not know where they will transfer or what their major may be.

There are several freshman level core courses that will apply toward most majors. Students are encouraged to use the first semester to investigate their own interests. By the second or third semester, students should begin to develop a clear sense of which senior institution they will enter and the requirements for their chosen degree program. Working closely with a counselor or advisor, and utilizing current information from four-year institutions, students who plan to transfer are encouraged to follow the Associate in Arts and Sciences Degree plan as many of the required courses are often required at four-year institutions.

The Counseling personnel at each of the DCCCD campuses can provide assistance in developing a degree plan for almost any major. Listed below are some of the four-year majors students can begin in the DCCCD:

- Accounting
- Advertising
- Agriculture
- American Studies
- Anthropology
- Architecture
- Art
- Biological Science
- Botany
- Business Administration
- Chemistry
- City/Regional Planning
- Computer Science
- Dance
- *Dentistry
- Dietetics
- Drama
- Economics
- Engineering
- English
- Entomology
- Finance
- Fine Arts
- Foreign Languages
- Forestry
- Geography
- Geology
- Health Sciences
- History
- Home Economics
- Industrial Arts
- Interior Design
- Journalism
- *Law
- Liberal Arts
- Life Sciences
- Management
- Marine Biology
- Marketing
- Mathematics
- Medical Technology
- *Medicine
- Meteorology
- Microbiology
- Music
- Music Education
- Nursing
- Occupational Therapy
- Oceanography
- Optometry
- Pharmacy
- Philosophy
- Photojournalism

Physical Education
Physical Science
Physical Therapy
Physics
Political Science
Psychology
Public Relations
Radio/TV/Film
Recreation
Social Work
Sociology
Speech Communication
Speech Pathology
Teacher Preparation
*Telecommunications
Theatre
Veterinary Medicine
Wildlife Management
Zoology

* These fields require study beyond the bachelor's degree.



A number of other materials are available to aid students who plan to transfer. These materials are outlined below:

Course Selection Guides

Course Selection Guides offer a listing, in DCCCD course numbers, of courses necessary for a number of majors at many institutions throughout Texas. Course Selection Guides may be available for the following majors:

Accounting
Aerospace Engineering

Agriculture
Architecture
Art
Biology
Business Administration
Chemical Engineering
Chemistry
Civil Engineering
Computer Science
Criminal Justice
Economics
Electrical Engineering
English
Fashion Merchandising
Finance
Foreign Languages
Geography
Geology
History
Industrial Engineering
Interior Design
Journalism
Kinesiology (Exercise and Sports Science)
Management
Marketing
Mathematics
Music
Music Education
Nursing
Pharmacy
Physical Education
Physical Therapy
Physics
Political Science
Pre-Law
Pre-Veterinary Medicine
Psychology
Radio/Television/Film
Social Work
Sociology

College Resources For Transfer Students

Each of the DCCCD colleges offers many resources designed specifically for those students planning to transfer to a four-year institution. Students are encouraged to take advantage of these resources early in their collegiate experience, particularly if they are undecided upon a major or have not selected a senior institution. Many of the resources can assist students in making informed decisions when selecting courses, choosing a transfer institution, and completing all of the necessary steps in the transfer process.

The Counseling Center

Students are invited to utilize the valuable resources found in the Counseling Center, and are encouraged to seek the advice of a counselor/advisor when planning each semester of study.

The Counseling Center has several resources to assist students, including a large collection of senior institution catalogs and bulletins, senior college admission application forms, and other specialized brochures and information. Students can also take advantage of several computer resources, such as DISCOVER, GIS, and SIGI. These simple computer programs are designed to help students clarify goals, identify career and occupational interests, and research information about senior institutions.

In addition, there are many activities planned especially for transfer students. These activities include College Days where officials from senior institutions visit on-campus to talk directly with students, special transfer workshops and seminars, and events designed to assist students in making career decisions.

Speech Pathology/Audiology
Teacher Preparation
Undecided

Although the information on these guides has been reviewed by officials at the various senior institutions, the content is subject to change, and it is the responsibility of the student to verify with the institutions of their choice the applicability of this information. Counselors and academic advisors can also assist students with preparation for majors other than those listed above.

Equivalency Guides

Equivalency Guides offer a listing of how every course offered in the DCCCD transfers to a given senior institution. This information is helpful for those students who have selected a senior institution, but have yet to determine a major. Students should note that the transfer equivalencies shown on these guides offer information on how, or if, courses are generally accepted by the senior institution, and do not indicate how these courses will apply toward a particular major or degree program. A counselor/advisor can assist students in determining the applicability of courses to a particular major.

Common Course Numbering System

To help meet the transfer needs of its students, the Dallas County Community College District has joined the Texas Common Course Numbering System Consortium. At the time of this printing, the following institutions are cooperating with this system:

Angelina, Collin County, Cooke County, East Texas State University, Grayson County, Hill, Jacksonville, Jarvis Christian, Kilgore, Navarro, Northeast Texas, Panola, Paris, Stephen F. Austin State University, Tarrant, Texarkana, Trinity Valley, Tyler, University of Texas at Arlington, Weatherford. Additional institutions are expected to join.

Institutions teach courses that are similar in nature and these courses have been designated by a common number. The common number is to facilitate the transferability of these courses between and among the participating institutions. Elsewhere in this catalog can be found course descriptions for every course offered in the DCCCD. If a course has been assigned a common course number, it can be found in parenthesis. For example, the common course number for our English 101 course will be shown as "(ENGL 1301)," and our Math 101 as "(MATH 1314)." Students should not assume that only courses with common course numbers will transfer.

Choosing A Catalog Year

Students who plan to transfer to a four-year institution have a choice to make regarding their requirements for graduation. Such students may choose to graduate under the requirements (A) in existence at the senior institution during the student's initial year of enrollment in a DCCCD

college; (B) in existence at the time the major was selected; OR (C) in existence at the actual time of transfer. Students should check with the four-year institution about its policy on this matter.

Transferring students should keep a copy of the DCCCD catalog, the four-year institution's catalog, and the Course Selection Guide valid at the time of initial enrollment in the DCCCD and at the time when a major was selected. DCCCD course syllabi should also be maintained.

Other Things To Consider

During the time of study in the DCCCD, students should begin to determine the necessary steps for completing the transfer admission process. The process may require a great amount of preparation, and students should be certain that they understand all of the requirements for admission, such as application deadlines, minimum grade point average requirements, limitation on the number of credit hours that are acceptable in transfer, policies regarding acceptance of repeated courses, housing information, and financial aid application procedures. Of equal importance is a personal visit to the chosen institution. Many senior institutions plan special activities and campus visitation periods where students can meet with representatives from all areas of the institution.

IT IS THE RESPONSIBILITY OF STUDENTS TO KNOW ANY SPECIFIC REQUIREMENT OF THE COLLEGE OR UNIVERSITY TO WHICH THEY WISH TO TRANSFER. THIS RESPONSIBILITY INCLUDES KNOWING COURSE REQUIREMENTS, NUMBER OF CREDIT HOURS ACCEPTED, AND GRADE POINT AVERAGE REQUIREMENTS.]

Guarantee For Transfer Credit

The DCCCD guarantees to its Associate of Arts and Sciences graduates and other students who have met the requirements of a 60-credit-hour transfer plan the transferability of course credits to those Texas colleges or universities which cooperate in the development of DCCCD Course Selection Guides. If such courses are rejected by the college or the university, the student may take tuition-free alternate courses at a District college which are acceptable to the college or university.





Special Conditions which apply to the guarantee are as follows:

1. Transferability means the acceptance of credits toward a specific major and degree. Courses must be identified by the receiving university as transferable and applicable in Course Selection Guides dated 1991-92 or later;
2. Limitations of total number of credits accepted in transfer, grades required, relevant grade point average and duration of transferability apply as stated in the catalog of the receiving institution; and
3. The guarantee applies to courses included in a written transfer plan—which includes the institution to which the student will transfer, the baccalaureate major and degree sought, and the date such a decision was made—which must be filed with the appropriate DCCCD college.

This guarantee is designed specifically for those DCCCD students who have made firm decisions about their major and the institution to which they planned to transfer. The DCCCD is working with a number of Texas institutions, such as the University of North Texas and East Texas State University, in order to make such guarantees possible. In order to secure such a guarantee, students should begin the process in their college counseling center.

VI. OTHER EDUCATIONAL PROGRAMS

Technical/Occupational Programs

Students who desire to enter a chosen field as a skilled employee after one or two years of college work may enroll in one of the many technical/occupational programs offered by the College.

Technical/occupational courses are accredited college courses which lead to a Certificate of Completion or an Associate of Applied Science Degree. These programs are established only after studies verify that employment

opportunities exist in business and industry.

The College attempts to match the community's labor requirements with the ambitions and goals of its students. This realistic approach to occupational education is made possible by the excellent cooperation of local industry, business, and public agencies who increasingly depend on District colleges to supply skilled personnel.

A continuous liaison is maintained with prospective employers to help place graduates and to keep the training programs current with job requirements. Recommendations for adding new programs to the College offerings are made periodically and are based on community studies which identify additional needs.

Many technical/occupational courses can be offered on company sites for their employees.

Credit By Examination

Students who believe they already meet the requirements of a course by experience or previous training may request credit by examination. The Registrar's Office has knowledge of courses available through this method. The examination may be an approved subject examination (not a general examination) of the College Level Examination Program (CLEP), Advanced Placement Exams (CEEB), or a teacher-made test, depending on the course. Students should insure DCCCD acceptance of specific national exams prior to taking them.

The student pays an examination fee for each course examination. This fee must be paid prior to taking the examination and is not refundable. The College's credit by examination program is coordinated with similar programs of four-year institutions. Final acceptance of credit by examination for specific degree purposes is determined by the degree-granting institution. Students planning to use credit by examination to meet degree requirements at other institutions should check the requirements of the receiving institution.

Students must be currently enrolled at a DCCCD college to receive credit by examination. Students may not request credit by examination in courses for which they are currently enrolled. Students may earn as many credits through examination as their ability permits and needs require, but the last 15 credit hours required for graduation in any degree or certificate program may not be earned through credit by examination except as approved by the Vice President of Instruction.

Credit by examination may be attempted only one time in any given course, and a grade of "C" or better must be earned in order for credit to be recorded. A student may use credit by examination for only three (3) credit hours to apply toward the degree requirements in history and only three (3) credit hours to apply toward the degree requirements in government.

Non-Traditional Learning

The College is committed to serve students and the community in the most effective manner possible while

maintaining high standards of education. Students learn in a variety of ways and through a multitude of experiences. Therefore, the College will evaluate these learning experiences and grant equivalent college credit applicable to an Associate in Applied Science degree or certificate program. The following guidelines pertain to such evaluations:

1. The student must be currently enrolled in the college to receive equivalent credit for non-traditional learning.
2. Credit for specific courses offered by the college may be granted for non-traditional learning experiences after proper assessment of those experiences. Credit will be awarded on a course by course basis only. The student must be enrolled in the college which is assessing the learning experiences.
3. A student is required to complete at least 12 semester hours of course work with the District, six of which are in the student's major occupational area, prior to awarding of equivalent credits for non-traditional activities. The "CR" grade is awarded for non-traditional course work accepted for credit.
4. Credit may be granted for occupational courses approved by the Coordinating Board of Colleges and Universities.
5. The number of equivalent credits awarded may not exceed the total number of credits required for the student's specific associate degree objective. No graduation, residency, degree or program requirements will be waived as a result of credits earned as provided by this policy.

Students desiring to take advantage of this opportunity should consult with the College Advocate for Non-traditional Learning for additional information. Students making application for assessment of prior learning through life experiences are required to enroll in Human Development 110 to facilitate the process.

High School Articulation/2+2 Agreements

The College has established a process for evaluating the work of high school vocational graduates to determine if a student can receive college credit for competencies mastered in the high school vocational program. Students should check with the College Dean of Career and Continuing Education or the Counseling Center for more information.

Flexible Entry Courses

In keeping with its commitment to meet individual educational needs, the College makes available flexible

entry courses. These courses are often self paced, allowing students to work at their own speed. Students are cautioned to be aware of the time specified by the College as to when the course requirements need to be completed. Students may register for flexible entry courses during the pre-semester registration periods or at regular times during the semester. Students should check with the Registrar to determine times for registration in these courses. Approval must be obtained for enrollment.

Telecourses

Students have the option of taking a variety of college-credit courses via television which are called "telecourses." This distance-learning approach has proven most effective as an alternative learning method for:

- Part-time students who can't take time from their full-time employment or obligations at home to meet specific classroom schedules

- Physically-challenged students who have difficulty coming to campus on a regular basis

- Full-time students who are unable to get into an already filled class.

Students who have access to a VCR are urged to record the video programs of the telecourse for viewing at convenient times, and for re-view.

Content and credit for telecourses are equivalent to that of courses taken on campus, and require the same effort and commitment. Tele-

courses require the viewing of video programs on local cable system channels, KDTN/Channel 2, or at campus Learning Resource Centers. Some telecourses are available on video cassette for checkout from the libraries or the campus bookstores. Reading, writing, and study guide assignments are required, as well as attendance at an on-campus orientation session. Two to four tests are administered on campus during each telecourse, and some courses require field trips. Campus visits and communication with faculty are scheduled for times convenient to students.

All telecourses are noted in the course description section of each college-credit schedule. Telecourses may be taken in conjunction with on-campus classes, and students may enroll for them through normal registration processes. For more information, call the TELECOURSE HOTLINE: 952-0300.



Cooperative Work Experience

Students may enrich their education by enrolling in cooperative education courses. Cooperative education is a method of instruction that offers the student the opportunity to earn college credit for the development and achievement of learning objectives which are accomplished through current on-the-job experience.

Work experience must be related to a field of study and an occupational goal. This work experience takes place at work training stations approved by the College. Employers must be willing to enter into training agreements with the College and the student/employee. The College will assist a student in seeking approvable employment, if needed.

To enroll in a cooperative education course, students must:

- complete a student application form
- have completed at least six semester hours in an occupational major or secure waiver or requirement from the instructor
- declare a technical/occupational major or file a degree plan
- be currently enrolled in a course related to the major area of study;
- be approved by the instructor.

Additional information regarding cooperative education may be secured from the Cooperative Education Office, the Division Office, or Counseling Office at each college. Technical/occupational programs which include cooperative education are indicated in this catalog.

International Studies

An important part of the DCCCD's commitment to enhancing student appreciation for and understanding of diverse cultures is its international studies programs. These are available in a variety of countries during both the regular semesters and in the summer. Semester-length programs are currently available in England, France, Mexico, Spain, Germany, and Ireland. Students are usually sophomore level and have at least a 2.5 cumulative grade point. In most programs, no prior knowledge of a foreign language is required, allowing even novices to learn a language in its cultural context while taking other credit courses taught in English to complete their study of the native culture.

Also offered by many of the campuses are study-abroad opportunities during the summer sessions. Such courses are taught by DCCCD faculty and normally last two to three weeks. In previous years these courses have been offered in Austria, Australia, China, France, Great Britain, Germany, USSR, Mexico, Jamaica, Spain, and Italy. For

information about any of the semester-length or summer programs, contact the District Office of Student and International Programs at 746-2410.

Human Development Courses

The Human Development curriculum is composed of several different credit courses designed to help students master skills that are necessary for successful everyday living. The courses emphasize different life skills, including educational and career/life planning, interpersonal communication, relationship building, personal and social growth, conflict resolution, leadership, decision making, and success in college. Some campuses offer special sections of Human Development courses which focus on various issues, such as multicultural understanding, gender differences, career change, and life transitions. Some sections are designed for special populations, such as women returning to school, adults making career or job changes, students in academic difficulty, young adults, or academically underprepared students.

Human Development courses transfer to many 4-year institutions as elective credit. These courses use an experimental model which allows for the use of a wide variety of teaching/learning strategies including small group work, journal writing, mini-lectures, selected readings, classroom discussion, team teaching, peer teaching, outside guest speakers, psychometric testing, and volunteer experiences in the community. The Human Development classes are intentionally small to allow stu-

dents to actively participate in discussions and practice new skills. Most Human Development courses require that students possess college-level skills in reading and writing. Human Development 092, "Student Success," is designed for students who do not possess these skills. Students who enroll in HD 092 need to be currently enrolled in the appropriate developmental reading and/or developmental writing courses.

Developmental Studies

Students whose assessment test scores (DCCCD, SAT, ACT, or TASP) indicate they lack the skills necessary to be successful in college-level courses will be advised to enroll in developmental courses. Successful completion of these courses will provide prerequisite skills for college-level work. Other students who wish to review and improve basic skills may also elect to take one or more developmental courses.



Reading, writing and mathematics courses are offered in classroom settings with laboratory support. These developmental courses provide instruction directly related to the personal, academic and career goals of students.

Evening And Weekend College

In order to serve those people whose work schedule and/or personal involvements make it impossible for them to attend college during normal daytime hours, most courses offered during the day also are available in the Evening and Weekend College. Courses are offered both on campus and at selected community locations.

Evening and weekend courses offer high quality instruction, excellent facilities, and a variety of student services, including counseling, health, library, bookstore, food services, financial aid, and recreation. Instructors are selected from the College's own full-time staff, from outstanding Dallas area educators, and from other professional specialists interested in teaching. To enroll in the evening and weekend courses, contact the Director of Admissions.

Learning Resources Center and Student Obligations

The Learning Resources Center (LRC) supports the entire instructional program. The two major parts of the LRC are the library and instructional media services.

The library is a place where students can find print and non-print materials to supplement classroom learning or where - if they choose - they can actually take a course. The library helps students to learn in their own way and at their own speed. In addition to print materials and reference help, the library may provide slides, tapes, compact discs, computer software, videotapes, and films. The college has a growing collection of books on a wide variety of general information areas to support academic transfer programs and technical/occupational programs. In addition, there are special collections of career materials and pamphlets. The library also subscribes to current popular and technical periodicals as well as to area and national newspapers.

Instructional media services supports the classroom instructional program and are responsible for all campus audio-visual equipment and non-print materials used in the classroom and for the production of instructional materials.

Willful damage to library materials (or property) or actions disturbing users of the library may lead to the loss of library privileges. Damage cases are referred to the appropriate authorities for further action. All books and other library materials must be returned before the end of each semester. No transcript is issued until the student's library record is cleared.

Servicemen's Opportunity College

In cooperation with other community colleges in the United States, colleges of the Dallas County Community College District participate in the Servicemen's Opportunity College. Through this program, students can plan an educational experience regardless of location requirements of the military. For further information, contact the Admissions Office.

Continuing Education Programs

Within the Dallas County Community College District, Continuing Education is an educational development process which creates an instructional delivery system that is flexible, diverse, visionary, and responsive to the needs of its public, private, and corporate citizens. Continuing Education provides non-credit skills training, personal and professional courses, and programs for human, community, and economic development, and thus expands the available educational opportunities for all persons of all ages to participate in college programs.

Continuing Education instructors are professionals from the community chosen because they have proven experience in their field. Their objective is to share their knowledge, insight and expertise, to insure that students acquire a knowledge of the subject, and through a meaningful learning experience to become equipped to serve better their community, business, and themselves.

Courses are offered as seminars, workshops and institutes—the type of course is determined by the nature of the material, instructional approach, and the needs of the students. Usually there are no entrance requirements or examinations; however, some courses may have age restrictions and others may require a certain amount of experience in the subject field for enrollment. Admission is on a first-come, first-served basis. Registration is simple, quick and easy, and may even be accomplished by phone. Continuing Education classes are held on the campus of each college and in a variety of locations throughout the community. Classes and activities are conducted throughout the week, both during the day and evening hours, and also on Saturday and Sunday.

Because of the nature of Continuing Education course offerings, textbooks may not be required in some courses; however, other courses will require the purchase of texts and/or special class materials. To enhance the educational





experience of those students who enroll in Continuing Education classes, library privileges are afforded them during the term in which they are registered.

Scholarship funds are available for specific vocationally oriented courses. To apply for these scholarship funds please inquire at the Continuing Education Office.

Continuing Education Units (CEU's)

College credit may be awarded for some courses related to DCCCD vocational/technical/occupational programs. Continuing Education Units (CEU's) are transcribed upon successful completion of the course. In all recognized educational circles, one CEU is equal to "ten contact hours of participation in an organized Continuing Education or extension experience under responsible sponsorship, capable direction, and qualified instruction." The CEU is a means of recording and accounting for Continuing Education activities and meeting the certification requirements of certain professional organizations.

The Bill J. Priest Institute for Economic Development

Opened in May, 1989, the Bill J. Priest Institute for Economic Development comprises a \$9.2 million training complex located at 1402 Corinth, just south of downtown Dallas. The Institute houses programs serving the business community, as well as the administration for the District's Career and Continuing Education programs. The BJPIED Child Care Center, operated by Child Care Dallas, is located on site as a support service available for students of the Kahn Job Training Center and occupants of the Business Incubation Center.

The Institute's program areas include:

The Business & Professional Institute (BPI)—Marketing and negotiating contract training, both credit and non-credit, to the business community, for delivery through the seven DCCCD college campuses;

The Edmund J. Kahn Job Training Center (JTC)—Providing career training and literacy instruction to unemployed and under-employed individuals;

The Small Business Development Center (SBDC)—Providing counseling, training, and resources to small businesses throughout Dallas County. The North Texas SBDC is one of four regional offices in Texas administering SBDC activities in 49 counties; it comprises 13 subcenters, including the Dallas SBDC. The International SBDC, located in the World Trade Center, provides services to businesses interested in international export;

The Center for Government Contracting (CGC)—Assisting businesses seeking government contracts on municipal, county, state, or federal levels; and

The Business Incubation Center (BIC), Offering cost-shared facilities and services to small businesses which can provide a viable business plan. Time-shared services are also provided on a contract basis for businesses which do not need to locate their home offices on site.

For more information about any of these programs, please consult the BJPIED section at the back of the comprehensive District Catalog or call (214) 565-5809.

VII. STUDENT DEVELOPMENT

The College is committed to providing opportunities for each individual student's total educational development. Specific student services are integrated with the instructional program of the College to address individual needs for educational, personal, social, cultural, and career development.

Student Programs and Resources

The Student Programs and Resources Office plans and presents a wide variety of programs and activities for the general campus population and the surrounding community, including lectures, art gallery activities, and performance events. Programs often are coordinated with the various instructional divisions to provide students with valuable educational experiences. Leadership conferences, retreats, and service learning programs offer students opportunities to develop skills that can enrich the quality of their own lives and the life of their community. Student Programs and Resources seeks to involve students meaningfully in campus life. Recent research in higher education indicates that for many students involvement is an important contributor to academic success.

Counseling Center Services

Individuals may find the counseling services helpful as they make plans and decisions in various phases of their development. For example, counselors can assist students in selecting courses of study, determining transferability of courses, choosing or changing careers, gaining independence, and confronting problems of daily living. Assistance is provided by the counseling staff in the following areas:

1. Career counseling to explore possible vocational directions, occupational information, and self appraisal of interest, personality and abilities. Career Counseling may be available to students enrolled in credit classes only.
2. Academic advisement to develop and clarify educational plans and make appropriate course choices.
3. Confidential short-term personal counseling to deal with personal concerns.
4. Small group discussions led by counselors focusing on such areas as interpersonal relationships, test anxiety, and assertiveness. Counselors will consider forming any type of group for which there is a demand.
5. Referral sources to provide in-depth assistance for such matters as legal concerns, financial aid, tutoring, job placement, medical problems, or emotional problems.

Tutoring Services

For students needing special assistance in course work, tutoring services are available. Students are encouraged to seek services through self referral as well as through instructor referral.

Testing/Appraisal Center

The Testing Center administers various tests. Types of tests include:

1. Psychological tests of personality, vocational interests, and aptitudes;
2. Academic tests for college instructional programs. Many courses are individualized and self-paced, permitting students to be tested at appropriate times;
3. Assessment tests, required for appropriate class placement;
4. Tests for selected state and national programs;
5. Testing for correspondence courses.

Individuals desiring to take tests in the Centers must provide picture identification and also may be asked to show their student identification card prior to receiving testing materials. Students must be referred by a counselor for psychometric testing. Exceptions must be arranged by faculty in writing.

The Student Code of Conduct provisions regarding disruptive behavior and/or academic dishonesty apply equally to Test Centers and classrooms. Irregularities will be referred to the proper authorities for disciplinary action.

Health Services

Health is the most fundamental human need, and a high standard of physical and mental health is desirable for every human being. The Health Center helps maintain and promote the health of students, faculty, and staff. Services provided by the Health Center include education and

counseling about physical and emotional health, emergency first aid treatment, referral to appropriate health care services, tuberculin skin tests and other screening programs, and programs of interest to students and faculty. Students are encouraged to come to the Health Center for their various health needs and questions. No information on a student's health is released without written permission from the student, except as required by law.

Placement Services

The Dallas County Community College District provides job placement services free of charge to DCCCD students (credit and non-credit), alumni, former students, and those in the process of enrolling. Although services may vary among DCCCD colleges, most Placement Offices provide opportunities for students to learn job search skills including how to establish employment contacts, complete an application, write a resume and cover letter, and interview for a job.

All DCCCD colleges participate in a computer-assisted job bank which contains full and part-time opportunities in the Metroplex. Such opportunities are categorized by the career program areas offered by the DCCCD. All Placement Offices strictly adhere to EEO and Affirmative Action Guidelines. Employers listing positions with the DCCCD Job Placement Service must be EEO employers. All services are free of charge.

Special Services

The Special Services Office offers a variety of support services to enable students with disabilities and/or special needs to participate in the full range of college experiences. Services are arranged to fit the individual needs of the student and may include sign language interpreters, notetakers, tutors, mobility assistants, readers/audio tapers, and loan of specialized equipment such as wheelchairs, audio tape recorders, talking calculators, closed captioning decoders, raised-line drawing kits and large print materials. Academic, career and personal counseling, special testing accommodations, registration assistance and extensive information and referral services are also available. Students with special needs are encouraged to contact the office at least one month prior to registration. They will be provided orientation and registration information. For additional information, please contact the Special Services Office or the Counseling Center of the campus you plan to attend.

Student Organizations

Information about participation in any organization may be obtained through the Student Programs and Resources Office. The development of student organizations is determined by student interest. Categories of organizations include:

Co-curricular organizations pertinent to the educational goals and purposes of the College; social organizations to provide an opportunity for friendships and promote

a sense of community among students; service organizations to promote student involvement in the community; pre-professional and academic organizations to contribute to the development of students in their career fields.

Intercollegiate Athletics

Participation on athletics teams is voluntary on a non-scholarship basis for students who meet requirements established by the Metro Athletic Conference. Most teams are associated with the National Junior College Athletic Association. For more information regarding eligibility, rules, standards, and sports offered, contact the Physical Education Office.

Intramural Sports

The College provides a campus intramural program for students and encourages participation. For additional information contact the intramural director in the Physical Education Office or the Student Programs and Resources Office.

Housing

The College does not operate dormitories of any kind nor maintain listings of available housing for students. Students who do not reside in the area must make their own arrangements for housing.

College Police Departments

Campus safety is provided within the framework of state law to "protect and police buildings and grounds of state institutions of higher learning." Because all laws of the state are applicable within the campus community, specially trained and educated personnel are commissioned to protect college property, personal property, and individuals on campus. Officers of the College Police Departments are licensed Peace Officers of the State of Texas. These officers are vested with full authority to enforce all Texas laws and rules, regulations, and policies of the College, including the Code of Student Conduct.

Drug-Free Schools and Communities Act

In December, 1989, Congress passed the "Drug-Free Schools and Communities Act." In keeping with this act, the DCCCD, its colleges and facilities are committed to creating an educational and work environment free from use or distribution of illicit drugs and abuse of alcohol. Students are referred to the Code of Student Conduct in this catalog.

VIII. FINANCIAL AID

Financial aid is available to help those students who, without such aid, would be unable to attend college. The primary resources for meeting the cost of education are the student, the parents and/or spouse. Financial aid, however, can remove the barriers for those families who cannot afford the cost of education beyond high school and can fill in the gap for families who can afford only part of the cost.

How to Apply

All students must complete the Financial Aid Application and return it to the Financial Aid office of the DCCCD college the student plans to attend. The Financial Aid Form (FAF) of the College Scholarship Service must be completed using data from the Federal Income Tax Return. This form is used to provide an analysis of the financial need. It may be obtained from a high school counselor or from any DCCCD Financial Aid Office. The FAF is to be

mailed directly to the College Scholarship Service with the required processing fee as noted on the form. Six to eight weeks should be allowed for processing. **The student should mail the FAF at least two months before the priority deadline for the semesters for which the student is applying.** In addition to the FAF, all students must complete the Financial Aid Application and return it to the Financial Aid Office of the DCCCD college the student plans to attend.

The Department of Education will randomly select

some applicants and require that information reported on the FAF or PELL Grant application be verified for accuracy. If the student's application is one that is selected, the student will be required to provide additional documents before financial assistance can be awarded.

All eligible non-citizens must submit a copy of an INS card as proof of immigration status before financial assistance can be awarded.

For students who attended other colleges, universities, vocational or trade schools (including our DCCCD colleges), a Financial Aid Transcript must be sent from each institution to the Financial Aid office of the school where the student is applying. This procedure is required even though the student may **not** have received financial assistance at the previous institution.

Students born after December 31, 1959, and who are required under the Military Selective Service Act to register for the draft, must do so before financial aid can be approved. All students who apply for financial aid must sign



a Registration Compliance Statement giving their selective service registration status before financial aid can be awarded. All students receiving Pell Grants must also sign an Anti-Drug Abuse statement certifying that they will not violate drug laws, "in conducting any activity with the grant."

Deadlines for Applying

Application for financial assistance received by the following dates will be given first priority:

Academic Year — June 1

Spring Only — November 1

Summer Sessions — May 1

APPLICATIONS RECEIVED AFTER THESE DATES WILL BE PROCESSED AS TIME AND AVAILABILITY OF FUNDS PERMIT. Late applicants need to be prepared to pay their own registration costs until action on their application can be completed. Applicants should contact the Financial Aid Office at the school to which they plan to attend for additional deadlines and requirements.

The student must reapply for financial assistance every year. The award does not continue automatically beyond the period awarded.

Grants

Pell Grant

The Pell Grant is a federally funded program designed to help undergraduate pre-baccalaureate students continue their education. The purpose of this program is to provide eligible students with a "foundation" of financial aid to assist with the cost of attending college. A time limit on a student's eligibility does exist depending on the student's undergraduate program of study.

All students applying for financial assistance through the College must apply for a Pell Grant. This is generally done through the FAF application discussed earlier. Other types of financial aid may be awarded if the student applies and qualifies. Eligibility for Pell Grant is based on financial need and satisfactory academic progress. Applications and additional information concerning the Pell Grant Program are available in the Financial Aid Office and in the counseling offices of most high schools. The application process takes approximately 8-10 weeks. In response to the Pell Grant application, a Student Aid Report (SAR) will be mailed directly to the student. The student should immediately review the SAR to make sure it is correct, sign the certification statement, and bring all copies to the Financial Aid Office. The exact amount of the Pell Grant award will depend upon the PELL Grant Index (PGI) number on the SAR and the number of hours for which the student enrolls. In order to be eligible, a student must enroll for at least six credit hours each semester.

Supplemental Educational Opportunity Grant (SEOG)

The SEOG program provides assistance for eligible undergraduate students who show exceptional financial need, are making satisfactory academic progress toward

their educational goal and are enrolled for at least six credit hours. The maximum award for an academic year is \$4,000; however, the actual amount of the grant may be limited to less than this, depending on the availability of funds at the school, the student's family financial condition and other financial aid the student is receiving. Priority is given to students receiving Pell Grant. Students must apply each year for the SEOG Grant.

Texas Public Educational Grant (TPEG)

The TPEG Program was enacted by the 64th Texas legislature to assist needy students attending state supported colleges in Texas. To be eligible students must show financial need and be making satisfactory academic progress toward their educational goal. The actual amount of the grant will vary depending on the availability of funds at the school, the student's family financial condition and other financial aid the student is receiving. This grant is available to students enrolled in credit and some non-credit courses. Students must apply each year for the TPEG.

Texas Public Educational-State Student Incentive Grant (TPE-SSIG)

The TPE-SSIG Program is a state grant that is matched with federal funds to provide financial assistance to needy students attending state-supported colleges in Texas. No more than 10% of the funds may be awarded to non-resident students. To qualify, students must enroll for at least six credit hours per semester, make satisfactory academic progress toward their educational goal, and have financial need. The maximum grant for an academic year is \$2,500; however, the actual amount of the grant award may be less depending on the availability of funds and the degree of financial need. Grants are awarded by eligibility on a first-come, first-served basis. Students must apply each year for the TPE-SSIG.



Scholarships

DCCCD Foundation Scholarships

The DCCCD Foundation provides a scholarship program for students who attend one of the colleges of the DCCCD. These funds are made available through the colleges to needy students who also meet additional criteria of the scholarship funds. Application forms for these Foundation scholarships and information concerning other requirements and deadlines are available in the Financial Aid Office at each college.

Miscellaneous Scholarships

Several of the colleges have a limited number of scholarships available as a result of gifts from individuals, private industry, and community organizations. Generally, the eligibility criteria is the same as noted for the DCCCD Foundation Scholarships, and application forms are available in the Financial Aid Office.

Loans

Stafford Loans (formerly GSL):

The Higher Education Act of 1965, as amended, provided for student loans from private commercial lending agencies such as banks, savings and loan associations, credit unions and insurance companies. To be eligible students must now have financial need, make satisfactory academic progress toward their educational goal, and be enrolled for at least six (6) credit hours. As an undergraduate, the student may borrow up to \$2,625 per year for the first two academic years and a maximum of \$17,250 for all years of undergraduate study. The actual loan amount may be limited to less than this, depending on the cost of attendance, other financial aid, and family financial condition.

The interest rate is set by Congress. Borrowers do not pay interest until six months after ceasing at least half-time enrollment. The U.S. Dept. of Education pays the interest during the time the student is enrolled and during the grace period of six months following enrollment. Repayment begins six months after the student leaves school or drops to less than half-time enrollment. The interest rate will increase in the fifth year of repayment. The minimum payment will be \$50 per month, and the loan must be repaid within 10 years. Lenders may charge a loan origination fee on each loan in addition to the insurance premium charged on the loan. These charges will be deducted from the proceeds of the loan. Under the Supplemental Loans to Students (SLS) Program, independent undergraduate students may be eligible to borrow up to \$4,000 per academic year. Recent legislation requires an undergraduate to complete a needs analysis to determine whether there is Pell or GSL eligibility before an SLS loan can be completed, however. The loan maximum is \$20,000 for all the years of undergraduate study. The interest rate is variable, ranging from 9% to 12%. Repayment begins within 60 days after

disbursement of the loan, except that the borrower is entitled to a deferment of the principal for at least half time enrollment. Most lenders will capitalize the interest if the payments are deferred.

Under the PLUS Program, parents may now borrow up to \$4,000 per year for each dependent undergraduate student with the loan maximum for each eligible student of \$20,000.

The current interest rate is variable. Repayment of principal and interest begins within 60 days after disbursement of the loan.

Hinson-Hazelwood College Student Loan Program (HHCSLP)

The Hinson-Hazelwood Loan is a state-funded Guaranteed Student Loan Program for students who are attending Texas colleges and are eligible to pay Texas resident tuition rates. All Hinson-Hazelwood Loan applicants must demonstrate financial need before a loan can be approved. The loan limit is \$2,625 for the first two years of undergraduate study and a maximum of \$17,250 for all years of undergraduate study. The actual loan amount may be limited to less than this depending on the cost of attendance, other financial aid, and the family's financial condition. A loan origination fee and an insurance premium on the life of the student will be taken from the total amount of each loan. No interest or payments are paid by the student while enrolled at least half-time or during the six month grace period. The interest rate will remain the same throughout the life of the loan. The minimum payment will be \$50 per month over a 5 to 10 year period depending on the total amount borrowed. Participation in this loan program is on an individual campus basis.

Emergency Short-Term Loans

The colleges of the DCCCD have limited short-term loan funds available which have been established by individuals and organizations, including the DCCCD Foundation, to meet emergency needs to students. Loans are usually limited in amount and bear no interest. These loans must be repaid within 60 days of the date of the loan. A late fee of \$10 will be added for late payment. Because the funds are very limited, students should apply early if financial assistance is needed for registration costs.

Employment

College Work-Study Program (CWSP)

The College Work-Study Program provides part-time employment for students with financial need who are making satisfactory academic progress toward their educational goal and are enrolled for at least six credit hours. The wage rate is \$4.25 per hour and most students work 15 to 20 hours per week. Students will be paid on the last working day of the month. The amount students can earn in a school year is determined by the amount of their financial need and other aid awarded as part of their

financial aid package. The majority of the students are employed on campus; however, some off-campus employment is also available. Students must apply each year for College Work-Study.

Student Assistants Employment Program (Non-Work-Study)

Part-time employment for students who do not have financial need is available on campus. The wage rate and the average hours worked per week are the same as the College-Work Study Program.

Off-Campus Employment

Students who need help finding a job off-campus should apply at the Placement Office of the college they plan to attend. The wage rate varies with each job and financial need is not a requirement of employment.

Tuition Exemption Programs

In addition to the grants, scholarships, employment and loan programs already mentioned, the State of Texas and DCCCD offer a number of exemptions from tuition and fee charges. These exemptions are often overlooked simply because of their unusual nature. They are not related to family income or "financial need," nor do they require completion of a regular financial aid application. Check with the Financial Aid Office or the Registrar's Office for information concerning tuition exemption programs and the criteria for eligibility.

Vocational Rehabilitation

The Texas Rehabilitation Commission offers assistance for tuition and fees to students who are vocationally challenged as a result of a physically or mentally disabling condition. This assistance is generally limited to students not receiving other types of aid. For information, contact Texas Rehabilitation commission, 13612 Midway, Suite 530, Dallas, Texas 75234.

Bureau of Indian Affairs

The Bureau Of Indian Affairs offers educational benefits to American Indian/Native American students. Students need to contact the regional Bureau of Indian Affairs Office regarding eligibility.

Bureau of Indian Affairs
Federal Office Building
P.O. Box 368
Anadarko, OK 73005
(405) 247-6673

Veteran's Benefits Programs

The Veteran's Benefits Programs are coordinated by the Veterans' Services Office of the College. Services of this office include counseling the veteran concerning benefits. Veterans Administration loans, Veterans Administration work study programs, financial problems, career counseling, and other areas related to the veteran's general

welfare. Tutoring services are also available to the veteran who is having learning difficulties in one or more subjects. The veteran student should be aware of some of the Veterans Administration guidelines and should consult them before taking developmental or television courses. Violation of these guidelines causes complications in receiving monthly benefits or loss of those benefits.

1. A veteran student who plans to enroll in developmental courses must be tested and show a need in basic skills before enrolling in these courses.
2. A veteran student enrolled in television courses must be enrolled in three on-campus semester credit hours. VA payments for TV courses are limited to five semester credit hours per student.
3. A veteran student who has successfully completed credit hours at another college or university before applying for V.A. benefits must submit official transcripts. The transcript is evaluated and credit granted when applicable.
4. A veteran student must enroll in courses required for a degree program. Information about degree requirements may be obtained from the Registrar's Office.
5. A veteran student who withdraws from all courses attempted during a semester is considered as making unsatisfactory progress by the V.A. and may lose future benefits. A veteran student must also maintain a satisfactory grade point average as outlined in this catalog.

The above V.A. regulations are subject to change without notice. Students should contact the Veterans' Services Office in order to be aware of current regulations and procedures.

Hazlewood Act

Under the Hazlewood Act certain Texas veterans who have exhausted remaining educational benefits from the Veterans Administration can attend Texas state supported institutions and have some fees waived. To be eligible, students must have been residents of Texas at the time they entered the service, have an honorable discharge, must now be residents of Texas; and be ineligible for federal grants. Applications are available at the Financial Aid Office and will take a minimum of eight weeks to process. To apply, students must submit a Hazlewood Act application, a copy of their discharge papers and a Student Aid Report stating ineligibility to the Financial Aid Office.

Academic Progress Requirements

To comply with applicable laws and accreditation standards the Dallas County Community College District has developed a policy describing satisfactory progress for both applicants and recipients of student financial aid. A copy of this policy is available in the Financial Aid Office located on each campus.

CODE OF STUDENT CONDUCT

1. PURPOSE

The purpose of this document is to provide guidelines to the educational environment of the Dallas County Community College District. This environment views students in a holistic manner, encouraging and inviting them to learn and grow independently. Such an environment presupposes both rights and responsibilities. Free inquiry and expression are essential parts of this freedom to learn, to grow, and to develop. However, this environment also demands appropriate opportunities and conditions in the classroom, on the campus, and in the larger community. Students must exercise these freedoms with responsibility.

2. POLICIES, RULES, AND REGULATION

a. Interpretation of Regulations

Disciplinary regulations at the college are set forth in writing in order to give students general notice of prohibited conduct. The regulations should be read broadly and are not designed to define misconduct in exhaustive terms.

b. Inherent Authority

The college reserves the right to take necessary and appropriate action to protect the safety and well-being of the campus community.

c. Student Participation

Students are asked to assume positions of responsibility in the college judicial system in order that they might contribute their skills and insights to the resolution of disciplinary cases. Final authority in disciplinary matters, however, is vested in the college administration and in the Board of Trustees.

d. Standards of Due Process

Students who allegedly violate provisions of this code are entitled to fair and equitable proceedings under this code.

The focus of inquiry in disciplinary proceedings shall be the guilt or innocence of those accused of violating disciplinary regulations. Formal rules of evidence shall not be applicable, nor shall deviations from prescribed procedures necessarily invalidate a decision or proceeding, unless significant prejudice to a student respondent or the college may result.

e. Prohibited Conduct

Students may be accountable to both civil authorities and to the college for acts which constitute violations of law and this code. Disciplinary action at the college will normally proceed during the pendency of criminal proceedings and will not be subject to challenge on the ground that criminal charges involving the same incident have been dismissed or reduced.

f. Definitions

In this code:

- (1) "aggravated violation" means a violation which resulted or foreseeably could have resulted in significant damage to persons or property or which otherwise posed a substantial threat to the stability and continuance of normal college or college-sponsored activities.
- (2) "cheating" means intentionally using or attempting to use unauthorized materials, information, or study aids in any academic exercise.
- (3) "college" or "institution" means the colleges of the Dallas County Community College District.

(4) "college premises" means buildings or grounds owned, leased, operated, controlled, or supervised by the college.

(5) "college-sponsored activity" means any activity on or off campus which is initiated, aided, authorized, or supervised by the college.

(6) "collusion" means the unauthorized collaboration with another person in preparing work offered for credit.

(7) "complaint" means a written summary of essential facts which constitute an alleged violation of published college regulation or policy.

(8) "controlled substance" and "illegal drugs" are those as defined by the state-controlled substances act, as amended.

(9) "distribution" means sale or exchange for personal profit.

(10) "fabrication" means intentional and unauthorized falsification or invention of any information or citation in an academic exercise.

(11) "group" means a number of persons who are associated with each other and who have not complied with college requirements for registration as an organization.

(12) "hazing" is defined in Appendix B of this code.

(13) "intentionally" means conduct that one desires to engage in or one's conscious objective.

(14) "organization" means a number of persons who have complied with college requirements for registration.

(15) "plagiarism" means intentionally representing the words or ideas of another as one's own in any academic exercise.

(16) "published college regulation or policy" means standards of conduct or requirements located in the:

- (a) College Catalog
- (b) Board of Trustees Policies and Administrative Procedures Manual
- (c) Student Handbook
- (d) Any other official publication

(17) "reckless" means conduct which one should reasonably be expected to know would create a substantial risk or harm to persons or property or which would otherwise be likely to result in interference with normal college or college-sponsored activities.

(18) "sanctions" means any or all of the punitive actions described in Appendix A of this code.

(19) "student" means a person who has paid fees and is taking or auditing courses through the Dallas County Community College District.

(20) "violation" means an act or omission which is contrary to a published college regulation or policy.

(21) "weapon" means any object or substance designed to inflict a wound, cause injury, or incapacitate, including, but not limited to, all firearms, knives, clubs, or similar weapons which are defined and prohibited by the state penal code, as amended.

(22) "will" and "shall" are used in the imperative sense.

g. Prohibited Conduct

The following misconduct is subject to disciplinary action:

- (1) intentionally causing physical harm to any person on college premises or at college-sponsored activities, or inten-

tionally or recklessly causing reasonable apprehension of such harm or hazing.

- (2) unauthorized use, possession, or storage of any weapon on college premises or at college-sponsored activities.
- (3) intentionally initiating or causing to be initiated any false report, warning or threat of fire, explosion or other emergency on college premises or at college-sponsored activities.
- (4) intentionally interfering with normal college or college-sponsored activities, including, but not limited to, studying, teaching, research, college administration, or fire, security, or emergency services.
- (5) knowingly violating the terms of any disciplinary sanction imposed in accordance with this chapter.
- (6) unauthorized distribution or possession for purposes of distribution of any controlled substance or illegal drug on college premises or at college-sponsored activities.
- (7) intentionally furnishing false information to the college.
- (8) forgery, unauthorized alteration, or unauthorized use of any college document or instrument of identification.
- (9) unauthorized use of computer hardware or software.
- (10) all forms of academic dishonesty, including cheating, fabrication, facilitating academic dishonesty, plagiarism, and collusion.
- (11) intentionally and substantially interfering with the freedom of expression of others on college premises or at college-sponsored activities.
- (12) theft of property or of services on college premises or at college-sponsored activities; having possession of stolen property on college premises or at college-sponsored activities.
- (13) intentionally destroying or damaging college property or property of others on college premises or at college-sponsored activities.
- (14) failure to comply with the direction of college officials, including campus security/safety officers, acting in performance of their duties.
- (15) violation of published college regulations or policies. Such regulations or policies may include those relating to entry and use of college facilities, use of vehicles and media equipment, campus demonstrations, misuse of identification cards, and smoking.
- (16) use or possession of any controlled substance or illegal drug on college premises or at college-sponsored activities.
- (17) unauthorized presence on or use of college premises.
- (18) nonpayment or failure to pay any debt owed to the college with intent to defraud.

(Appropriate personnel at a college may be designated by college or District officials to notify students of dishonored checks, library fines, nonpayment of loans, and similar debts. Such personnel may temporarily "block" admission or readmission of a student until the matter is resolved. If the matter is not settled within a reasonable time, such personnel shall refer the matter to the VPSD for appropriate action under this code. Such referral does not prevent or suspend proceedings with other appropriate civil or criminal remedies by college personnel.)

- (19) use or possession of an alcoholic beverage on college premises with the exception of specific beverage-related

courses within the El Centro food service program.

Sanctions for violations of prohibited conduct for (1) through (6) may result in EXPULSION; for (7) through (12) may result in SUSPENSION; for (13) through (19) may result in sanctions other than expulsion or suspension.

Repeated or aggravated violations of any provision of this code may also result in expulsion or suspension or in the imposition of such lesser penalties as are appropriate.

3. DISCIPLINARY PROCEEDINGS

a. Administrative Disposition

(1) Investigation, Conference and Complaint

- (a) When the Vice President of Student Development (VPSD as referred to in this code) receives information that a student has allegedly violated a published college regulation or policy, the VPSD or a designee shall investigate the alleged violation. After completing the preliminary investigation, the VPSD may:

- (i) Dismiss the allegation as unfounded, either before or after conferring with the student; or
- (ii) Proceed administratively and impose disciplinary action; or
- (iii) Prepare a complaint based on the alleged violation for use in disciplinary hearings along with a list of witnesses and documentary evidence supporting the allegation.

The VPSD will notify the complainant of the disposition of the complaint. If the VPSD dismisses the allegation, the complainant may appeal to the President for review in writing within (5) working days after disposition.

- (b) The President or a designee may suspend a student immediately and without prior notice for an interim period pending disciplinary proceedings, when there is evidence that the continued presence of the student on college premises poses a substantial threat to himself or herself, to others, or to the stability and continuance of normal college functions. A student who is suspended on an interim basis shall be given an opportunity to appear before the President or a designee within five (5) working days from the effective date of the interim suspension. A hearing with the President shall be limited to the following issues only.

- (i) the reliability of the information concerning the student's conduct, including the matter of his or her identity; and
- (ii) whether the conduct and surrounding circumstances reasonably indicate that the student's continued presence on college premises poses a substantial threat to himself or herself, to others or to the stability and continuance of normal college functions.

After the hearing, the President or designee may modify the interim suspension as reasonable to protect the student, public, and college.

- (c) No person shall search a student's personal possessions for the purpose of enforcing this code unless the student's prior permission has been obtained or unless a law enforcement officer conducts the search as authorized by law.

(2) Summons

- (a) The VPSD shall summon a student regarding an alleged violation of this code by sending the student a letter. The letter shall be sent by certified mail, return receipt requested, addressed to the student at his or her last known address as it appears in the records of the Registrar's Office or shall be delivered personally to the student.

(b) The letter shall direct a student to appear at a specific time and place not less than five (5) working days after the date of the letter. The letter shall describe briefly the alleged violation and cite the published college regulation or policy which allegedly has been violated.

(c) The VPSD has authority to place a student on disciplinary probation if the student fails, without good cause, to comply with a letter of summons, or to apply sanctions against the student as provided in this code.

(3) Disposition

(a) At a conference with a student in connection with an alleged violation of this code, the VPSD shall provide the student with a copy of this code and discuss administrative disposition of the alleged violation.

(i) If a student accepts the administrative disposition, the student shall sign a statement that he or she understands the charges, his or her right to a hearing or to waive same, the penalty or penalties imposed, and that he or she waives the right to appeal. The student shall return the signed form by 5:00 p.m. of the day following administrative disposition.

(ii) If a student refuses administrative disposition of the alleged violation, the student is entitled to a hearing as provided herein. The VPSD shall note the date of refusal in writing and the student shall acknowledge in writing such date.

Administrative disposition means:

- the voluntary acceptance of the penalty or penalties provided in this code.
- other appropriate penalties administered by the VPSD.
- without recourse by the student to hearing procedures provided herein.

(b) The VPSD shall prepare an accurate, written summary of each administrative disposition and send a copy to the student (and, if the student is a minor, to the parent or guardian of the student), to the Director of Campus Security, to the complainant, and to other appropriate officials.

b. Student Discipline Committee

(1) Composition: Organization

(a) When a student refuses administrative disposition of a violation, the student is entitled to a hearing before the Student Discipline Committee. The hearing request must be made to the VPSD in writing, on or before the sixth (6th) working day after the date of refusal of administrative disposition. The committee shall be composed of equal numbers of students, administrators and faculty of the college. The committee and its chair shall be appointed by the President for each hearing on a rotating basis or on a basis of availability. The committee chair will be selected from the administration or faculty.

(b) The chairman of the committee shall rule on the admissibility of evidence, motions, and objections to procedure, but a majority of the committee members may override the chairman's ruling. All members of the committee are expected to attend all meetings and are eligible to vote in the hearing.

(c) The chairman shall set the date, time, and place for the hearing and may summon witnesses and require the production of documentary and other evidence.

(d) The VPSD shall represent the college before the Student Discipline Committee and present evidence

to support any allegations of violations.

(2) Notice

(a) The committee chairman shall notify the student of the date, time, and place for the hearing by sending the student a letter by certified mail, return receipt requested, addressed to the student at his or her address appearing in the Registrar's Office records. The letter shall specify a hearing date not less than five (5) nor more than (10) working days after date of the letter. If a student is under 18 years of age, a copy of the letter shall be sent to the parents or guardian of the student.

(b) The chairman may for good cause postpone the hearing so long as all interested parties are notified of the new hearing date, time, and place.

(c) The notice shall advise the student of the following rights:

- (i) To a private hearing or a public hearing (as he or she chooses);
- (ii) To appear alone or with legal counsel if the alleged violation subjects the student to expulsion or suspension. The role of legal counsel is limited as provided in the code;
- (iii) To have a parent or legal guardian present at the hearing;
- (iv) To know the identity of each witness who will testify;
- (v) To cause the committee to summon witnesses, and to require the production of documentary and other evidence possessed by the College;
- (vi) To cross-examine each witness who testifies;

(d) A student who fails to appear after proper notice and without good cause will be deemed to have pleaded guilty to the violation pending against him. The committee shall impose appropriate penalty and notify the student in the same manner as the notice of hearing.

(e) Legal counsel who represents a student in a hearing where the alleged violation subjects the student to expulsion or suspension is limited to advising and assisting the student. This limitation means that legal counsel shall not cross-examine witnesses, make objections, testify, or perform other similar functions generally associated with legal representation. The same preceding limitation applies to counsel who represents the college. Student representation by legal counsel is not permitted in a hearing where the alleged violation does not subject the student to expulsion or suspension.

(3) Preliminary Matters

(a) Charges arising out of a single transaction or occurrence, against one or more students, may be heard together, or, upon request by one of the students-in-interest, separate hearings may be held.

(b) There will be disclosure of all evidence to both sides prior to the hearing.

(c) At least by 12:00 noon, five (5) full working days before the hearing date, the student concerned shall furnish the committee chairman with:

- (i) The name of each witness he or she wants summoned and a description of all documentary and other evidence possessed by the college which he or she wants produced.
- (ii) An objection that, if sustained by the chairman of the Student Discipline Committee, would prevent the hearing;
- (iii) The name of the legal counsel, if any, who will appear with the student;
- (iv) A request for a separate hearing, if any, and the grounds for such a request.

(4) Procedure

- (a) The hearing shall be conducted by the chairman who shall provide opportunities for witnesses to be heard. The college will be represented by legal counsel if the student is represented by legal counsel in a hearing where the student is subject to expulsion or suspension.
- (b) If a hearing may result in expulsion or suspension of a student, the college will have a court reporter present to transcribe the proceedings. If a hearing will not result in expulsion or suspension of a student, legal representation is not permitted and recording of the hearing by any means is not permitted unless authorized by law.
- (c) If the hearing is a private hearing, the committee shall proceed generally as follows:
 - (i) Persons present: the complainant, the VPSD and the student with a parent or guardian if desired.
 - (ii) Before the hearing begins, the VPSD or the student may request that witnesses remain outside the hearing room.
 - (iii) The VPSD shall read the complaint;
 - (iv) The VPSD shall inform the student of his or her rights, as stated in the notice of hearing;
 - (v) The VPSD shall present the college's case;
 - (vi) The student may present his or her defense;
 - (vii) The VPSD and the student may present rebuttal evidence and argument.
 - (viii) The committee, by majority vote, shall determine the guilt or innocence of the student regarding the alleged violation.
 - (ix) The committee shall state in writing each finding of a violation of a published college regulation or policy. Each committee member concurring in the finding shall sign the statement. The committee may include in the statement its reasons for the finding. The committee shall notify the student in the same manner as the notice of hearing.
 - (x) A determination of guilt shall be followed by a supplemental proceeding in which either party may submit evidence or make statements to the committee concerning the appropriate penalty to be imposed. The past disciplinary record of a student shall not be submitted to the committee prior to the supplemental proceeding. The committee shall determine a penalty by majority vote and shall inform the student, in writing, of its decision as in (ix) above.
- (d) If the hearing is a public hearing, the committee shall proceed generally as follows:
 - (i) Persons present: the complainant, the VPSD and the student with a parent or guardian if desired. Designated college representatives for the following groups may have space reserved if they choose to attend:
 - Faculty Association
 - College Newspaper
 - PresidentOther persons may attend based on the seating available. The Chairman may limit seating accommodations based on the size of the facilities.
 - (ii) Before the hearing begins, the VPSD or the student may request that witnesses remain outside the hearing room.
 - (iii) The VPSD shall read the complaint;
 - (iv) The VPSD shall inform the student of his or her rights, as stated in the notice of hearing;
 - (v) The VPSD shall present the college's case;
 - (vi) The student may present his or her defense;
 - (vii) The VPSD and the student may present rebuttal evidence and argument;
 - (viii) The committee, by majority vote, shall determine the guilt or innocence of the student regarding the alleged violation.
 - (ix) The committee shall state in writing each finding of a violation of a published college regulation or policy. Each committee member concurring in the finding shall sign the statement. The committee may include in the statement its reasons for the finding. The committee shall notify the

student in the same manner as the notice of hearing.

- (x) A determination of guilt shall be followed by a supplemental proceeding in which either party may submit evidence or make statements to the committee concerning the appropriate penalty to be imposed. The past disciplinary record of a student shall not be submitted to the committee prior to the supplemental proceeding. The committee shall determine a penalty by majority vote and shall inform the student, in writing, of its decision as in (ix) above.

(5) Evidence

- (a) Legal rules of evidence shall not apply to hearings under this code. Evidence that is commonly accepted by reasonable persons in the conduct of their affairs is admissible. Irrelevant, immaterial, and unduly repetitious evidence may be excluded.
- (b) The committee shall recognize as privileged communications between a student and a member of the professional staff of the Health Center, Counseling or Guidance Center where such communications were made in the course of performance of official duties and when the matters discussed were understood by the staff member and the student to be confidential. Committee members may freely question witnesses.
- (c) The committee shall presume a student innocent of the alleged violation until there is a preponderance of evidence, presented by the VPSD, that the student violated a published college regulation or policy.
- (d) All evidence shall be offered to the committee during the hearing.
- (e) A student defendant may choose not to testify against himself or herself. The committee will make a determination based on the evidence presented.

(6) Record

The hearing record shall include: a copy of the notice of hearing; all documentary and other evidence offered or admitted in evidence; written motions, pleas, and other materials considered by the committee; and the committee's decisions.

(7) Petition for Administrative Review

- (a) A student is entitled to appeal in writing to the President who may alter, modify, or rescind the finding of the committee and/or the penalty imposed by the committee. A student is ineligible to appeal if the penalty imposed is less than suspension or expulsion. The President shall automatically review every penalty of expulsion. Sanctions will not be imposed while appeal is pending.
- (b) A student is entitled to appeal in writing to the Board of Trustees through the President, the Chancellor, and the Chairman of the Board. An appeal from the Student Discipline Committee is by review of the record (not de novo).
- (c) A petition for review is informal but shall contain, in addition to the information required, the date of the Student Discipline Committee's action and the student's reasons for disagreeing with the committee's action. A student shall file his or her petition with the President on or before the third working day after the day the Discipline committee determines the penalty. If the President rejects the petition, and the student wishes to petition the Chancellor, he or she shall file the petition with the

Chancellor on or before the third working day after the President rejects the petition in writing. If the Chancellor rejects the petition, and the student appellant wishes to petition the Board of Trustees, he or she shall file the petition with the Chairman of the Board on or before the third working day after the day the Chancellor rejects the petition in writing.

- (d) The President, the Chancellor, and the Board of Trustees in their review may take any action that the Student Discipline Committee is authorized to take; however, none may increase the penalty. They may receive written briefs and hear oral argument during their review.

- (e) The President, Chancellor and Board of Trustees shall modify or set aside the finding of violation, penalty, or both, if the substance rights of a student were prejudiced because of the Student Discipline Committee's finding of facts, conclusions or decisions were:

- (i) in violation of federal or state law or published college regulation or policy;
- (ii) clearly erroneous in view of the reliable evidence and the preponderance of the evidence; or
- (iii) capricious, or characterized by abuse of discretion or clearly unwarranted exercise of discretion.

APPENDIX A - SANCTIONS

1. Authorized Disciplinary Penalties:

The VPSD or the Student Discipline Committee may impose one or more of the following penalties for violation of a Board policy, College regulation, or administrative rule:

- a. Admonition
- b. Warning probation
- c. Disciplinary probation
- d. Withholding of transcript of degree
- e. Bar against readmission
- f. Restitution
- g. Suspension of rights or privileges
- h. Suspension of eligibility for official athletic and nonathletic extracurricular activities
- i. Denial of degree
- j. Suspension from the college
- k. Expulsion from the college

2. Definitions:

The following definitions apply to the penalties provided above:

- a. An "Admonition" means a written reprimand from the VPSD to the student on whom it is imposed.
- b. "Warning probation" means further violations may result in suspension. Disciplinary probation may be imposed for any length of time up to one calendar year and the student shall be automatically removed from probation when the imposed period expires.
- c. "Disciplinary probation" means further violations may result in suspension. Disciplinary probation may be imposed for any length of time up to one calendar year and the student shall be automatically removed from probation when the imposed period expires. Students may be placed on disciplinary probation for engaging in activities as illustrated by, but not limited to the following: being intoxicated, misuse of I.D. card, creating a disturbance in or on college premises and gambling.
- d. "Withholding of transcript of degree" may be imposed upon a student who fails to pay a debt owed the college or who has a disciplinary case pending final disposition or who violates the oath of residency. The penalty terminates on payment of the

debt or the final disposition of the case or payment of proper tuition.

- e. "Bar against readmission" may be imposed on a student who has left the College on enforced withdrawal for disciplinary reasons.

- f. "Restitution" means reimbursement for damage to or misappropriation of property. Reimbursement may take the form of appropriate service to repair or otherwise compensate for damages.

- g. "Disciplinary suspension" may be either or both of the following:

- (1) "Suspension of rights and privileges" is an elastic penalty which may impose limitations or restrictions to fit the particular case.

- (2) "Suspension of eligibility for official athletic and nonathletic extracurricular activities": prohibits, during the period of suspension, the student on whom it is imposed from joining a registered student organization; taking part in a registered student organization's activities, or attending its meetings or functions; and from participating in an official athletic or nonathletic extracurricular activity. Such suspension may be imposed for any length of time up to one calendar year. Students may be placed on disciplinary suspension for engaging in activities as illustrated by, but not limited to the following: having intoxicating beverages in any college facility, with the exception of specific beverage related courses within the El Centro food service program; destroying property or student's personal property; giving false information in response to requests from the college; instigating a disturbance or riot; stealing, possession, use, sale or purchase of illegal drugs on or off campus; any attempt at bodily harm, which includes taking an overdose of pills or any other act where emergency medical attention is required; and conviction of any act which is classified as a misdemeanor or felony under state or federal law.

- h. "Denial of degree" may be imposed on a student found guilty of scholastic dishonesty and may be imposed for any length of time up to and including permanent denial.

- i. "Suspension from the college" prohibits, during the period of suspension, the student on whom it is imposed from being initiated into an honorary or service organization; from entering the college campus except in response to an official summons; and from registering, either for credit or for noncredit, for scholastic work at or through the college.

- j. "Expulsion" is permanent severance from the college. This policy shall apply uniformly to all the colleges of the Dallas County Community College District.

In the event any portion of this policy conflicts with the state law of Texas, the state law shall be followed.

APPENDIX B - HAZING

1. Personal Hazing Offense

- a. A person commits an offense if the person:

- (1) engages in hazing;
- (2) solicits, encourages, directs, aids, or attempts to aid another person in engaging in hazing;
- (3) intentionally, knowingly, or recklessly permits hazing to occur; or
- (4) has firsthand knowledge of the planning of a specific hazing incident involving a student in an educational institution, or firsthand knowledge that a specific hazing incident has occurred, and knowingly fails to report said

knowledge in writing to the VPSD or other appropriate official of the institution.

- b. The offense for failing to report hazing incident is a misdemeanor punishable by a fine not to exceed \$1,000, confinement in county jail for not more than 180 days, or both such fine and confinement.
- c. Any other hazing offense which does not cause serious bodily injury to another is a misdemeanor punishable by a fine of not less than \$500 nor more than \$1,000, confinement in county jail for not less than 90 days nor more than 180 days, or both such fine and confinement.
- d. Any other hazing offense which causes serious bodily injury to another is a misdemeanor punishable by a fine of not less than \$1,000 nor more than \$5,000, confinement in county jail for not less than 180 days nor more than one year, or both such fine and confinement.
- e. Any other hazing offense which causes the death of another is a misdemeanor punishable by a fine of not less than \$5,000 nor more than \$10,000, confinement in county jail for not less than one year nor more than two years, or both fine and confinement.

2. Organization Hazing Offense

- a. An organization commits an offense if the organization condones or encourages hazing or if an officer or any combination of members, pledges, or alumni of the organization commits or assists in the commission of hazing.
- b. The above offense is a misdemeanor punishable by a fine of not less than \$5,000 nor more than \$10,000. If a court finds that the offense caused personal injury, property damage, or other loss, the court may sentence the organization to pay a fine of not less than \$5,000 nor more than double that amount lost or expenses incurred because of such injury, damage, or loss.

3. Consent Not a Defense

It is not a defense to prosecution of a hazing offense that the person against whom the hazing was directed consented to or acquiesced in the hazing activity.

4. Immunity from Prosecution

Any person reporting a specific hazing incident involving a student in an educational institution to the VPSD or other appropriate official of the institution is immune from liability, civil or criminal, that might otherwise be incurred or imposed as a result of the report. A person reporting in bad faith or with malice is not protected.

5. Definition

"Hazing" means any intentional, knowing, or reckless act, occurring on or off the campus of an educational institution, by one person alone or acting with others, directed against a student that endangers the mental or physical health or safety of a student for the purpose of pledging, being initiated into, affiliating with, holding office in, or maintaining membership in any organization whose members are or include students at an educational institution. The term includes but is not limited to:

- a. any type of physical brutality, such as whipping, beating, striking, branding, electronic shocking, placing of a harmful substance on the body, or similar activity;
- b. any type of physical activity, such as sleep deprivation, exposure to the elements, confinement in a small place, calisthenics, or any other activity that subjects the student to an unreasonable risk of harm or that adversely affects the mental or physical health or safety of the student.

- c. any activity involving consumption of a food, liquid, alcoholic beverage, liquor, drug, or any other substance which subjects the student to an unreasonable risk of harm or which adversely affects the mental or physical health or safety of the student.
- d. any activity that intimidates or threatens the student with ostracism, that subjects the student to extreme mental stress, shame, or humiliation, or that adversely affects the mental health or dignity of the student or discourages the student from entering or remaining registered in an educational institution, or that may reasonably be expected to cause a student to leave the organization or the institution rather than submit to acts described in the subsection;
- e. any activity that induces, causes, or requires the student to perform a duty or task which involves a violation of the Penal Code.

Student Grievance Procedure

1. Definition

Student grievance is a college-related internal problem or condition which a student believes to be unfair, inequitable, discriminatory, or a hindrance to the educational process. This includes sexual harassment that a student may suffer from another student or employee of the district.

2. Scope

This student grievance procedure is not intended to supplant the Student Code of Conduct, which allows the student procedural due process in disciplinary proceedings initiated by the college. This student grievance procedure is designed to provide the student with the opportunity to question conditions which the student believes impede his or her education or instruction. This student grievance procedure is not designed to include changes in policy nor does it apply to grading practices. Recommendations for initiating new policy or changing established policy are handled through normal administrative channels. Problems with grades will be dealt with first by the instructor, then by the division chair, and so forth to the President if necessary.

3. Limitations

The Student Grievance Procedure is not intended to supplant campus administrative procedures that address matters of policy or student grades.

4. Procedures

Students who believe that they have a college-related grievance:

- a. Should discuss it with the college employee most directly responsible for the condition which brought about the alleged grievance.
- b. If discussion does not resolve the matter to the student's satisfaction, the student may appeal to the next level of authority. The student may consult with the Administrative Office to determine the next level of authority.
- c. If an appeal does not resolve the grievance, the student may proceed to the appropriate Vice President with a written presentation of the grievance.
- d. If the Vice Presidential level of appeal does not prove satisfactory to the student, the student may appeal the grievance to an appeal committee.

5. Exception To Procedures

Sexual Harassment:

All students and employees shall report complaints of sexual harassment to the VPSD or college President. A complaint

includes sexual harassment that a student may suffer from another student or employee, or that an employee may suffer from a student.

6. Appeal Committee

Procedures:

- a. A student who wishes a grievance to be heard must submit a request in writing to the VPSD.
- b. The VPSD will convene and chair the Appeal Committee.
- c. The appeal must be heard by the committee within ten (10) class days of the request unless extended with the agreement of both the student and the VPSD.
- d. The committee will be ad hoc and will consist of two (2) students, two (2) faculty members, and one (1) staff member who is either an administrator or a non-contractual employee. It is the responsibility of the President or the President's designee to appoint all committee members.
- e. The Appeal Committee will make its recommendation directly to the President. The decision of the President shall be final.

CAMPUS PARKING AND DRIVING REGULATIONS

1. General Provisions

- a. **Authority for Regulations:** The Board of Trustees, for the benefit of its colleges, is authorized by state law (Sec. 51.202, Education Code) to promulgate and enforce rules and regulations for the safety and welfare of students, employees, and property and other rules and regulations it may deem necessary to govern the institution, including rules for the operation and parking of vehicles on the college campuses and any other property under institutional control.
- b. **Authority of Campus Peace Officers:** Pursuant to the provisions of Sec. 51.2203, Education Code, campus peace officers are commissioned peace officers of the State of Texas, and as such have full authority to enforce all parking regulations, and other regulations and laws within areas under the control and jurisdiction of the District. In addition, campus peace officers may enforce all traffic laws on public streets and highways which are in proximity to areas under District control. Campus peace officers may issue citations to violators or take other action consistent with the law.
- c. **Permits:**

Vehicle: In accordance with Sec. 51.207, Education Code, each college may issue and require use of a suitable vehicle identification decal as permits to park and drive on college property. Permits may be suspended for violations of applicable state law or parking and driving regulations. Each person who is required to have a vehicle identification decal shall apply to the Department of Campus Security for the decal. No fee is charged for the decal which must be placed on the rear window of the driver's side of a motor vehicle and on the gas tank of the motorcycle or motorbike.

Handicap: All authorized decals for handicap parking areas must be displayed prior to parking in such areas.

- d. **Posting of Signs:** Under the direction of the college president, the Department of Campus Safety shall post proper traffic and parking signs.
- e. **Applicability of Regulations:** The rules and regulations in this Chapter apply to motor vehicles, motorbikes and bicycles on college campuses or other District property, and are enforceable against students, employees of the District and visitors.

2. Prohibited Acts: The following acts shall constitute violations of these regulations:

- a. **Speeding:** The operation of a vehicle at a speed greater than is reasonable and prudent under existing conditions. The prima facie maximum reasonable and prudent speed on campus streets is twenty (20) miles per hour, and ten (10) miles per hour in parking areas, unless the street or area is otherwise posted.
- b. **Double parking, or otherwise parking, standing or stopping so as to impede the flow of traffic.**
- c. **Driving the wrong way on a one-way street or lane.**
- d. **Driving on the wrong side of the roadway.**
- e. **Improper parking, so that any portion of a vehicle is outside the marked limits of a parking space.**
- f. **Parking in unauthorized areas, as illustrated by, but not limited to those areas posted as visitor parking, no parking, handicapped parking or loading zones, designated crosswalks, motorcycle areas, or other unauthorized areas as designated by sign.**
- g. **Parking trailers or boats on campus.**
- h. **Parking or driving in areas other than those designated for vehicular traffic, as illustrated by, but not limited to courtyards, sidewalks, lawns, or curb areas.**
- i. **Failure to display a parking permit.**
- j. **Collision with another vehicle, a person, sign or immovable object.**
- k. **Reckless driving.**
- l. **Failure to yield the right-of-way to pedestrians in designated crosswalks.**
- m. **Violation of any state law regulating vehicular traffic.**

3. Tow-away Areas: A vehicle may be towed if parked without authority in the following areas:

- a. Handicapped parking.
- b. Fire lanes.
- c. Courtyards.
- d. "No Parking" zones.
- e. Areas other than those designated for vehicular traffic.
- f. Other unauthorized areas as designated by sign.

4. Citations:

- a. **Types:** Citations shall be of two types:

- (1) **Campus Citations:** A campus citation is a notice that the alleged violator's parking and driving privilege or permit has been suspended pending appeal or disposition.
- (2) **Court Citations:** A court citation is a notice of alleged violation of the type used by the Texas Highway Patrol, as authorized by Education Code, Sec. 51.206. Generally, such citations shall be used for violations by visitors, other persons holding no college permit, and employees of the District for excessive violations. However, such citations may be used for the enforcement of any provisions of these regulations.

b. Disposition

- (1) **Campus Citation:** A campus citation is returnable to the Department of Campus Safety, and a permit or driving privilege may be reinstated by the payment of a five dollar (\$5.00) service charge per citation at the college business office.

(2) Court Citation: A court citation is returnable to the justice or municipal court in which the case is filed. Disposition of the citation may be made in the same manner as any other criminal case within the jurisdiction of such court.

5. Suspension Review: A person receiving a campus citation shall have the right to appeal the suspension of rights by submitting to the college safety committee, within ten (10) days after the date of violation, notice of appeal in writing, which shall state the reasons for such appeal.

6. Safety Committee: The safety committee shall consist of not less than three (3) persons appointed by the President, none of whom shall be a campus peace officer. The committee shall meet as needed, but not less than five (5) business days after receipt of notice of appeal. Notice of such meetings shall be given to an appellant not less than twenty-four (24) hours prior thereto.

7. Penalties

a. Impoundment: Failure to pay the service charge within ten (10) days after receipt thereof, or, if appealed, within ten (10) days after denial of appeal, shall result in impoundment of the vehicle, denial of readmission to any District college, and withholding of any transcript or degree. If a vehicle is impounded, the owner is liable for any wrecker charges and storage fees in addition to the service charge.

b. Multiple Citations: Receipt of four (4) citations during the period from August 15 of a year to August 14 of the year following will result in suspension of the parking and driving permit or driving privilege for the balance of such year.

c. Court Citations: Penalties for convictions in municipal or justice court are as prescribed by state law, not to exceed \$200 per conviction.

8. Miscellaneous: The District nor any of its colleges or employees are responsible for damage to or theft of a vehicle or its contents while on the college campus.

Communicable Disease Policy

The Board acknowledges the serious threat to our community and nation posed by the AIDS epidemic. This policy and other procedures developed by the Chancellor shall emphasize educating employees and students concerning AIDS and managing each case of AIDS individually with sensitivity, flexibility, and concern for the individual as well as employees and students. In addition, this policy defines and addresses other communicable diseases which from time to time arise in the colleges and District among students and employees.

The District's decisions concerning a person who has a communicable disease shall be based upon current and well-informed medical judgment which includes the nature of the disease, risk of transmission to others, symptoms and special circumstances of the person, and balancing identifiable risks and available alternatives to respond to a student or employee with a communicable disease.

Scope

This policy and related administrative procedures apply to all employees and students of the DCCCD.

Definition

In this policy and its procedures, communicable disease means an illness due to an infectious agent or its toxic products that arises through transmission of that agent or its products from a reservoir to a susceptible host and as further defined in the Communicable Disease Prevention and Control Act, Article 4419b-1V.A.T.S. Communicable diseases include, but are not limited to mumps, rubella, influenza, mononucleosis, chicken pox, viral hepatitis-A, viral hepatitis-B, human immunodeficiency virus ("HIV infection"), AIDS-Related Complex, sexually transmitted diseases, and infectious meningitis. In this policy and procedures, HIV infection includes AIDS, AIDS-Related Complex and a positive test for the antibody to human immunodeficiency virus.

Nondiscrimination

Students: No student will be required to cease attending a college or participating in college functions solely on the basis of diagnosis of a communicable disease. If a review of the facts demonstrate that a student is unable to perform as required or presents a health risk to himself or the college community, a decision shall be made regarding the student's attendance at the college.

Employees: An employee who has a communicable disease will be treated in the same manner as other employees who have other illnesses or injuries.

Confidentiality

The District shall comply with applicable statutes and regulations which protect the privacy of persons who have a communicable disease. The Chancellor shall ensure that administrative procedures are sufficient to maintain the strictest confidence concerning persons who have HIV infection.

Education

The Chancellor shall develop and maintain a comprehensive educational program regarding HIV infection for students and employees.

Each college shall have a Communicable Disease Coordinator. The coordinator shall be a registered nurse who has received training in communicable diseases, particularly HIV infection. A student or employee who has a communicable disease is strongly encouraged to report the disease to the coordinator.

Counseling

The Communicable Disease Coordinator shall refer students and employees to sources of testing for HIV infection and counseling upon voluntary request. An individual shall bear the expenses of such testing and counseling.

Upon request by any student, the Health Center of the College will provide the educational pamphlet on AIDS developed by the Texas Department of Health.

Texas Department of Health

Recommended Adult Immunization Schedule

Vaccine/ Toxoid/ Biological	Primary Schedule & Boosters	Indications	Major Precautions & Contraindications Other Than Primary Allergies	Special Considerations
Tetanus- Diphtheria Toxoid	2 doses (IM), 4 weeks apart with 3rd dose (booster) 6-12 months then a booster every 10 years.	All Adults		Consider Human Tetanus Immune Globulin (TIG) for dirty wounds in patients with incom- plete immunizations.
Measles Mumps Rubella (MMR) Vaccine	1 dose (SC); boosters for measles are necessary for certain adults.	Measles/Mumps for adults born after 1/1/57 who lack a vaccine history for measles and mumps since their 1st birthday OR serological proof of immunity OR a physician validated statement of Measles/Mumps illness. 2 doses of measles vaccine are recommended for persons at high risk of exposure (e.g. medical per- sonnel). Rubella for any adult who lacks documentation of rubella vaccine since the 1st birthday OR serological proof of immunity.	Pregnancy; immuno-com- promised; hypersensitivity to neomycin and/or eggs	Persons vaccinated with killed measles vaccine (1963-1967) should be revac- cinated with live measles vaccine; MMR is the vaccine of choice if the per- son is likely to be susceptible to more than 1 agent
Hepatitis B Vaccine	2 doses (IM) 4 weeks apart; 3rd dose 5 months after 2nd.	Adults at increased risk of occupational, environmental, social, or family exposure.		
Influenza Vaccine (Split or Whole Vaccine)	1 dose annually (IM)	Adults with high-risk conditions; adults > or = 65 years old; health care workers	Hypersensitivity to eggs; may be given during pregnancy to high-risk patients.	
Pneumo- coccal Poly- saccharide Vaccine (23 Valent)	1 dose (IM or SC); boosters after 6 years indicated for certain adults	Underlying health conditions; adults 65 years old and older; adults with anatomic or functional asplenia	Pregnancy	Immune response is better if vaccinated prior to splenectomy

ALERT!!

MEASLES (aka. rubeola, Red Measles, Hard Measles, 10-day Measles)

Measles is a highly contagious viral disease. Antibiotics are NOT available to treat persons infected with this organism. Recent outbreaks of this illness have included many hospitalizations and several deaths among college-aged persons, for these reasons it is strongly recommended that students of Institutions of Higher Education have two doses of the vaccine prior to beginning classes. Most young adults have had only one dose.

The measles vaccine is most often given in combination with the vaccines for mumps and rubella which are also caused by viruses.

TETANUS (aka. Lockjaw)

The illness caused by tetanus results from the poison produced by a bacteria. Again this is a very difficult illness to treat once it occurs and prevention is the most appropriate choice. The vaccine is effective for about 10 years and needs to be boosted at that interval. It is now common for older adults to develop Tetanus in the United States as many adults do not receive the recommended 10 year boosters.

The Tetanus vaccine should be given in combination with the diphtheria vaccine.

POLIOMYELITIS

In the United States, polio immunization is not routinely recommended for persons 18 years of age or older. However, if travel to other parts of the world is planned, a physician should be contacted for specific recommendations.

SECTION 2.09 AND 2.09A TEX. EDU. CODE

The campus health centers have information regarding local providers of immunization services. Check with the health center for specific local information.

BROOKHAVEN COLLEGE

Brookhaven College, the seventh member institution of the Dallas County Community College District, is conveniently located just north of the city of Dallas in Farmers Branch. Its primary service area is northwest Dallas County — the core of one of the fastest growing business communities in the nation. Since it began operation in 1978, Brookhaven College has experienced phenomenal growth and is now an integral part of the North Dallas communities it serves.

The outstanding faculty, excellent facilities and innovative programs offered at Brookhaven College combine to make an impressive educational package. We are equipped to serve the changing, growing community of which we are a part, and because we provide a wide variety of educational, cultural and recreational opportunities, Brookhaven College is recognized as a valuable community resource.

You will find a full range of accredited freshman- and sophomore-level college courses, which are fully transferable to four-year colleges and universities, offered at Brookhaven College. Students may pursue a two-year associate degree; work toward certification in technical/occupational programs; lay the foundation for transfer to a four-year institution; gain a new skill or refresh an existing one; or simply explore an area of interest.

Counseling and advisement is available for all students enrolling in courses for academic credit. Brookhaven College also offers career counseling and job placement as well as special programs and services for women, veterans, returning adults, students for whom English is a second language, and those with disabilities.

A variety of student and community cultural enrichment offerings complement Brookhaven College's academic programs. Through the Student Programs and Resources office a wide variety of performing artists and lecturers have

been made accessible to the Dallas community. Those featured include writer, commentator and dramatist Maya Angelou; Maria Benitez Spanish Dance Company; stage and screen actors Ed Asner and Ossie Davis; Dallas Brass; psychiatrist and "Cosby Show" consultant Dr. Alvin Pouissant and Dallas' own international, award-winning chorus, The Vocal Majority.

Designed to easily incorporate expansion, the Brookhaven College campus is situated on a 200-acre site at 3939 Valley View Lane just north of LBJ Freeway between Midway Road and Marsh Lane. The campus architecture and design emphasize open spaces and encourage outdoor activities. State-of-the-art facilities include a 750-seat performance hall; a fully equipped Center for Business Studies; a top-notch Child-Parent Study Center which features a licensed daycare facility; an automotive shop and labs which boast the latest equipment; and a two-mile walking/jogging trail. The landscaping features native Texas plants and the campus is fully accessible to those with physical disabilities.

Accreditation

Brookhaven College is accredited by the Commission on Colleges of the Southern Association of Colleges and Schools to award the associate degree.

Institutional Memberships

- American Association of Community and Junior Colleges
- Texas Public Community/Junior College Association
- The Texas Association of Colleges and Universities
- The League for Innovation in the Community College

Brookhaven College is recognized and sanctioned by the Coordinating Board of the Texas Education Agency.

BROOKHAVEN COLLEGE ADMINISTRATION

President	Walter G. Bumphus	620-4803
Vice President of Instruction	Larry J. Darlage	620-4802
Vice President of Student Development	Ernest L. Thomas	620-4801
Vice President of Business Services	Brenda Floyd	620-4822
Dean, Continuing Education	Lindle Grigsby	620-4719
Dean of Educational Resources	Sarah Ferguson	620-4854
Director of Admissions/Registrar	Barbara Burke	620-4700
Director of Advising Services	Jennifer Wimbish	620-4830
Director of Business Operations	Maxine Rogers	620-4814
Director of Financial Aid	Kathryn K. Novak	620-4110
Director of Physical Plant	Duane H. Grant	620-4798
Director of Public Information	Pamela E. Ice	620-4823
Director of Student Programs and Resources	Lou A. King	620-4115
Asst. Director of Student Programs and Resources	Carrie Schweitzer	620-4117
Program Director	Leticia Rodriguez	620-4722
Program Director	Diane Bohlicke	620-4725
Program Director	Patty S. Forsyth	620-4723
Coordinator of Special Services		620-4844
Coordinator of Testing Center	Tim L. Gappa	620-4865

DIVISION DEANS

Automotive/Technical Occupational Services	Marilyn A. Kolesar	620-4189
Business	Leighton Chaplin	620-4160
Communications	Zack Miller	620-4770
Fine Arts and Physical Education		620-4730
Human Development	Jennifer Wimbish	620-4830
Languages		620-4667
Science and Mathematics	J. Patrick Miller	620-4750
Social Science and Child Development	H. Eugene Gibbons	620-4130

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Texas Tech. Univ., B.A.; Texas Christian Univ., M.A.
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McMurry College, B.A.; Southern Methodist Univ., M.A.

CEDAR VALLEY COLLEGE

Cedar Valley College opened in 1977 on a 353-acre site at 3030 North Dallas Avenue in Lancaster. The school occupies a strategically important position in southern Dallas County, east of Interstate 35 and south of Interstate 20/635. Continuing residential and industrial expansion in this area has thrust Cedar Valley into an increasingly vital role of service in the community.

Cedar Valley provides a broad range of academic transfer programs for students desiring to continue their education at four-year institutions. In addition, Cedar Valley's technical/occupational programs provide many options for gaining training for area job markets in business, industry and the arts. Continuing Education courses provide people of all ages with exciting opportunities for personal growth, recreation and for improvement of job skills. All these are coupled with an outstanding program of career planning and guidance from a competent counseling staff.

The Campus

Cedar Valley's award winning architecture and careful attention to landscaping have given the College a reputation for being one of the most scenic areas in the Metroplex.

Accreditation

Cedar Valley College is accredited by the Commission on Colleges of the Southern Association of Colleges and Schools to award the associate degree.

Institutional Membership

The American Association of Community and Junior Colleges

The League of Innovation in the Community College

Cedar Valley is recognized and sanctioned by the Coordinating Board of the Texas College and University System and the Texas Education Agency, and is an Affirmative Action Equal Opportunity Institution.

Cedar Valley College Mission Statement

Cedar Valley College is a publicly supported comprehensive community college committed to developing the potential and increasing the productivity of the people in the communities it serves.

Cedar Valley College maintains an institutional environment of excellence which facilitates and encourages learning; which emphasizes and values quality education; which champions diversity; which promotes student well-being, and which creates a public understanding and commitment to the college and its value to the community.

Cedar Valley College will maintain a comprehensive curriculum and related support services that reflect the needs of the communities it serves and the financial capabilities of the institution. The college will strive to:

- provide a curriculum balanced with academic, occupational and continuing education offerings
- provide opportunities for learning through excellence in teaching
- provide a learner centered environment
- be responsive to current and future needs of the communities it serves
- provide developmental education for effective participation in occupational education and in further higher education
- foster critical thinking and questioning skills in all students
- prepare students personally and academically to meet the demands of a changing world

Cedar Valley College is committed to providing the highest quality educational experiences for each student it serves.

CEDAR VALLEY COLLEGE ADMINISTRATION

President.....	Carol J. Spencer.....	372-8250
Vice President of Instruction.....	James Butzek.....	372-8242
Vice President of Business.....	Walter N. Beene.....	372-8228
Vice President of Student Development.....	Jim Harlow.....	372-8261
Dean of Career and Continuing Education.....	Cecil H. Brewer, Jr.	372-8216
Dean of Education Resources.....	Carol Barrett.....	372-8149
Director of Business Operations.....	Bobbie McClung.....	372-8290
Assistant Dean of Continuing Education.....	Gloria Enriquez.....	372-8212
Director of Financial Aid.....	Frank Ellis.....	372-8280
Director of Instructional Resources.....	Edna White.....	372-8140
Director of Physical Plant.....	Bob Kostelecky.....	372-8186
Director of Public Information.....	Janet Gifford.....	372-8258
Director of Safety and Security.....	Johnny Hullett.....	372-8286
Director of Special Services.....	Pam Gist.....	372-8119
Registrar and Director of Admissions.....	John Williamson.....	372-8200

DIVISION DEANS

Applied Studies.....	Claire Gauntlett.....	372-8127
Business and Social Science.....	Gerald Stanglin.....	372-8110
Communications and Humanities.....	Jerry Cotton.....	372-8120
Math, Science, Physical Education and Veterinary Technology.....	David Heitman.....	372-8160

CEDAR VALLEY COLLEGE FACULTY AND STAFF

Adkins, James A.	Physics and Astronomy Univ. of Texas at Arlington, B.S.M.A.
Aziz, Mohamed	Mathematics Cairo Univ., B.S.; Univ. of Wyoming, B.S., M.S.
Baldwin, Mary	Director, Student Programs & Resources University of Texas, Permian Basin, B.A.
Barrett, Carol	Dean of Educational Resources Texas Woman's Univ., B.A., M.L.S.
Beecham, Ron	Biology East Texas State Univ., B.S., M.S.
Beene, Walter N.	Vice President-Business Services University of Houston, B.S.
Bilbrey, Keith	A/C/Refrigeration Tarrant County Junior College, A.A.S.
Brantley, Sharon	Program Director, Continuing Ed. Prairie View A&M, B.S., M.A.
Brewer, Cecil H.	Dean of Career & Continuing Ed. Univ. of Texas at Arlington, B.A.; East Texas State Univ., M.S., Ph.D.; Certified Technician, N.I.A.S.E.
Brodnax, Randall	Art Northwestern State Univ., B.A., M.A.
Bullard, Susan	English University of Kansas, B.S., B.A.; East Texas State Univ., M.Ed.
Burnett, Elsie	English Bishop College, B.S.; East Texas State Univ., M.Ed.; TWU, Ph.D.
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Cotton, Jerry	Dean, Division of Communications and Humanities Hardin-Simmons Univ., B.S.; SW Texas State Univ., M.A.; Texas Tech, Ph.D.
Dawson, C. Edward	Music Univ. of North Carolina, B.A., M.M.
Desai, Suryakunt	Accounting Univ. of North Carolina, B.A.; East Texas State Univ., Ph.D.
Dismore, Roger E.	Coordinator, Music University of North Texas, B.M.E., M.M.E.
Earle, Brian D.	Science University of North Texas, B.S.; Univ. of Texas at Dallas, M.A.
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Germany, Sam	Music Anderson College, B.A.; Western Michigan Univ., M.M.
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Leubitz, Lois	Speech Purdue, B.A.; Ohio State University, M.A.
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Minger, Diane	Fashion Marketing Indiana State University, B.S.; Texas Woman's University, M.S.
Paul, Duncan A.	Motorcycle, Outboard Engine & Small Engine University of North Texas, B.S.
Pharr, John	Business and Retail Management University of North Texas, B.A., M.S.
Prado, Maria	ESL/Reading Catholic University of Puerto Rico, B.A., M.Ed.
Pratt, John	Business Law & Government Southern Methodist Univ., J.D., B.A., Texas Law License
Riley, Joel L.	Counselor Bishop College, B.S.; University of North Texas, M.Ed.
Rolling, Lincoln, Jr.	History Sam Houston State Univ., B.A., M.A.
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Spencer, Carol J.	President Univ. of Nebraska, Lincoln, B.S., M.A.; Ohio State University, Ph.D.
Stanglin, Gerald	Dean, Division of Business/Social Science Abilene Christian Univ., B.A.; Univ. of North Texas, M.A., Ph.D.
Stewart, M. Kerby, Jr.	Music Texas Christian Univ., B.F.A.
Sullivan, Tim	Anthropology/Sociology/Religion Univ. of Southern California, B.A.; Southern Methodist Univ., M.A.
Taylor, Linda	English Louisville School of Art, M.F.A.; Tulane University, M.F.A.
Thompson, Tommy	Mathematics Southeastern Louisiana Univ., B.S.; Univ. of Texas, Austin, M.A., Ph.D.
White, Edna	Director of Instructional Resources University of Texas, Arlington, B.A.; Univ. of North Texas, M.L.S.
Wilkie, Dave	Physical Education Ball State Univ., B.S., M.A.
Williamson, John	Director of Admissions & Registrar Kilgore Junior College, A.A.; East Texas State Univ., B.S., M.S.
Wilson, Burlene	Office Technology Oklahoma State Univ., B.S., M.S.
Wimblish, Linda	English Stephen F. Austin, B.A.; East Texas State University, M.S.
Wright, David L.	Veterinary Technology Texas A&M Univ., B.S., D.V.M.
Yeager, Nora	Development Reading Ball State Univ., B.A., M.A., Univ. of Evansville, Ed.D.
Yoder, Debby	Physical Education Univ. of North Texas, B.S.; East Texas State Univ., M.S.
Youngblood, Mary Ann	English University of Texas, Arlington, B.A., Univ. of North Texas, M.A.

EASTFIELD COLLEGE

Eastfield College serves the eastern part of Dallas County, including East Dallas, Garland and Mesquite. Sometimes known as the "Educational Village" because of its unique architecture, it is located on 244 acres at the intersection of Interstate 30 and Motley Drive in Mesquite. Eastfield began operation in 1970 and has continually strived to assess the educational and cultural needs of students and the community in order to provide the finest in educational services.

Eastfield provides a full range of academic transfer programs balanced with technical/occupational programs that are designed to equip students for rewarding careers in Metroplex businesses and industries. In addition, thousands of people each semester find rewarding growth opportunities through the extensive continuing education course offerings.

The Campus

The Eastfield campus rises impressively from the plains of eastern Dallas County and is the scene of many seasonal athletic events held on its beautiful grass-covered playing fields.

Functional building clusters give students easy access to classrooms and labs and the overall aesthetic effect has earned Eastfield several architectural awards of excellence. The careful landscape planning includes many trees, shrubs and terraced areas as well as a beautiful outdoor swimming pool. In addition, the campus boasts an outstanding Performance Hall which serves the community for a variety of fine arts events.

Accreditation

Eastfield College is accredited by the Commission on Colleges of the Southern Association of Colleges and Schools to award the associate degree.

Institutional Memberships

The American Association of Community and Junior Colleges

Southern Association of Junior Colleges

Association of Texas Colleges and Universities

The League of Innovation in the Community College

Eastfield is recognized and sanctioned by the Coordination Board of the Texas College and University System and the Texas Education Agency, and is an affirmative Action Equal Opportunity Institution.

EASTFIELD COLLEGE ADMINISTRATION

President		324-7001
Vice President of Instruction		324-7196
Vice President of Student Development	Felix A. Zamora	324-7610
Vice President of Business Services		324-7603
Dean, Career and Continuing Education	Lu McClellen	324-7198
Dean, Educational Resources	Michael Burke	324-7169
Associate Dean, Continuing Education	Carolyn Stock	324-7623
Director of Admissions and Registrar	Bobbie J. Trout	324-7100
Director of Appraisal Center	Charles Helton	324-7010
Director of Business Operations	Ed DesPlas	324-7612
Director of College Police	Jim Baylor	324-8333
Director of Counseling (Interim)	David Morawiec	324-7106
Director of Financial Aid/Veteran Affairs	Furman Milton	324-7188
Director of Health Services	Donnine Ballance	324-7190
Director of Instructional Resources	Gerald Kozlowski	324-7668
Director of Library	Emma Cronin	324-7171
Director of Physical Plant	George Clark	324-7688
Director of Public Information	Sharon Cook	324-7629
Director of Student Programs & Resources	John Pruitt	324-7185
Coordinator, Career Planning/Placement	Linda Foley	324-7038
Coordinator, Services for Special Population	Reva Rattan	324-7032

DIVISION CHAIRPERSONS

Business & Mathematics	James D. Baynham	324-7119
Communications & Developmental Studies	Carla Ranger	324-7124
Engineering, Technology & Computer Science		324-7143
Human Development (Interim)	David Morawiec	324-7106
Humanities	John Stewart	324-7132
Physical Education & Science	Mark W. Presley	324-7140
Social Science & Technology	Richard Cinclair	324-7156

EASTFIELD COLLEGE FACULTY AND STAFF

Allison, Joe F. Mathematics Stephen F. Austin State College, B.S.; Texas A&M Univ., M.Ed., Ph.D.	Egedigwe, Eges Computer Information Systems Univ. of Ife (Nigeria), B.S.; Atlanta Univ., M.S., M.B.A.; Further study: Michigan State Univ.
Arnold, Jackie Auto Body Study, East Texas State Univ., Paris Junior College, General Motors	England, Carole Program Director Continuing Education Univ. of Northern Colorado, B.S., M.S.
Bailey, Kenneth Graphic Arts	Erwin, Robert J. Theatre Univ. of South Florida, B.A.; Univ. of Alberta, M.F.A.; Further study: Paul Mann's Acting Workshop, New York, City
Bajackson, Robert E. Journalism Univ. of North Texas, B.A.; East Texas State Univ., M.A.	Etheredge, John W. Speech Baylor Univ., B.A., M.S.; Further study: Univ. of Houston, Baylor Univ., Texas A&M Univ.
Ballance, Donnine College Nurse Baylor Univ., B.A.; Texas Woman's Univ., M.Ed.	Etheredge, Margaret Counselor Austin College, B.A.; East Texas State Univ., M.A.
Balvin, Kenneth Physical Education Springfield College, B.S., M.S.; Further study: Ohio State Univ., Azusa Pacific College	Ewing, George E. History Univ. of North Texas, B.S., M.S.; Univ. of Arkansas, Ed.D.
Baynham, James D. Division Chairperson, Business & Mathematics Eastfield College, A.A.S.; Abilene Christian Univ., B.B.A., M.S.	Faris, Nancy Program Director, Continuing Education Univ. of Oklahoma, B.A.; Southern Methodist Univ., M.L.A.
Bennett, James Developmental Mathematics Univ. of Texas at Austin, B.A.; Univ. of Houston, M.S.; Further study: East Texas State Univ.	Felder, Bob Economics Sam Houston State Univ., B.A., M.A.
Blair, Oscar T. Physical Education Univ. of North Texas, B.S., M.S.; Further study: Univ. of North Texas, Texas Woman's Univ., East Texas State Univ.	Flickner, Robert E. Physical Education Bethel College, B.S.; Kansas Univ., M.S.
Boldt, Chris E. Mathematics Texas Tech Univ., B.B.A.; Texas Christian Univ., M.S.; East Texas State Univ., Ed.D.; Further study: Texas Christian Univ., Univ. of North Texas, Univ. of Texas at Austin, Syracuse Univ., Univ. of Colorado at Boulder, Univ. of Hawaii, Stanford Univ., Ohio Univ.	Foley, Linda Coordinator, Career Planning and Placement Wheaton College, B.A.; George Washington Univ., MA Ed.
Bowers, James Developmental Reading Arizona State Univ., B.A., M.A.	Forrest, Mary L. Speech Univ. of North Texas, B.A.; Southern Methodist Univ., M.F.A.; Univ. of North Texas, Ed.D.
Bradshaw, Curt Jazz Northern Iowa, B.S.; Univ. of North Texas, M.M.	Gammage, Judie K. Computer Information Systems Southern Methodist Univ., B.A., M.L.A.; Univ. of North Texas, Ph.D.
Brown, Emmett D. Counselor Univ. of North Texas, B.A., M.Ed.; Further study: El Centro College, Prairie View A&M, Naval School of Photography	Gormly, Donna A. English Texas Woman's Univ., B.A., M.A.; Further study: Texas Christian Univ.
Brown, Harryette Stover English Southern Methodist Univ., B.A., M.A.; Further study: Univ. of North Texas, East Texas State Univ.	Hegar, E. Aylene Psychology Texas Tech Univ., B.A.; Univ. of North Texas, M.Ed., Ed.D.
Brumback, Virginia English Cumberland College, A.A.; Western Kentucky State Univ., B.A.; Baylor Univ. M.A.; Univ. of North Texas, Ed.D.; Post-doctoral, Texas Univ., North Texas Univ., Texas Christian Univ.	Helton, Charles E. Director of Appraisal Center/CAI Lab East Texas State Univ., B.S.; Further study: East Texas State Univ.
Burke, Michael Dean, Educational Resources Univ. of Houston, B.A., M.A.; Univ. of Texas at Austin, Ph.D.	Henry, Robert Physical Education Southern Methodist Univ., B.A.; Univ. of Illinois, M.S.; Further study: Univ. of Texas, Univ. of North Texas, East Texas State Univ., Texas Tech Univ., Texas A&M Univ.
Carandang, Amado I. Philosophy Kings, College, B.A.; Univ. of Notre Dame, M.A., Ph.D.; Further study: California Institute of Asian Studies, San Francisco Brock Univ., Ontario	Henson, Jerry C. History/Religion Hardin-Simmons Univ., B.A.; Southwestern Baptist Theological Seminary, B.D.; Baylor Univ. Ph.D.
Carlisle, Charles Richard Spanish Univ. of Arizona, B.A., M.A., Ph.D.; Further study: Instituto Tecnológico y de Estudios Superiores, DePaul Univ., Loyola Univ., Univ. of Dallas.	Herd, Clarence W. Automotive Technology East Texas State Univ., M.A.; Further study: East Texas State Univ.
Carpenter, Robert W. Accounting Univ. of North Texas, B.B.A., M.B.A.; C.P.A., State of Texas; Further study: Univ. of North Texas, Western State College of Colorado	Hill, H. Rayburn Government Paris Junior College, A.A.; East Texas State Univ., B.S., M.S.; Further study: Univ. of Oklahoma, East Texas State Univ.
Carr, Laura V. Interpreter Training Program Illinois State Univ., B.S.; New York Univ., M.A.; Further study: East Texas State Univ.	Holloway, Ralph Director of Telecommunications Amarillo College, A.A.; Hardin-Simmons Univ., B.A.; Univ. of North Texas, M.L.S.; Further study: Univ. of Texas at Austin, East Texas State Univ.
Cate, Franklin M. History East Texas State Univ., B.A.; Univ. of Virginia, M.A.; Further study: Univ. of Texas, Vanderbilt Univ.	Hoiman, Morris H. History East Texas State Univ., B.A., M.A.; Dallas Theological Seminary, M.A.B.S.; Further study: Univ. of North Texas
Christlan, Allen L. Mathematics Arlington State College, B.S.; East Texas State Univ., M.S.; Univ. of North Texas, Ed.D.	Hutchins, Michael E. Computer Aided Design & Drafting East Texas State Univ., B.S., M.S., Ed.D.
Claclair, Richard Division Chairperson, Social Science & Technology Northern State College, B.S.; Univ. of Wisconsin, M.S.; Ball State Univ., Ph.D.	Jackson, Jo Ann Counselor Bishop College, B.A.; Prairie View A&M., M.Ed.; Further study: East Texas State Univ.
Clark, George Director of Physical Plant USAF-Coronado, B.S.; Southern Methodist Univ., M.S.	Jacquez, Mary Alice Counselor Eastern New Mexico Univ., B.S., M.A.
Clayton, Glenn N., Jr. English Univ. of North Texas, B.A., M.A.; Further study: East Texas State Univ., Univ. of North Texas	Jeffus, Larry Air Conditioning and Refrigeration Hiwassee College, A.A.; Univ. of Tennessee, B.S.; Further study: Univ. of Tennessee
Cobb, Lindy Program Director, Continuing Education East Texas State Univ., B.S.; Abilene Christian Univ., M.S.; Further study: East Texas State Univ.	Jensen, Denny H. ESL Univ. of Illinois, B.A.; Teacher's College, Columbia Univ., M.A.
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Cronin, Emma Director of Library Univ. of Oklahoma, B.A.; Univ. of North Texas, M.L.S.; Further study: East Texas State Univ., Texas Woman's Univ., New Mexico Highlands Univ.	Keenan, Donnelle Management Univ. of North Carolina at Chapel Hill, B.A.; Univ. of Oklahoma, M.Ed.
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Davis, Vivian English Ball State Teachers College, A.B.; Univ. of Chicago, M.A.T.; Northwestern Univ., Ph.D.; Texas Woman's Univ., M.Ed.	Kirkpatrick, James Michael Computer Aided Design & Drafting Oklahoma City Univ., B.I.A.; Univ. of North Texas, M.Ed., Ed.D.
Dennis, Vivian Mathematics East Texas State Univ., B.A., M.S., Ed.D.; Further study: Univ. of North Texas	Knight, Carl E. Biology Michigan State Univ., B.S., M.S., Ph.D.
DesPlas, Ed Director of Business Operations Univ. of Texas, Dallas, B.S.	Kozlowski, Gerald Director of Instructional Resources Eastfield College, A.A.S.; Univ. of North Texas, B.A.; East Texas State Univ., M.S.; Further study: Univ. of North Texas, Spanish Language Institute
DiPietro, Lawrence N. Library Rutgers Univ., B.A.; Drexel Univ., M.S.L.; Further study: Univ. of North Texas	Latham, Jim Auto Body Technology East Texas State Univ., B.A.; Further study: East Texas State Univ., Texas A&M Univ.
Drake, Melan N. English Southern Methodist Univ., B.A.; Univ. of North Texas, M.A.; Further study: East Texas State Univ.	Leos, Camilo Developmental Mathematics Univ. of Texas at Austin, B.A.; Southern Methodist Univ., M.L.A.

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- Martin, M. Diane** English
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- Massey, Aaron W.** Counselor
Southwest Texas State, B.S.; East Texas State Univ., M.S.; Further study:
East Texas State Univ., Univ. of North Texas, Abilene Christian Univ.,
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- Mathus, Don L.** Physical Education
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- McMahon, Jerry D.** Chemistry
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- Piffard, Ana M.** Spanish
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- Plitt, J. Michael** Computer Science/Physics
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- Pleasant, P. Leon Jr.** Accounting
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- Pollard, Jennie** Program Director, Continuing Education
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Eastfield College, A.A.S.; Univ. of Texas at Arlington, B.A., M.A.; Further study:
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- Priest, Andy J.** Automotive Technology
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- Pruitt, John** Director of Student Programs & Resources
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- Purdy, Earlyne** Office Technology
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- Rattan, Reva O.** Coordinator, Services for Special Population
Univ. of Texas Health Science Center at Dallas, B.S.
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- Richardson, Douglas M.** Management
Univ. of North Texas, B.B.A., M.B.A.; Further study: East Texas State Univ. of
North Texas
- Robinson, Yvonne** Computer Information Systems
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Texas State Univ., Ed.D.
- St. Clair, Anita J.** Office Technology
Abilene Christian College, B.S.E.; Univ. of North Texas, M.B.E.;
Further study: Southern Methodist Univ., Univ. of North Texas,
East Texas State Univ.
- Schmitt, Allen B.** Developmental Mathematics
Univ. of Texas at Austin, B.E.S., M.S.E.E., Ph.D.E.E.
- Schrup, Sara J.** Art
Art Institute of Chicago, B.F.A.; Univ. of Dallas, M.A., M.F.A.
- Scott, Ray R.** Physics
Univ. of North Texas, B.A.; East Texas State Univ., M.S.; Purdue Univ., M.S.;
Further study: East Texas State Univ.
- Scott, Sandra Saucedo** Child Development
Texas Woman's Univ., B.S., M.S.
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EL CENTRO COLLEGE

El Centro, a college of the Dallas County Community College District, is centrally located in downtown Dallas and plays a vital role in its educational advancement.

El Centro's central location allows students from all parts of Dallas County to take advantage of pre-professional courses transferable to four-year institutions, as well as career training in over 40 exciting fields. There is no typical student at El Centro. Students are of all ages and come from all walks of life.

The campus has gained international attention for making use of a nine-story, turn-of-the-century department store, renovated to accommodate classrooms, laboratories, student center, learning center, and administrative offices, as well as a modern wing that houses labs, arts facilities, a cafeteria, gymnasium and library. Nestled between the two wings is an inviting green space which has been commended for beautifying the downtown area.

Accreditation

El Centro College is accredited by the Commission of Colleges of the Southern Association of Colleges and Schools to award the Associate of Arts and Sciences Degree and the Associate of Applied Science Degree.

Institutional Memberships

El Centro belongs to: The American Association of Community and Junior Colleges; The Association of Texas Colleges and Universities; and The League for Innovation in the Community College

El Centro College is recognized and sanctioned by the Coordinating Board of the Texas College and University System and the Texas Education Agency and is an affirmative action equal opportunity institution.

DCCCD Statement of Purpose

The purpose of the DCCCD is to equip students for successful living and responsible citizenship in a rapidly changing local, national and world community. We do this by providing accessible, accredited, affordable, cost effective, quality educational opportunities for development of job skills, personal growth and/or transfer to a baccalaureate program. In fulfilling our purpose, we further cultural and economic development in the communities we serve.

El Centro's Mission

Valuing the student as its primary commitment, El Centro College provides educational opportunity for all individuals, recognizing that they bring diversity of purpose, circumstance, background, skills, and ability. Innovative professional and academic curricula offer quality instruction to enhance the mind and equip students with the knowledge and skills required to reach their fullest potential. The faculty and staff of El Centro College join with students and the community in a partnership of learning to serve the educational needs of a diverse population drawn together in an urban setting.

El Centro College offers counseling, advisement, and instruction--as well as a time and place for students to develop, reflect, learn, and grow according to their intellectual and career goals. The college cultivates in students an understanding of our local and global community and promotes civic responsibility and leadership development.

EL CENTRO COLLEGE ADMINISTRATION

President	Wright Lassiter, Jr.	746-2010
Vice President of Business Services	Victor J. Rizzo	746-2015
Vice President of Instruction	Linda Stegall	746-2019
Vice President of Student Development	Warren T. Dodson	746-2017
Administrative Assistant to the President	John Dvorak	746-2010
Dean of Educational Resources		746-2167
Dean of Instruction	Ruth Watkins	746-2454
Dean of Student Support Services	Micheal Jackson	746-2033
Associate Dean, Allied Health	Sondra Flemming	746-2271
Associate Dean, Continuing Education	Judy Pouncey	746-2147
Associate Dean, Nursing	Carol Speyerer	746-2269
Director of Admissions and Registrar	Robert Bennett	746-2311
Director of Business Operations	Curtis Castleberry	746-2044
Director of Financial Aid	Pat Tarpley	746-2199
Director of Health Center	Lelani Starks	746-2113
Director of Learning Center	Rosa Babcock	746-2243
Director of Public Information	Janet James	746-2037
Director of Physical Plant	Bobby Hunt	746-2057
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Director of Student Programs and Resources	Howard Finney	746-2137
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California State Univ. at Los Angeles, B.A., M.A.
- Wilson, Doris P.** Office Careers
Prairie View A&M Univ., B.S.; Teachers College, Columbia
Univ., M.A.
- Witherspoon, Joseph Ray** Dean, Physical & Social Science
North Texas State Univ., B.B.A.; Southern Methodist Univ., M.L.A.
- Youmans, Linda A.** AD Nursing
John Peter Smith Hospital School of Nursing, R.N.; Univ. of Florida,
B.S.N.
- Young, Lee** Architecture and Interior Design
Univ. of Oklahoma, B. Arch., M.B.A.
- Zerwekh, JoAnn** AD Nursing
Univ. of Arizona, B.S.N.; Univ. of Texas at Arlington, M.S.N.;
East Texas State Univ., Ed.D.

MOUNTAIN VIEW COLLEGE

Mountain View College is the community learning center for thousands of people in southwestern Dallas County. Opening its doors in the fall of 1970, Mountain View College is the second of seven colleges in the Dallas County Community College District. Located in the southwestern section of Oak Cliff in Dallas at 4849 W. Illinois Avenue, the college serves residents of South Dallas, Oak Cliff, Duncanville, Cedar Hill and parts of Grand Prairie.

The various programs at Mountain View are designed to meet a broad range of educational needs. Students may elect to complete their first two years of study leading toward a bachelor's degree, or prepare for a career in an occupational or technical area. Many students attend Mountain View to train for an entirely new career opportunity. Non-credit courses are also available for people of all ages seeking personal enrichment, cultural awareness or participation in productive leisure time activities.

The Mountain View student body is composed of people of all ages and all backgrounds representing a cross section of the community which it serves. This rich opportunity to interact with people from all walks of life is an important part of the educational process and is well established in the Mountain View tradition.

The Campus

The campus sits on the crest of a ridge giving students an outstanding view of the downtown Dallas skyline to the north. Care has been taken to preserve the natural beauty of the 200-acre site. The long, flat-roofed buildings stretch out gracefully along both sides of a rocky ravine and natural creek which has been landscaped into a very pleasant interior courtyard and garden. Foot-paths and stone terraces provide a beautiful area for walking, studying and relaxing. Two enclosed pedestrian

bridges span the ravine, providing easy access to all parts of the campus and beautiful architectural focal points with spectacular views of the college's natural setting.

The College Mission Statement

The mission of Mountain View College is to fulfill the Dallas County Community College District Statement of Purpose by providing high-quality educational and cultural programs and also economic development resources for the citizens of southwest Dallas County and surrounding areas.

The college carries out its mission by offering university parallel, technical/occupational, developmental/remedial, continuing education and community service programs. Instruction is provided by highly-qualified faculty, supported with technology and offered in a variety of instructional modes.

Student success is a fundamental part of the college mission and a wide range of student support services are offered to broaden the intellectual, cultural and social foundation of each student.

An ongoing commitment of the college is to maintain physical facilities which are conducive to a positive learning environment, and which provide a source of identity and pride for the community.

Accreditation

Mountain View College is accredited by the Commission on Colleges of the Southern Association of Colleges and Schools to award the associate degree.

Institutional Memberships

The American Association of Community and Junior Colleges
The League for Innovation in the Community College

Mountain View College is recognized and sanctioned by the Coordinating Board of the Texas College and University System and the Texas Education Agency and is an Affirmative Action Equal Opportunity Institution.

MOUNTAIN VIEW COLLEGE ADMINISTRATION

President.....	W.H. Jordan.....	333-8700
V.P. of Business Services.....	Jim Jones.....	333-8705
V.P. of Instruction	Curtis Ivery.....	333-8710
V.P. of Student Development.....	Corina Gardea.....	333-8696
Evening Administrator.....	Dick Smith.....	333-8610
Dean, Career & Continuing Ed.....	Don Perry.....	333-8755
Dean, Educational Resources.....	Sharron Colburn.....	333-8664
Dean, Instructional Programs.....	Ann Cunningham.....	333-8632
Dean, Student Support Services		
Counseling.....	Donna Richards.....	333-8606
Health/Disabled Students.....	Donna Richards.....	333-8699
Director of Admissions/Registrar.....	Juan Torres.....	333-8600
Director of Business Operations.....	Christa Martens.....	333-8704
Director of Educational Computing.....	Jim Corvey.....	333-8664
Director of Financial Aid.....	Sarah Winlock.....	333-8688
Director of Public Information.....	Sharron Colburn.....	333-8678
Director of Student Programs & Resources.....	Guy Gooding.....	333-8685

Division Deans

Business/Technology.....	Tom Goza.....	333-8616
Communications/Social Science.....	David Wickham.....	333-8624
Science/Mathematics/PEH.....	Cliff Miller.....	333-8649
Fine Arts.....	Ann Cunningham.....	333-8632

Mountain View College Faculty and Staff

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Benson, Paul F.....English Pacific Lutheran Univ., B.A.; Colorado State Univ., M.A.; Univ. of North Texas, Ph.D.	Goss, Raye.....Counselor Prairie View A&M College, B.S.; East Texas State Univ., M.S.
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Caldwell-Kennedy, Leleonia E.....Reading Bishop College, B.S.; Southwestern State College, M.Ed.	Grimes, Geoffrey A.....English Austin College, B.A.; Texas Tech Univ., M.A., Ph.D.
Chancey, Greg.....Mathematics Univ. of Texas, Arlington, B.S., M.S.	Grissom, Anne.....Speech Baylor Univ., B.A., M.A.; Univ. of North Texas, Ph.D.
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Coad, Bruce.....English Wittenburg Univ., B.A.; Univ. of North Carolina, M.A.; Duke Univ., Ph.D.	Hamilton, Ramona.....Office Careers Hardin-Simmons Univ., B.B.A.; Univ. of North Texas, M.B.E.
Colburn, Sharron.....Director, Educational Resources and Public Information Dallas Baptist Univ., B.A.B.A.; Southern Methodist Univ., M.L.A.	Harris, Allatia.....Speech Univ. of North of North Texas, B.A., M.A.
Cook, E. Wayne.....English Hardin-Simmons Univ., B.A.; Texas Tech Univ., M.A., Ph.D.	Hegar, Kathryn W.....Business Univ. of North Texas, B.B.A., M.B.E., Ph.D.
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Curtis, Ed.....Aviation Technology Southeastern Oklahoma State Univ., B.S., A.T.P., Flight Instructor, Ground Instructor, Pilot Examiner	Jordan, W.H.....President Univ. of North Texas, B.S., M.Ed., Ed.D.
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Ferguson, Susan French.....English Univ. of Dallas, B.S.; Univ. of North Texas, M.A., Ph.D.	McCain, Charles.....Computer Science East Texas State Univ., B.S., M.S., Ph.D.
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Parker, Sue.....	Music Univ. of Mary Hardin-Baylor, B.M.E.; Texas Woman's Univ., M.A.	Torres, Juan C.....	Director of Admissions/Registrar Pan American Univ., B.A.
Payne, John.....	Aviation Univ. of Texas, Arlington, B.B.A.; East Texas State Univ., M.B.A.; F.A.A. Airline Transport Pilot; Single and Multi-Engine, Basic, Advanced and Instrument Ground Instructor	Vance, Pamela.....	English Mountain View College, A.A.; Univ. of Dallas, Irving, B.A., M.A.
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Roberts, Mary.....	Accounting Louisiana State Univ., B.S.; Southern Methodist Univ., M.B.A., C.P.A.	Wilson, William A.....	Counselor The City College of the City Univ. of New York, B.A.; Teachers College, Columbia Univ., M.A., Ed.D.
Robinson, Wilma W.....	Developmental Reading/Writing Savannah State College, B.S.; East Texas State Univ., M.S.	Wolfe, David J.....	Journalism Southern Methodist Univ., B.A.; Univ. of California, Los Angeles, M.A.
Rodgers, Samuel A.....	Mathematics Univ. of North Texas, B.A., M.S.; Univ. of Kentucky, Ph.D.	Winlock, Sarah E.....	Director, Financial Aid Western Kentucky Univ., B.A., M.A.
Roy, Dewayne.....	Welding Studies: Oscar Rose Junior College, Eastfield College		
Salter, Daniel M.....	Pilot Technology San Jacinto College, A.S.; F.A.A. Commercial Pilot Certificate; F.A.A. Flight Instructor Ratings; F.A.A. Ground Instructor Ratings; F.C.C. Radio Operator License; Dallas Baptist Univ., B.C.A.		
Salter, M. Jo.....	Counselor Southwestern Univ., B.A.; East Texas State Univ., M.S.		
Sayers, Lew C.....	Developmental Writing Dartmouth College, B.A.; Reed College, M.A.T.		
Singleton, Emma.....	Office Careers Texas Southern Univ., B.S., M.B.Ed.		
Sink, D. Michael.....	English Ball State Univ., B.S., M.A.; Auburn Univ., Ed.D.		
Skinner, Ted R.....	Librarian East Texas State Univ., B.S., M.S. in L.S.		
Smith, Richard E.....	Evening Administrator Harding Univ., B.A.; Univ. of Texas, Austin, M.A.		
Smith, Tommy E.....	Physical Education Univ. of North Texas, B.S., M.Ed.; Nova Univ., Ed.D.		
St. John, Sue.....	Associate Dean, Career and Continuing Education Univ. of North Texas, B.S.		
Strain, Jimmie F.....	Government/History Univ. of Texas, Austin, B.S.; East Texas State Univ., M.A.; Southern Methodist Univ., M.L.A.		

North Lake College

North Lake College makes educational and cultural opportunities available to all area citizens with its accessible location and active involvement within the community. This commitment to serve the community has resulted in a fine balance of academic courses, technical programs and continuing education offerings.

Outstanding facilities provide a stimulating and pleasant environment for students, and faculty and staff work hard to implement the best-known concepts in teaching and learning. This combination makes North Lake an exciting center for personal growth for each of its nearly 10,000 students.

The College is proud of its \$21 million campus, but recognizes that learning can also take place outside of the traditional classroom. For that reason, North Lake has extended many of its course offerings into businesses, community and public centers, and a variety of other places where learning is important. North Lake also provides the auxiliary benefits of a complete counseling center, job placement service, flexible entry registration, self-paced study and other services that help students learn more efficiently.

The Campus

Opened in the fall of 1977, North lake occupies 276 wooded acres in the Las Colinas area of Irving, at 5001 N. MacArthur Boulevard. This architecturally remarkable college is surrounded by gently rolling hills accentuated by a beautiful nine-acre lake. The energy-efficient buildings are designed in a series of terraces which follow the natural elevations of the building site.

North Lake's excellent facilities include a 450-seat Performance Hall, a 2,000 seat gymnasium, and a covered natatorium, complimented by exceptionally well-equipped laboratories, studios, and learning centers.

Accreditation

North Lake College is accredited by the Commission on Colleges of the Southern Association of Colleges and Schools to award the associate degree.

Institutional Memberships:

The American Association of Community and Junior Colleges

The Texas Public Community/Junior College Association

The Texas Association of Colleges and Universities

The League for Innovation in the Community College

North Lake College is recognized and sanctioned by the Coordinating Board of the Texas College and University System and the Texas Education Agency, and is an Affirmative Action Equal Opportunity Institution.

President	James F. Horton	659-5229
Vice President of Instruction	Joel E. Vela	659-5240
Vice President of Student Development		659-5242
Vice President of Business Services	James P. Hughes	659-5235
Dean of Educational Resources	Lee B. Crowley	659-5340
Director of Admissions and Registration	Steve Twenge	659-5225
Director of Continuing Education	Richard Fleming	659-5370
Director of Counseling	Lynda Edwards	659-5216
Director of Financial Aid	Paul Felix	659-5227
Director of Public Information	Julia Benitez Sullivan	659-5231
Director of Special Services Program	Mary Ciminelli	659-5237

Division Chairpersons

Business	Jim Picquet	659-5290
Communications	D'Ann Madewell	659-5270
Human Development	Lynda Edwards	659-5216
Humanities/Math/Technologies	Grady Grizzle	659-5320
Natural and Social Sciences/PE	Bob Agnew	659-5250
Technology	Clifton Weaver	659-5233

Other Telephone Numbers

Admissions and Registration	659-5220
Business Office	659-5244
Campus Police	659-5300
Center for Women and Returning Adults	659-5373
Continuing Education Office	659-5200
Counseling Center	659-5210
Data Center	659-5269
Educational Resources Center	659-5340
Health Center	659-5209
Library	659-5347

Mailing Services	550-1826
Media Services	659-5341
Personnel	659-5246
Physical Plant	659-5310
Placement Office	659-5211
Printing	550-1826
Public Information	659-5230
Veteran's Affairs	659-5277
Wallace Bookstore	550-0509
Workplace Literacy Program (Abbott)	518-7503

NORTH LAKE COLLEGE FACULTY AND STAFF

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Wheaton College, B.A., Univ. of Chicago, M.A., Ph.D.

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Ates, Clarence Counselor
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M.B.A., Univ. of Arizona Naval War College, Study

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University of Mississippi

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Univ. of Texas at Dallas, Study

Blankenship, Patey Office Careers
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Cooke County College, A.A., Wayland Baptist College, B.S.O.E.

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Bravo, Luis Accounting
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Texas C.P.A.

Briggs, Cathy French/Spanish
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Brink, Lynn Government
Southwestern Univ., B.A., North Texas State Univ., M.A. Nova,
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Castilla, Rene Journalism
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Castillo, Candace Assistant to Vice President of Instruction
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Cherry, Grady English
Stephen R. Austin Univ., B.A., M.A., Texas A&M Univ., Ph.D.

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Univ., Study

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Univ. of Texas-Austin, B.S.

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Jones, Virginia College Nurse
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Univ. of Texas, B.A., Univ. of Houston at Clear Lake City, M.A.,
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Morman, Shelba Jean.....Mathematics
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RICHLAND COLLEGE

A challenging educational experience awaits students at Richland College, where a dedicated faculty, innovative programs, functional campus design and the beauty of nature combine to create an exciting learning environment.

Richland is the fourth of seven colleges in the Dallas County Community College District enrolling its first students in 1972. It has subsequently become the largest DCCCD college, enrolling more than 12,000 college credit students and 10,000 non-credit continuing education students each semester.

A comprehensive curriculum is offered at Richland including academic transfer programs, technical/occupational programs and non-credit continuing education courses. In addition, the college offers:

- Honors courses and an Honors Scholar program
- Classics courses and Classics Scholar program
- Global Studies and Global Scholar Program
- International Language Institute
- Multicultural Center
- Business and Professional Institute
- Adult Resource Center, meeting the needs of older students returning to college
- Career Information & Placement Services, helping former and current credit and Continuing Education students with career decisions
- Center for Independent Study, offering tutoring services and help in developing reading, writing, and study skills
- Learning Differences Program, offering developmental

courses to students who have specific learning disabilities or who have experienced significant educational disadvantage

- Total Re-Integration Program, offering campus-based remedial studies for head-injured students
- R. Jan LeCroy Center for Educational Telecommunications, offering telecourses and interactive video conferences throughout the DCCCD and the United States as well as abroad

The Campus

Richland is located on 259 acres at 12800 Abrams Road just north of LBJ Freeway. The campus plan enhances the natural beauty of the site. Campus facilities are linked by pedestrian bridges which extend along both sides of a spring-fed creek and two picturesque lakes. Richland has a performance hall, a greenhouse with a demonstration garden, and a planetarium. The campus athletic complex includes an outdoor swimming pool and a fitness trail.

Accreditation

Richland is accredited by the Commission on Colleges of the Southern Association of Colleges and Schools to award the associate degree.

Institutional Memberships

The American Association of Community & Junior Colleges
The League for Innovation in the Community College
The National Institute for Staff and Organizational Development

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Vice President of Student Development	Deana Graham	238-6200
Vice President of Business Services	Lee Bacon	238-6200
Vice President, LeCroy Center for Educational Telecommunications	Pamela Quinn	952-0310
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Dean of Career & Continuing Education	Susan Muha	238-6200
Dean of Educational Resources	Tom McLaughlin	238-6200
Director of Public Information	Valenda Archer	238-6194

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Communications	Jerry McElveen	238-6220
Counseling/Human Development	Mary Darin	238-6106
Developmental Studies/Education	Angie Runnels	238-6230
Humanities	George Massingale	238-6250
Math/Science/Technology	Ray Canham	238-6248
Physical Education	Louis Stone	238-6260
Social Science	Ivan Martinez	238-6290

STUDENT SERVICES

Admissions/Registration	238-6100	Global Studies	238-6117
Adult Resource Center	238-6331	Honors & Classics Programs	238-6223
Business Office	238-6277	International Language Institute	238-6943
Career Information & Placement Center	238-6921	International Programs	238-6301
College Police	238-6911	Library (LRC)	238-6150
Counseling Center	238-6106	Multicultural Center	238-6900
Center for Independent Study	238-6226	Special Services for Disabled Students	238-6180
English as a Second Language	238-6900	Student Programs (SPAR)	238-6130
Financial Aid	238-6188	Testing/TASP Information	238-6160

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DALLAS COUNTY COMMUNITY COLLEGE DISTRICT

1992-93 Technical/Occupational Programs Offered On Our Campuses

Career Education Programs

	BHC	CVC	EFC	ECC	MVC	NLC	RLC
Accounting Associate	•	•	•	•	•	•	•
Air Conditioning & Refrigeration — Residential	•	•	•	•	•	•	•
Air Conditioning & Refrigeration Technology	•	•	•	•	•	•	•
Apparel Design	•	•	•	•	•	•	•
Architectural Technology	•	•	•	•	•	•	•
Associate Degree Nursing	•	•	•	•	•	•	•
LVN Option	•	•	•	•	•	•	•
Auto Body Technology	•	•	•	•	•	•	•
Automotive Career Technician	•	•	•	•	•	•	•
Automotive Technology	•	•	•	•	•	•	•
Dealership-Sponsored Technician	•	•	•	•	•	•	•
Electronic Engine Control Technician	•	•	•	•	•	•	•
Service Technician	•	•	•	•	•	•	•
Aviation Technology	•	•	•	•	•	•	•
Career Pilot	•	•	•	•	•	•	•
Air Cargo Transport	•	•	•	•	•	•	•
Air Traffic Control	•	•	•	•	•	•	•
Aircraft Dispatcher	•	•	•	•	•	•	•
Airline Marketing	•	•	•	•	•	•	•
Fixed Base Operations/Airport Management	•	•	•	•	•	•	•
Child Development Associate	•	•	•	•	•	•	•
Administrative	•	•	•	•	•	•	•
CDA Training Certificate	•	•	•	•	•	•	•
Infant-Toddler	•	•	•	•	•	•	•
Special Child Certificate	•	•	•	•	•	•	•
Commercial Music	•	•	•	•	•	•	•
Arranger/Composer/Copyist	•	•	•	•	•	•	•
Music Retailing	•	•	•	•	•	•	•
Performing Musician	•	•	•	•	•	•	•
Recording Technology	•	•	•	•	•	•	•
Computer Aided Design & Drafting	•	•	•	•	•	•	•
Electronic Design	•	•	•	•	•	•	•
Computer Information Systems	•	•	•	•	•	•	•
Business Computer Assistant	•	•	•	•	•	•	•
Business Computer Information Systems	•	•	•	•	•	•	•
Business Computer Programmer	•	•	•	•	•	•	•
Computer Center Specialist	•	•	•	•	•	•	•
Computer Operations Technician	•	•	•	•	•	•	•
Local Area Network Administrator	•	•	•	•	•	•	•
Personal Computer Support	•	•	•	•	•	•	•
Computerized Numerical Control Technology	•	•	•	•	•	•	•
Computerized Numerical Control Operations	•	•	•	•	•	•	•
Machine Shop Operations	•	•	•	•	•	•	•
Construction Management & Technology	•	•	•	•	•	•	•
Construction Technology	•	•	•	•	•	•	•
Criminal Justice	•	•	•	•	•	•	•
Educational Personnel	•	•	•	•	•	•	•
Bilingual/ESL	•	•	•	•	•	•	•
Educational Assistant	•	•	•	•	•	•	•
Electrical Technology	•	•	•	•	•	•	•
Electronic Telecommunications	•	•	•	•	•	•	•
Electronics/Computer Technology	•	•	•	•	•	•	•
Basic Electronics Technology	•	•	•	•	•	•	•
Electronics Technology	•	•	•	•	•	•	•
Automated Manufacturing	•	•	•	•	•	•	•
Avionics	•	•	•	•	•	•	•
Engineering Technology	•	•	•	•	•	•	•
Computer Integrated Manufacturing	•	•	•	•	•	•	•
Electronics Engineering Technology	•	•	•	•	•	•	•

Career Education Programs

	BHC	CVC	EFC	ECC	MVC	NLC	RLC
Electronic Quality Control	•	•	•	•	•	•	•
Industrial Technology	•	•	•	•	•	•	•
Manufacturing Design Technology	•	•	•	•	•	•	•
Mechanical Quality Control	•	•	•	•	•	•	•
Quality Control	•	•	•	•	•	•	•
Robotics & Fluid Power	•	•	•	•	•	•	•
Robotics Technology	•	•	•	•	•	•	•
Fashion Marketing	•	•	•	•	•	•	•
Fire Protection Technology	•	•	•	•	•	•	•
Food And Hospitality Service	•	•	•	•	•	•	•
Graphic Communications	•	•	•	•	•	•	•
Graphic Arts	•	•	•	•	•	•	•
Interior Design	•	•	•	•	•	•	•
International Business & Trade	•	•	•	•	•	•	•
Interpreter Training Program	•	•	•	•	•	•	•
Sign Language Studies	•	•	•	•	•	•	•
Invasive Cardiovascular Technology	•	•	•	•	•	•	•
Legal Assistant	•	•	•	•	•	•	•
Management Careers	•	•	•	•	•	•	•
Administrative Management	•	•	•	•	•	•	•
Mid-Management	•	•	•	•	•	•	•
Postal Service Administration	•	•	•	•	•	•	•
Sales, Marketing & Retail Management	•	•	•	•	•	•	•
Small Business Management	•	•	•	•	•	•	•
Medical Laboratory Technology	•	•	•	•	•	•	•
Medical Transcription	•	•	•	•	•	•	•
Mortgage Banking	•	•	•	•	•	•	•
Motorcycle Mechanics	•	•	•	•	•	•	•
Office Technology	•	•	•	•	•	•	•
Administrative Assistant	•	•	•	•	•	•	•
Legal Secretary	•	•	•	•	•	•	•
General Office Certificate	•	•	•	•	•	•	•
Office Information Systems Specialist	•	•	•	•	•	•	•
Ornamental Horticulture	•	•	•	•	•	•	•
Greenhouse Florist	•	•	•	•	•	•	•
Interiorscape	•	•	•	•	•	•	•
Landscape Management	•	•	•	•	•	•	•
Landscape Nursery	•	•	•	•	•	•	•
Florist	•	•	•	•	•	•	•
Landscape Gardener	•	•	•	•	•	•	•
Outboard Marine Engine Mechanics	•	•	•	•	•	•	•
Pattern Design	•	•	•	•	•	•	•
Physical Fitness Technology	•	•	•	•	•	•	•
Radiologic Sciences	•	•	•	•	•	•	•
Diagnostic Medical Sonography	•	•	•	•	•	•	•
Radiography Technology	•	•	•	•	•	•	•
Real Estate	•	•	•	•	•	•	•
Respiratory Care, Levels I and II	•	•	•	•	•	•	•
Small Engine Mechanics	•	•	•	•	•	•	•
Social Work Associate-Generalist	•	•	•	•	•	•	•
Human Services	•	•	•	•	•	•	•
Substance Abuse Counseling	•	•	•	•	•	•	•
Surgical Technology	•	•	•	•	•	•	•
Surgical Technology for Graduate R.N.	•	•	•	•	•	•	•
Veterinary Technology	•	•	•	•	•	•	•
Video Technology	•	•	•	•	•	•	•
Visual Communications	•	•	•	•	•	•	•
Vocational Nursing	•	•	•	•	•	•	•
Welding Technology	•	•	•	•	•	•	•

BHC — Brookhaven College
CVC — Cedar Valley College

EFC — Eastfield College
ECC — El Centro College

MVC — Mountain View College
NLC — North Lake College

RLC — Richland College

ACCOUNTING ASSOCIATE

Offered at all seven campuses

(Associate Degree)

The Accounting Associate two-year program is designed to prepare a student for a career as a junior accountant in business, industry and government. Emphasis will be placed on internal accounting procedures and generally accepted accounting principles.

The Associate in Applied Sciences Degree is awarded for successful completion of at least 66 credit hours as outlined below. Students desiring a less comprehensive program that includes some bookkeeping procedures and practices should consider the General Office Certificate. The General Office Certificate is available in the Office Technology Program.

	CREDIT HOURS
SEMESTER I	
ACC 201 Principles of Accounting I	3
BUS 105 Introduction to Business	3
ENG 101 Composition I	3
MTH 130 Business Mathematics or	
MTH 111 Mathematics for Business and	
Economics	3
OFC 160 Office Calculating Machines	3
	15
SEMESTER II	
ACC 202 Principles of Accounting II	3
ENG 102 Composition II	3
CIS 103 Introduction to Computer Information	
Systems	3
MGT 136 Principles of Management	3
OFC 172 Beginning Typing*	3
SC 101 Introduction to Speech	
Communication	3
	18
SEMESTER III	
ACC 203 Intermediate Accounting I	3
ACC 204 Managerial Accounting	3
ACC 250 Microcomputer-Based Accounting	
Applications	3
ECO 201 Principles of Economics I	3
+ Elective	3
ACC 703 Cooperative Work Experience or	
ACC 704 Cooperative Work Experience or	
+++ Elective	3-4
	18-19
SEMESTER IV	
ACC 238 Cost Accounting or	
ACC 239 Income Tax Accounting	3
BUS 234 Business Law	3
ECO 202 Principles of Economics II	3
OFC 231 Business Communications	3
+++ Elective	3
	15

Minimum Hours Required 66

+ Elective—must be selected from the following:

ANT 100	Introduction to Anthropology	3
GVT 201	American Government	3
GVT 202	American Government	3
HST 101	History of the United States	3
HST 102	History of the United States	3
HD 105	Basic Processes of Interpersonal Relationships	3
HD 106	Personal and Social Growth	3
PSY 101	Introduction to Psychology	3
PSY 103	Human Sexuality	3
PSY 131	Applied Psychology and Human Relations	3
SOC 101	Introduction to Sociology	3
SOC 102	Social Problems	3

+ + Elective—must be selected from the following:

ART 104	Art Appreciation	3
ENG 201	British Literature	3
ENG 202	British Literature	3
ENG 203	World Literature	3
ENG 204	World Literature	3
ENG 205	American Literature	3
ENG 206	American Literature	3
HUM 101	Introduction to the Humanities	3
MUS 104	Music Appreciation	3
PHI 101	Introduction to Philosophy	3
THE 101	Introduction to the Theatre	3
Foreign Language		

+ + + Electives—may be selected from the following:

Any CIS or CS Programming Course		
ACC 205	Business Finance	3
ACC 207	Intermediate Accounting II	3
ACC 238	Cost Accounting	3
ACC 239	Income Tax Accounting	3
ACC 703	Cooperative Work Experience	3
ACC 704	Cooperative Work Experience	4
ACC 713	Cooperative Work Experience	3
ACC 714	Cooperative Work Experience	4
BUS 143	Personal Finance	3
MGT 237	Organizational Behavior	3
CIS 262	Contemporary Topics in Computer	
Information Systems	3	
CIS 265	Special Topics in Computer Information Systems	4
MKT 206	Principles of Marketing	3

*Students who can demonstrate proficiency by previous training, experience, or placement tests may substitute a course from the electives + + + listed for this program.

NOTE: Students enrolling in this program who plan to transfer to a four-year institution should consult an advisor or counselor regarding transfer requirements and the transferability of these courses to the four-year institution of their choice.

AIR CONDITIONING AND REFRIGERATION -- RESIDENTIAL

Cedar Valley, Eastfield, and North Lake only

(Associate Degree)

This program is designed to train students to meet employment requirements in the field of residential air conditioning. This will include the installation, repair and maintenance of residential air conditioning equipment. Included in this program is the study of residential air conditioners, heat pumps, gas and electric furnaces, humidifiers, and the design of residential air conditioning systems. Throughout the entire program an emphasis is placed on current techniques used by service technicians.

	CREDIT HOURS
SEMESTER I	
ACR 120 Principles of Refrigeration	6
ACR 125 Principles of Electricity	6
MTH 195 Technical Mathematics I or	
MTH 139 Applied Mathematics	3
	<u>15</u>
SEMESTER II	
ACR 130 Residential Cooling Systems	6
ACR 140 Residential Heating Systems	6
PHY 131 Applied Physics	4
	<u>16</u>
SEMESTER III	
ACR 200 Contractor Estimating	6
ACR 212 System Servicing	6
COM 131 Applied Communications or	
ENG 101 Composition I	3
	<u>15</u>
SEMESTER IV	
SC 101 Introduction to Speech	
Communication	3
PSY 131 Applied Psychology and Human	
Relations	3
+ Electives	8-9
	<u>14-15</u>
Minimum Hours Required	60

+ Electives—must be selected from the following:

AB 245	Welding for Auto Body	3
Any ACR (Air Conditioning and Refrigeration) course		
ACR 109	Contemporary Topics I	2
ACR 110	Contemporary Topics II	3
ACR 137	Contemporary Topics III	1
ACR 138	Contemporary Topics IV	2
ACR 139	Contemporary Topics V	3
ACR 221	Refrigeration Loads	3
ACR 222	Advanced Systems	3
ACR 223	Medium Temperature Refrigeration Systems	3
ACR 224	System Testing and Balancing	3
ACR 227	Low Temperature Refrigeration Systems	3
ACR 228	Air Conditioning System Equipment Selection	3
ACR 229	Refrigeration Equipment Selection	3
ACR 230	Energy Conservation	3
ACR 703	Cooperative Work Experience	3
ACR 704	Cooperative Work Experience	4
ACR 713	Cooperative Work Experience	3
ACR 714	Cooperative Work Experience	4
ACC 131	Bookkeeping I	3
BPR 177	Blueprint Reading	2
BUS 105	Introduction to Business	3
CAD 182	Technician Drafting	2
CIS 103	Introduction to Computer Information Systems	3
DTR 137	Fundamentals of Oxygen/Acetylene and	
	Arc Welding	3
MGT 153	Small Business Management	3

NOTE: Students enrolling in this program who plan to transfer to a four-year institution should consult an advisor or counselor regarding transfer requirements and the transferability of these courses to the four-year institution of their choice.

AIR CONDITIONING AND REFRIGERATION TECHNOLOGY

Eastfield only

(Associate Degree)

This program furnishes both the theory and practice required to qualify a person for employment in the various areas of the air conditioning and refrigeration industry. Special emphasis is placed on commercial and industrial air conditioning and refrigeration during the second year. Hands-on experience stresses operation and troubleshooting of medium and low temperature refrigeration and chilled water air conditioning systems.

	CREDIT HOURS
SEMESTER I	
ACR 120 Principles of Refrigeration	6
ACR 125 Principles of Electricity	6
MTH 195 Technical Mathematics I or	
MTH 139 Applied Mathematics	3
	<u>15</u>
SEMESTER II	
ACR 130 Residential Cooling Systems	6
ACR 140 Residential Heating Systems	6
COM 131 Applied Communications or	
ENG 101 Composition I	3
	<u>15</u>
SEMESTER III	
ACR 221 Refrigeration Loads	3
ACR 223 Medium Temperature Refrigeration	
Systems	3
ACR 227 Low Temperature Refrigeration	
Systems	3
ACR 229 Refrigeration Equipment Selection	3
PSY 131 Applied Psychology and Human	
Relations or	
PSY 101 Introduction to Psychology	3
+ Elective	3-4
	<u>18-19</u>
SEMESTER IV	
ACR 222 Advanced Systems	3
ACR 224 System Testing and Balancing	3
ACR 228 Air Conditioning System Equipment	
Selection	3
ACR 230 Energy Conservation	3
ACR 703 Cooperative Work Experience or	3
+ + Elective	(2-6)
SC 101 Introduction to Speech	
Communication	3
	<u>17-21</u>
Minimum Hours Required	66

+ Electives-must be selected from the following:

AB 245	Welding for Auto Body	3
ACC 131	Bookkeeping I	3
ART 104	Art Appreciation	3
BUS 105	Introduction to Business	3
BUS 143	Personal Finance	3
CIS 103	Introduction to Computer Information Systems ...	3
DTR 137	Fundamentals of Oxygen/Acetylene and	
	Arc Welding	3
HUM 101	Introduction to the Humanities	3
MGT 136	Principles of Management	3
MGT 153	Small Business Management	3
MUS 104	Music Appreciation	3
PHY 131	Applied Physics	4
SPA 101	Beginning Spanish	4

+ + Electives-must be selected from the following:

ACR 109	Contemporary Topics I	2
ACR 110	Contemporary Topics II	2
ACR 137	Contemporary Topics III	1
ACR 138	Contemporary Topics IV	2
ACR 139	Contemporary Topics V	3
ACR 200	Contractor Estimating	6
ACR 209	Contractor Estimating I	3
ACR 210	Contractor Estimating II	3
ACR 212	System Servicing	6
ACR 213	System Servicing I	3
ACR 214	System Servicing II	3

NOTE: Students enrolling in this program who plan to transfer to a four-year institution should consult an advisor or counselor regarding transfer requirements and the transferability of these courses to the four-year institution of their choice.

APPAREL DESIGN

El Centro only

(Associate Degree)

The apparel designer converts the design idea into an industrial paper pattern used in the mass production of clothing. New style trends each season demand individual creative thinking to develop saleable designs. Upon successful completion of the program, the student enters a women's wear or children's wear manufacturing company as an assistant in the design department.

	CREDIT HOURS
SEMESTER I	
DES 128 Introduction to Mass Production and Apparel	2
DES 129 Industrial Garment Construction (1st 8 weeks)	1
DES 234 History of Costume	3
DES 110 Basic Color Theory and Application (1st 8 weeks)	3
PDD 151 Pattern Drafting I (2nd 8 weeks)	3
ENG 101 Composition I	3
HUM 101 Introduction to the Humanities or	
PHI 101 Introduction to Philosophy	3
	18
SEMESTER II	
DES 135 Textiles	3
DES 136 Fashion Sketching	3
DES 235 History of Costume	3
PDD 152 Pattern Drafting II (1st 8 weeks)	3
PDD 153 Pattern Drafting III (2nd 8 weeks)	3
SC 101 Introduction to Speech Communication	3
	18
SEMESTER III	
DES 229 Advanced Clothing Construction	3
PDD 254 Pattern Drafting IV (1st 8 weeks)	3
PDD 255 Pattern Drafting V (2nd 8 weeks)	3
APP 232 Design Development I	3
APP 237 Style Trends and Research I	2
MTH 130 Business Mathematics	3
	17
SEMESTER IV	
PDD 256 Pattern Drafting VI (1st 8 weeks)	3
PDD 257 Pattern Drafting VII (2nd 8 weeks)	3
APP 233 Design Development II	3
APP 238 Style Trends and Research II	2
DES 140 Draping or	(1)
PDD 702 Cooperative Work Experience or	(2)
PDD 703 Cooperative Work Experience or	(3)
PDD 704 Cooperative Work Experience	4
+ Elective	3
Elective	3
	18-21

Minimum Hours Required 71

+ Elective--must be selected from the following:

HD 105	Basic Processes of Interpersonal Relationships ...	3
HUM 101	Introduction to the Humanities	3
PSY 101	Introduction to Psychology	3

NOTE: Students enrolling in this program who plan to transfer to a four-year institution should consult an advisor or counselor regarding transfer requirements and the transferability of these courses to the four-year institution of their choice.

ARCHITECTURAL TECHNOLOGY

El Centro only

(Associate Degree)

This program is designed to provide flexibility for student employment within the construction industry in an architect's office, engineer or contractor's office, material supplier's office or for the student who wishes to continue the study of architecture or environmental design at a senior institution.

	CREDIT HOURS
SEMESTER I	
ARC 130 Architectural Graphics I	3
ARC 151 Materials & Methods of Construction ..	3
ARC 161 Architectural Design I	3
ENG 101 Composition I	3
MTH 195 Technical Mathematics I or	
MTH 116 College Mathematics II	3
	15
SEMESTER II	
ARC 133 Architectural Graphics II	3
ARC 134 Freehand Drawing I	3
ARC 153 Construction Drawings I - Wood	
Frame	3
ARC 162 Architectural Design II	3
SC 101 Introduction to Speech	
Communication	3
	15
SEMESTER III	
ARC 230 History of Modern Architecture	3
ARC 240 Media Skills I	3
ARC 261 Architectural Design III	3
ARC 271 Basic Structural Design	3
CIS 103 Introduction to Computer Information	
Systems	3
	15
SEMESTER IV	
ARC 257 Computer Graphics	3
PSY 131 Applied Psychology & Human	
Relations	3
+ Architectural Electives	9
	15
Minimum Hours Required	60

+ Architectural electives:

ARC 232	Basic Architectural Photography	3
ARC 233	History of Architecture Survey to 1850	3
ARC 241	Media Skills II	3
INT 245	Design Sketching	3
ARC 251	Construction Drawings - Heavy Construction	3
ARC 252	Specifications & Office Practice	3
ARC 254	Construction Drawings - Steel Frame	3
ARC 256	Construction Drawings IV - Detailing	3
ARC 262	Architectural Design IV	3
ARC 272	Building Equipment	3

NOTE: Students enrolling in this program who plan to transfer to a four-year institution should consult an advisor or counselor regarding transfer requirements and the transferability of these courses to the four-year institution of their choice.

ASSOCIATE DEGREE NURSING

El Centro and Brookhaven only

(Associate Degree)

The Associate Degree Nursing Program is a two-year, 70 credit hour program, leading to the Associate Degree in Applied Sciences. The program prepares graduates to be eligible to write the NCLEX-RN Examination to become licensed as a Registered Nurse (R.N.) in Texas. The program is accredited by the Board of Nurse Examiners for the State of Texas, and the National League for Nursing.

The program combines classroom and skills laboratory experience with hospital clinical experience. Students are required to be covered by professional liability insurance.

The program offered at Brookhaven is under the administration and accreditation of the El Centro College Associate Degree Nursing Program. Students apply for admission and attend classes at Brookhaven but receive their degrees from El Centro.

ADMISSION TO THE PROGRAM

Students Must:

1. Fulfill all requirements for admission to both the college and the Associate Degree Nursing Program.
2. Complete the designated assessment testing process and any required remediation.
3. Complete the three prerequisite courses of English, Biology and Mathematics with a grade point average of 2.5 better.
4. Submit a completed admission application packet to the nursing admission office at El Centro or Brookhaven on or before the enrollment period deadline. Information sessions are available to further discuss the application process to the program.

(August Admission - El Centro and Brookhaven)

	CREDIT HOURS
SEMESTER I - Prerequisites to Program Admission	
BIO 120 Introduction to Human Anatomy and Physiology* or	
BIO 221 Anatomy and Physiology I	4
ENG 101 Composition I	3
MTH 139 Applied Mathematics or	
MTH 101 College Algebra	3
	10

SEMESTER I

NUR 144	Nursing I	8
BIO 121	Introduction to Human Anatomy and Physiology or	
BIO 222	Anatomy and Physiology II	4
PSY 101	Introduction to Psychology	3
		15

SEMESTER II

NUR 146	Nursing II	9
BIO 216	General Microbiology	4
PSY 201	Developmental Psychology	3
		16

SUMMER SESSION

NUR 244	Nursing III	4
		4

SEMESTER III

NUR 250	Nursing IV	9
SC 101	Introduction to Speech Communication	3
		12

SEMESTER IV

NUR 258	Nursing V	9
NUR 259	Nursing V-A	1
+ Elective		3
		13

Minimum Hours Required 70

*Biology 115 recommended prior to Biology 120 if no previous high school biology.

+ Electives--must be selected from the following:

NUR 101	Basic Pharmacology	3
NUR 102	Introduction to Pathophysiology	3
NUR 201	Special Topics: Applied Management in Health Care Setting	3
NUR 202	Special Topics: Geriatric Care	3
NUR 203	Practicum: Care of the Psychiatric Patient	3
NUR 204	Special Topics: Home Health Care Nursing	3
SOC 101	Introduction to Sociology	3

Any other course above the 100 level in humanities or business.

A "C" grade is required in all courses. Support courses may be completed before but not after the semester indicated.

(January Admission - El Centro only)

SEMESTER I - Prerequisites to Program Admission

BIO 120	Introduction to Human Anatomy and Physiology* or	
BIO 221	Anatomy and Physiology I	4
ENG 101	Composition I	3
MTH 139	Applied Mathematics or	
MTH 101	College Algebra	3
		10

SEMESTER I

NUR 144	Nursing I	8
BIO 121	Introduction to Human Anatomy and Physiology or	
BIO 222	Anatomy and Physiology II	4
PSY 101	Introduction to Psychology	3
		15

SEMESTER II

NUR 146	Nursing II	9
BIO 216	General Microbiology	4
PSY 201	Developmental Psychology	3
		16

SEMESTER III

NUR 250	Nursing IV	9
SC 101	Introduction to Speech Communication	3
		12

SUMMER SESSION

NUR 244	Nursing III	4
		4

SEMESTER IV

NUR 258	Nursing V	9
NUR 259	Nursing V-A	1
+ + Elective	.....	3
		13

Minimum Hours Required 70

*Biology 115 recommended prior to Biology 120 if no previous high school biology.

+ + Electives--must be selected from the following:

NUR 101	Basic Pharmacology	3
NUR 102	Introduction to Pathophysiology	3
NUR 201	Special Topics: Applied Management in Health Care Settings	3
NUR 202	Special Topics: Geriatric Care	3
NUR 203	Practicum: Care of the Psychiatric Patient	3
NUR 204	Special Topics: Home Health Care Nursing	3
SOC 101	Introduction to Sociology	3

Any other course above the 100 level in humanities or business.

A "C" grade is required in all courses. Support courses may be completed before but not after the semester indicated.

NOTE: Students enrolling in this program who plan to transfer to a four-year institution should consult an advisor or counselor regarding transfer requirements and the transferability of these courses to the four-year institution of their choice.

ASSOCIATE DEGREE NURSING -- LVN OPTION

El Centro only

(Associate Degree)

A Licensed Vocational Nurse in Texas may qualify to complete the Associate Degree Nursing program at an accelerated pace. Students must meet all entrance requirements for the Associate Degree Nursing Program, and complete twenty-four hours of prerequisite courses to enter this articulation option. Upon completion of the "bridging" course, which focuses on the change in role from LVN to RN, the student is granted equivalency credit for the first two semesters of the Associate Degree Nursing Program. The student will then complete the second year of the curriculum. Graduates of this program will receive an Associate in Applied Sciences Degree, and they will be eligible to write the NCLEX-RN Examination to become licensed as a Registered Nurse (RN) in Texas.

ADMISSION TO THE PROGRAM:

Students must:

1. Fulfill any requirements for admission to both the college and the Associate Degree Nursing Program.
2. Complete the designated assessment testing process and any required remediation.
3. Complete the three prerequisite courses of English, Biology 120 and Mathematics with a grade point average of 2.5 or better. Complete the remaining prerequisite courses with a grade of "C" or better.
4. Submit a completed admission application packet to the nursing admission office at El Centro on or before the enrollment period deadline. Information sessions are available to further discuss the application process to the program.

CREDIT HOURS

Prerequisites to Program Admission

BIO 120	Introduction to Human Anatomy and Physiology* or	
BIO 221	Anatomy and Physiology I	4
ENG 101	Composition I	3
BIO 121	Introduction to Human Anatomy and Physiology or	
BIO 222	Anatomy and Physiology II	4
MTH 139	Applied Mathematics or	
MTH 101	College Algebra	3
PSY 101	Introduction to Psychology	3
BIO 216	General Microbiology	4
PSY 201	Developmental Psychology	3

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SEMESTER I

NUR 147	Nursing II A**	5
		5

SUMMER SESSION

NUR 244	Nursing III	4
		4

SEMESTER II

NUR 250	Nursing IV	9
SC 101	Introduction to Speech Communication	3
		12

SEMESTER III

NUR 258	Nursing V	9
NUR 259	Nursing V-A	1
+ Elective		3
		13

Minimum Hours Required 70

*Biology 115 recommended prior to Biology 120 if no previous high school biology.

**Upon successful completion of Nursing IIA, 17 hours equivalency credit for Nursing 144 and 146 is awarded in addition to the 5 credit hours earned for Nursing IIA.

+ Electives--must be selected from the following:

NUR 101	Basic Pharmacology	3
NUR 102	Introduction to Pathophysiology	3
NUR 201	Special Topics: Applied Management in Health Care Settings	3
NUR 202	Special Topics: Geriatric Care	3
NUR 203	Practicum: Care of the Psychiatric Patient	3
NUR 204	Special Topics: Home Health Care Nursing	3
SOC 101	Introduction to Sociology	3
Any other course above the 100 level in humanities or business		

A "C" grade is required in all courses. Support courses may be completed before but not after the semester indicated.

NOTE: Students enrolling in this program who plan to transfer to a four-year institution should consult an advisor or counselor regarding transfer requirements and the transferability of these courses to the four-year institution of their choice.

AUTO BODY TECHNOLOGY

Eastfield only

(Associate Degree)

This program introduces the student to all facets of auto body repair and painting. Emphasis is placed upon the development of the necessary skills and knowledge required to function successfully in this industry. The program of study includes technical aspects of metal behavior combined with correct repair and refinishing procedures.

	CREDIT HOURS
SEMESTER I	
*AB 111 Basic Metal Principles	3
*AB 112 Applied Basic Metal Principles	2
*AB 121 Basic Paint Principles	3
*AB 122 Applied Basic Paint Principles	2
AB 245 Welding for Auto Body	3
MTH 195 Technical Mathematics I	3
	16
SEMESTER II	
*AB 113 Minor Metal Repair	3
*AB 114 Applied Minor Metal Repair	2
*AB 123 Paint Blending and Spot Repair Techniques	3
*AB 124 Applied Paint Blending and Spot Repair Techniques	2
COM 131 Applied Communications or	
ENG 101 Composition I	3
PHY 131 Applied Physics	4
	17
SEMESTER III	
*AB 211 Major Panel Replacement	3
*AB 212 Applied Major Panel Replacement	2
AB 213 Major Collision and Frame Repair	3
AB 222 Applied Advanced Paint Techniques ...	2
SC 101 Introduction to Speech Communication	3
+ Elective	3
	16
SEMESTER IV	
AB 139 Body Shop Operations	3
AB 221 Advanced Paint Techniques	3
AB 235 Estimating	3
AB 703 Cooperative Work Experience or (3)	
AB 714 Cooperative Work Experience	4
	12-13

Minimum Hours Required: 61

+ Elective—must be selected from the following:

ACC 131	Bookkeeping I	3
ART 104	Art Appreciation	3
BUS 105	Introduction to Business	3
CIS 103	Introduction to Computer Information Systems ...	3
GVT 201	American Government	3
HST 101	History of the United States	3
HD 105	Basic Processes of Interpersonal Relationships ...	3
HD 106	Personal and Social Growth	3
HUM 101	Introduction to the Humanities	3
MGT 136	Principles of Management	3
MGT 153	Small Business Management	3
PSY 131	Applied Psychology and Human Relations	3

*Must be enrolled concurrently in: AB 111/112, AB 113/114, AB 121/122, AB 123/124, and AB 211/212.

NOTE: Students enrolling in this program who plan to transfer to a four-year institution should consult an advisor or counselor regarding transfer requirements and the transferability of these courses to the four-year institution of their choice.

AUTO BODY TECHNOLOGY

Eastfield only

(Certificate)

This program is designed to train a student in all facets of auto body repair and painting. Emphasis is placed upon those skills needed by the student to become a successful auto body repair person. This program offers the student a certificate in auto body technology upon successful completion of the program.

CREDIT HOURS

SEMESTER I

*AB 111	Basic Metal Principles	3
*AB 112	Applied Basic Metal Principles	2
*AB 121	Basic Paint Principles	3
*AB 122	Applied Basic Paint Principles	2
*AB 123	Paint Blending and Spot Repair Techniques	3
*AB 124	Applied Paint Blending and Spot Repair Techniques	2
AB 245	Welding for Auto Body	3

18

SEMESTER II

*AB 113	Minor Metal Repair	3
*AB 114	Applied Minor Metal Repair	2
*AB 211	Major Panel Replacement	3
*AB 212	Applied Major Panel Replacement	2
AB 213	Major Collision and Frame Repair	3
AB 222	Applied Advanced Paint Techniques	2

15

SEMESTER III

AB 139	Body Shop Operations	3
AB 221	Advanced Paint Techniques	3
AB 235	Estimating	3
AB 703	Cooperative Work Experience or	(3)
AB 714	Cooperative Work Experience	4

12-13

Minimum Hours Required: 45

*Must be enrolled concurrently in: AB 111/112, AB 113/114, AB 121/122, AB 123/124, and AB 211/212.

AUTOMOTIVE CAREER TECHNICIAN

Cedar Valley only

(Associate Degree)

This program that combines full-time on-the-job training along with college credit courses. The curriculum is designed to provide the graduate with information, experience and skills needed by repair technicians. Students are expected to pass certification tests by the National Institute for Automotive Service Excellence upon completion of the courses of study. Admission to the program is limited and applicants will be screened for approval.

	CREDIT HOURS
SEMESTER I	
ACT 110 Fundamentals	3
ACT 111 Basic Electrical Systems	3
ACT 112 Parts and Service Department Management	3
	<u>9</u>
SEMESTER II	
ACT 113 Advanced Electrical Systems	3
ACT 114 Basic Engine Repair	3
ACT 115 Engine Overhaul Procedures	3
ACT 704 Cooperative Work Experience	4
	<u>13</u>
SUMMER SESSION	
ACT 220 Air Conditioning and Heating Systems .	3
COM 131 Applied Communications or	
ENG 101 Composition I	3
	<u>6</u>
SEMESTER III	
ACT 221 Suspension, Steering and Brake Systems	3
ACT 222 Engine Tune-Up Procedures	3
ACT 714 Cooperative Work Experience	4
MTH 195 Technical Mathematics I or	
MTH 139 Applied Mathematics	3
PHY 131 Applied Physics	4
	<u>17</u>
SEMESTER IV	
ACT 223 Standard Transmissions and Power Trains	3
ACT 224 Automatic Transmissions	3
ACT 804 Cooperative Work Experience	4
SC 101 Introduction to Speech Communication	3
	<u>13</u>
SEMESTER V	
ACT 225 Fuel Injection Systems	3
ACT 814 Cooperative Work Experience	4
HD 105 Basic Processes of Interpersonal Relationships or	
HD 106 Personal and Social Growth	3
+ Elective	3
	<u>13</u>

Minimum Hours Required 71

+ Electives to be selected from the following:

GVT 201	American Government	3
GVT 202	American Government	3
HST 101	History of the United States	3
HST 102	History of the United States	3

NOTE: Students enrolling in this program who plan to transfer to a four-year institution should consult an advisor or counselor regarding transfer requirements and the transferability of these courses to the four-year institution of their choice.

AUTOMOTIVE CAREER TECHNOLOGY

Cedar Valley only

(Certificate)

This program that combines full-time on-the-job training along with college credit courses. The curriculum is designed to provide the graduate with information, experience and skills needed by repair technicians. Students are expected to pass certification tests by the National Institute for Automotive Service Excellence upon completion of the courses of study. Admission to the program is limited and applicants will be screened for approval. Upon successful completion of the program, the student will receive a Certificate of Completion. Students completing this certificate may choose to continue their associate degree work in the Automotive Career Technician program.

	CREDIT HOURS
SEMESTER I	
ACT 110	Fundamentals 3
ACT 220	Air Conditioning and Heating Systems .3
COM 131	Applied Communications or
ENG 101	Composition I 3
ACT 704	Cooperative Work Experience 4
	13
SEMESTER II	
ACT 714	Cooperative Work Experience 4
+ Elective	12
	16
Minimum Hours Required 29	
+ Electives must be selected from the following:	
ACT 113	Advanced Electrical Systems 3
ACT 114	Basic Engine Repair 3
ACT 115	Engine Overhaul Procedures 3
ACT 221	Suspension, Steering and Brake Systems 3
ACT 222	Engine Tune-Up Procedures 3
ACT 223	Standard Transmissions and Power Trains 3
ACT 224	Automatic Transmissions 3
ACT 225	Fuel Injection Systems 3

AUTOMOTIVE TECHNOLOGY

Cedar Valley and Eastfield only

(Associate Degree)

The purpose of this program is to prepare students for entry level employment as an automotive technician. This program of study will include theory, diagnosis, repair, overhaul and maintenance of automobiles. Emphasis is placed on operational theory, practical skills and accepted shop procedures.

CREDIT HOURS

SEMESTER I

AT 109	Minor Vehicle Service	3
AT 110	Engine Repair I	4
AT 112	Engine Repair II	4
COM 131	Applied Communications or	
ENG 101	Composition I	3
MTH 195	Technical Mathematics I	3
		17

SEMESTER II

AT 114	Engine Analysis and Tune-Up	4
AT 116	Fuel and Emission Systems	4
AT 119	Electrical Systems	3
PHY 131	Applied Physics	4
SC 101	Introduction to Speech	
	Communication	3
		18

SEMESTER III

AT 222	Heating and Air Conditioning	3
AT 223	Brake Systems	4
AT 225	Front End Systems	4
AT 248	Automotive Electronics	3
+ Elective		3
		17

SEMESTER IV

AT 227	Standard Transmissions and Drive	
	Trains	4
AT 229	Automatic Transmissions I	4
AT 231	Automatic Transmissions II	4
AT 703	Cooperative Work Experience or	3
AT 704	Cooperative Work Experience	(4)
+ + Elective		3
		18-19

Minimum Hours Required: 70

+ Elective—must be selected from the following:

AB 245	Welding for Auto Body	3
AT 212	Special Automotive Applications	1
AT 713	Cooperative Work Experience or	(3)
AT 714	Cooperative Work Experience	4
BUS 105	Introduction to Business	3
WE 101	Basic Welding and Cutting Practices	3

+ + Elective—must be selected from the following:

ACC 131	Bookkeeping I	3
ART 104	Art Appreciation	3
BUS 105	Introduction to Business	3
CIS 103	Introduction to Computer Information Systems	3
GVT 201	American Government	3
HST 101	History of the United States	3
HD 105	Basic Processes of Interpersonal Relationships	3
HD 106	Personal and Social Growth	3
HUM 101	Introduction to the Humanities	3
MGT 136	Principles of Management	3
MGT 153	Small Business Management	3
PSY 131	Applied Psychology and Human Relations	3

NOTE: Students enrolling in this program who plan to transfer to a four-year institution should consult an advisor or counselor regarding transfer requirements and the transferability of these courses to the four-year institution of their choice.

AUTOMOTIVE TECHNOLOGY

Cedar Valley and Eastfield only

(Certificate)

The purpose of this program is to train persons for entry level positions in the field of automotive technology. A certificate is issued upon successful completion of the program.

CREDIT HOURS

SEMESTER I

AT 109	Minor Vehicle Service	3
AT 110	Engine Repair I	4
AT 112	Engine Repair II	4
		11

SEMESTER II

AT 114	Engine Analysis and Tune-Up	4
AT 116	Fuel and Emission Systems	4
AT 119	Electrical Systems	3
		11

SEMESTER III

AT 222	Heating and Air Conditioning	3
AT 223	Brake Systems	4
AT 225	Front End Systems	4
AT 248	Automotive Electronics	3
		14

SEMESTER IV

AT 227	Standard Transmissions and	
	Drive Trains	4
AT 229	Automatic Transmissions I	4
AT 231	Automatic Transmissions II	4
AT 703	Cooperative Work Experience or	(3)
AT 704	Cooperative Work Experience	4
		15-16

Minimum Hours Required 51

AUTOMOTIVE TECHNOLOGY -- DEALERSHIP-SPONSORED TECHNICIAN

Brookhaven Only

(Associate Degree)

This specialized program is designed to prepare students for entry level employment as automotive technicians in specific manufacturer's dealership service organizations. Students entering this program must be sponsored by participating dealerships approved by the College. Emphasis is placed upon the development of the necessary skills and knowledge required to function in automotive dealerships repairing and maintaining late-model automobiles with electronic systems. This program includes operational theory, practical skills, and accepted shop procedures reinforced by intensive practice during cooperative work experience periods in the sponsoring dealership.

**CREDIT
HOURS**

SEMESTER I

AT 163	Introduction to Automotive Service	3
AT 164	Engine Systems I	3
AT 165	Engine Systems II	3
MTH 195	Technical Mathematics I	3
AT 743	Cooperative Work Experience	3
		<u>15</u>

SEMESTER II

AT 166	Brake Systems	3
AT 167	Steering and Suspension	3
AT 168	Standard Transmissions and Drive Trains	3
PHY 131	Applied Physics	4
AT 753	Cooperative Work Experience	3
		<u>16</u>

SEMESTER III

AT 240	Basic Automotive Electronics	2
AT 241	Automatic Transmissions I	3
AT 242	Automatic Transmissions II	3
COM 131	Applied Communications	3
AT 843	Cooperative Work Experience	3
		<u>14</u>

SEMESTER IV

AT 243	Electrical Systems	3
AT 244	Heating and Air Conditioning Systems	3
SC 101	Introduction to Speech Communication	3
PSY 131	Applied Psychology and Human Relations	3
AT 853	Cooperative Work Experience	3
		<u>15</u>

SEMESTER V

AT 245	Ignition and Emission Controls	3
AT 246	Fuel and Emission Systems	3
AT 247	Vehicle Driveability	3
HUM 101	Introduction to the Humanities	3
		<u>12</u>

Minimum Hours Required 72

NOTE: Some students enrolling in this program may plan to transfer to four-year institutions. They should consult with an advisor or counselor regarding transfer requirements and to identify how courses will transfer to the four-year institution of their choice.

AUTOMOTIVE TECHNOLOGY -- ELECTRONIC ENGINE CONTROL TECHNICIAN

Brookhaven Only

(Certificate)

The purpose of this program is to provide entry level skills for individuals desiring to enter the field of automotive technology in the specialized area of engine performance diagnosis and analysis. Emphasis is placed on the development of knowledge and skills related to electronic engine controls. A certificate is issued upon successful completion of the program.

**CREDIT
HOURS**

SEMESTER I

AT 163	Introduction to Automotive Service	3
AT 164	Engine Systems I	3
AT 165	Engine Systems II	3
AT 244	Heating and Air Conditioning Systems	3
MTH 195	Technical Mathematics I	3
PHY 131	Applied Physics	4
		<u>19</u>

SEMESTER II

AT 240	Basic Automotive Electronics	2
AT 243	Electrical Systems	3
AT 245	Ignition and Emission Controls	3
AT 246	Fuel and Emission Systems	3
AT 247	Vehicle Driveability	3
AT 704	Cooperative Work Experience	4
		<u>18</u>

Minimum Hours Required 37

AUTOMOTIVE TECHNOLOGY – SERVICE TECHNICIAN

Brookhaven Only

(Associate Degree)

The purpose of this program is to prepare students for entry level employment as an automotive technician. This program reflects a building-block approach from simple to complex and includes theory, diagnosis, repair and maintenance of automobiles, including late model vehicles with electronic systems. Emphasis is placed on operational theory, practical skills and accepted shop procedures.

	CREDIT HOURS
SEMESTER I	
AT 163 Introduction to Automotive Service	3
AT 164 Engine Systems I	3
AT 165 Engine Systems II	3
MTH 195 Technical Mathematics I	3
COM 131 Applied Communications or	
ENG 101 English 101	3
	<u>15</u>
SEMESTER II	
AT 166 Brake Systems	3
AT 167 Steering and Suspension	3
AT 168 Standard Transmissions and	
Drive Trains	3
PHY 131 Applied Physics	4
PSY 131 Applied Psychology and Human	
Relations	3
	<u>16</u>
SEMESTER III	
AT 240 Basic Automotive Electronics	2
AT 241 Automatic Transmissions I	3
AT 242 Automatic Transmissions II	3
AT 243 Electrical Systems	3
AT 244 Heating and Air Conditioning	
Systems	3
SC 101 Introduction to Speech	
Communication	3
	<u>17</u>
SEMESTER IV	
AT 245 Ignition and Emission Controls	3
AT 246 Fuel and Emission Systems	3
AT 247 Vehicle Driveability	3
AT 212 Special Automotive Applications	1
AT 703 Cooperative Work Experience	3
	<u>13</u>
Minimum Hours Required	61

AUTOMOTIVE TECHNOLOGY – SERVICE TECHNICIAN

Brookhaven Only

(Certificate)

The purpose of this program is to provide entry level skills for individuals desiring to enter the field of automotive technology in specialized areas excluding automatic transmissions and areas dealing with engine performance, diagnosis and analysis. A certificate is issued upon successful completion of the program.

	CREDIT HOURS
SEMESTER I	
AT 163 Introduction to Automotive Service	3
AT 164 Engine Systems I	3
AT 165 Engine Systems II	3
AT 166 Brake Systems	3
MTH 195 Technical Mathematics I	3
PHY 131 Applied Physics	4
	<u>19</u>
SEMESTER II	
AT 167 Steering and Suspension	3
AT 168 Standard Transmissions and	
Drive Trains	3
AT 240 Basic Automotive Electronics	2
AT 243 Electrical Systems	3
AT 244 Heating and Air Conditioning	
Systems	3
AT 704 Cooperative Work Experience	4
	<u>18</u>
Minimum Hours Required	37

NOTE: Students enrolling in this program may plan to transfer to a four-year institution. They should consult with an advisor or counselor regarding transfer requirements and to identify how courses will transfer to the four-year institution of their choice.

AVIATION TECHNOLOGY

Mountain View only

Because of the varied and interrelated aviation career options available, Mountain View's Aviation Technology Program is designed to allow students to take a group of core courses which includes selected aviation, business, English, mathematics and human relations courses and then proceed with specialized courses in the specific career option they wish to enter.

The Associate of Applied Sciences degree options are (1) Career Pilot including flight instructor certificate, multi-engine rating, flight engineer and air transport pilot ground school and type-rating for small, multi engine, turbo - jet powered airplane; (2) Air Cargo Transport; (3) Airline Marketing; (4) Fixed Base Operations/Airport Management; (5) Aircraft Dispatcher and (6) Air Traffic Control. A one year certificate program is available in Aircraft Dispatcher.

AVIATION TECHNOLOGY -- CAREER PILOT OPTION

Mountain View only

(Associate Degree)

The Career Pilot Option provides students with flight training and ground school through the commercial certificate. All ground school instruction and flight training conform to Part 61 and 141 of the Federal Aviation Administration Regulations. Prior to admission to the program, registration and payment of fees, consultation with and approval by an Aviation Technology Instructor is necessary. Simulator fees, flight fees and fees for pre- and post-flight briefing are in addition to the regular tuition charge.

Students completing this option may find employment opportunities as an airline pilot, corporate pilot, flight engineer, flight instructor and other general aviation positions. It is recommended that students in the Career Pilot Option schedule flight training during the summer months in addition to the Spring and Fall semesters to aid in completing the program within a two year period.

CREDIT HOURS

SEMESTER I

AVT 110	Introduction to Aviation	3
AVT 121	Ground School Private	3
AVT 122	Aviation Law	3
AVT 135	Flight Basic*	2
AVT 210	FAA Regulations, Airspace and Air Traffic Control	3
AVT 226	Meteorology	3
		17

SEMESTER II

AVT 128	Aero Engines and Systems	3
AVT 137	Flight Private Pilot*	1
AVT 220	Aero Dynamics	3
AVT 224	Ground School Instrument	3
ENG 101	Composition I	3
+ Mathematics Elective		3
		16

SEMESTER III

AVT 123	Ground School Commercial	3
AVT 221	Advanced Navigation	3
AVT 265	Flight Commercial I*	2
AVT 266	Flight Commercial II*	3
PSY 131	Applied Psychology and Human Relations or	
PSY 101	Introduction to Psychology	3
CIS 103	Introduction to Computer Information Systems	3
		17

SEMESTER IV

AVT 212	Airport Management	3
AVT 267	Flight Commercial III - Instrument*	3
AVT 268	Flight Commercial IV*	3
AVT 250	Flight Instructor Ground School or	(2)
AV 129	Introduction to Aircraft Electronic Systems	3
SC 101	Introduction to Speech Communication	3
		14-15

Minimum Hours Required 64

+ Mathematics Elective--must be selected from the following:

MTH 101	College Algebra	3
MTH 111	Mathematics for Business and Economics	3
MTH 130	Business Mathematics	3
MTH 195	Technical Mathematics I	3

*Flight courses are flexible enrollment and may be taken in sequence regardless of semester.

NOTE: Students enrolling in this program who plan to transfer to a four-year institution should consult an advisor or counselor regarding transfer requirements and the transferability of these courses to the four-year institution of their choice.

ADDITIONAL CERTIFICATION AVAILABLE FOR CAREER PILOT OPTION

	CREDIT HOURS
Flight Instructor Certificate	
AVT 250 Flight Instructor Ground School	2
AVT 251 Flight Instructor - Airplane*	2
AVT 252 Instrument Flight Instructor Ground School	3
AVT 253 Flight Instructor - Airplane Instrument*	1

Multi-Engine Rating

AVT 254 Flight Advanced I*	1

Flight Engineer

AVT 263 Flight Engineer Ground School	3

Air Transport Pilot

AVT 264 Air Transport Pilot Ground School	3

Type-Rating (small, multi-engine, turbo-jet)

AVT 255 Type-Rating Turbo-Jet Ground School .	3

AVT 256 Flight Advanced II-Jet Type-Rating* ...	1

*Flight courses are flexible enrollment and may be taken in sequence regardless of semester.

NOTE: Students enrolling in this program who plan to transfer to a four-year institution should consult an advisor or counselor regarding transfer requirements and the transferability of these courses to the four-year institution of their choice.

AVIATION TECHNOLOGY -- AIR CARGO TRANSPORT OPTION

Mountain View only

(Associate Degree)

This option is designed to provide students with an overview of transportation methods and technology associated with the aviation industry. Upon completion of the program, students may be eligible to be employed in positions such as air cargo sales, air freight transportation and cargo loading.

	CREDIT HOURS
SEMESTER I	
AVT 110 Introduction to Aviation	3
AVT 121 Ground School Private	3
AVT 122 Aviation Law	3
AVT 210 FAA Regulations, Airspace and Air Traffic Control	3
BUS 105 Introduction to Business	3
	15
SEMESTER II	
AVT 226 Meteorology	3
AVT 249 Air Transportation, Traffic and Cargo	3
ACC 201 Principles of Accounting I	3
ENG 101 Composition I	3
+ Elective	3
	15
SEMESTER III	
AVT 212 Airport Management	3
AVT 223 Airline Management	3
MGT 136 Principles of Management	3
PSY 131 Applied Psychology and Human Relations or	3
PSY 101 Introduction to Psychology	3
SC 101 Introduction to Speech Communication	3
	15
SEMESTER IV	
AVT 225 Aviation Marketing	3
BUS 234 Business Law	3
ACC 202 Principles of Accounting II	3
CIS 103 Introduction to Computer Information Systems	3
ECO 201 Principles of Economics I	3
	15

Minimum Hours Required 60

+ Elective--must be selected from the following:

MTH 101 College Algebra	3
MTH 130 Business Mathematics	3
MTH 195 Technical Mathematics I	3

AVIATION TECHNOLOGY -- AIR TRAFFIC CONTROL OPTION

Mountain View only

(Associate Degree)

Mountain View offers a specialized degree program in air traffic control in conjunction with the Southwest Region ARTC. The program provides students with the background and general experience in aviation which may enable them to enter an air traffic control career with the FAA. Career opportunities in air traffic control include positions such as control tower operator, approach control, air route traffic control and flight service station specialist.

Students interested in admission to the air traffic control program must have completed 15 credit hours (Aviation Technology courses recommended) prior to enrollment into the specialized air traffic control courses and must meet FAA eligibility requirements.

	CREDIT HOURS
SEMESTER I	
AVT 121 Ground School Private	3
AVT 135 Flight Basic*	2
AVT 137 Flight Private Pilot*	1
AVT 210 FAA Regulations, Airspace and Air Traffic Control	3
AVT 221 Advanced Navigation	3
AVT 226 Meteorology	3
	15
SEMESTER II	
AVT 270 Orientation to Air Traffic Control	5
AVT 272 Aircraft Types/Air Traffic Control Communications	2
AVT 274 Air Traffic Control Computer Operations	3
AVT 704 Cooperative Work Experience	4
	14
SEMESTER III	
AVT 224 Ground School Instrument	3
ENG 101 Composition I	3
MTH 195 Technical Mathematics I	3
PSY 131 Applied Psychology and Human Relations	3
SC 101 Introduction to Speech Communication	3
	15
SEMESTER IV	
AVT 212 Airport Management or	
MGT 136 Principles of Management	3
AVT 223 Airline Management or	
MGT 242 Human Resources Management	3
AVT 714 Cooperative Work Experience	4
ENG 102 Composition II	3
	13

SEMESTER V

AVT 804 Cooperative Work Experience 4

Minimum Hours Required 61

*Flight courses are flexible enrollment and may be taken in sequence regardless of semester.

NOTE: Students enrolling in this program who plan to transfer to a four-year institution should consult an advisor or counselor regarding transfer requirements and the transferability of these courses to the four-year institution of their choice.

AVIATION TECHNOLOGY -- AIRCRAFT DISPATCHER OPTION

Mountain View only

(Associate Degree)

The job performed by an aircraft dispatcher is an integral part of the overall flight operations for airlines. An individual in this position works in conjunction with an airline pilot and is responsible for regulation compliance, weather and loading procedures prior to take-off. In the Aircraft Dispatcher Program students may earn a certificate after approximately one year or choose to complete the Associate in Applied Sciences Degree.

Entry into either program will be in accordance with Federal Aviation Administration regulations and with instructor approval. Upon completion of the courses in the desired program, students may be recommended to apply to take the FAA written examination for aircraft dispatcher.

	CREDIT HOURS
SEMESTER I	
AVT 110 Introduction to Aviation	3
AVT 121 Ground School Private	3
AVT 122 Aviation Law	3
AVT 210 FAA Regulations, Airspace and Air Traffic Control	3
AVT 226 Meteorology	3
	<u>15</u>
SEMESTER II	
AVT 128 Aero Engine and Systems	3
AVT 221 Advanced Navigation	3
AVT 224 Ground School Instrument	3
CIS 103 Introduction to Computer Information Systems	3
ENG 101 Composition I	3
	<u>15</u>
SEMESTER III	
AVT 123 Ground School Commercial	3
AVT 261 Aircraft Dispatcher	3
MTH 195 Technical Mathematics I	3
PSY 131 Applied Psychology and Human Relations	3
SC 101 Introduction to Speech Communication	3
	<u>15</u>
SEMESTER IV	
AVT 262 Practical Dispatching	3
AV 129 Introduction to Aircraft Electrical Systems	3
BUS 105 Introduction to Business	3
MGT 136 Principles of Management	3
MTH 196 Technical Mathematics II	3
	<u>15</u>
Minimum Hours Required	60

AVIATION TECHNOLOGY -- AIRCRAFT DISPATCHER

Mountain View only

(Certificate)

The job performed by an aircraft dispatcher is an integral part of the overall flight operations for airlines. An individual in this position works in conjunction with an airline pilot and is responsible for regulation compliance, weather and loading procedures prior to take-off. In the Aircraft Dispatcher Program students may earn a certificate after approximately one year or choose to complete the Associate in Applied Sciences Degree.

Entry into either program will be in accordance with Federal Aviation Administration regulations and with instructor approval. Upon completion of the courses in the desired program, students may be recommended to apply to take the FAA written examination for aircraft dispatcher.

	CREDIT HOURS
SEMESTER I	
AVT 110 Introduction to Aviation	3
AVT 121 Ground School Private	3
AVT 210 FAA Regulations, Airspace and Air Traffic Control	3
AVT 224 Ground School Instrument	3
AVT 226 Meteorology	3
AVT 261 Aircraft Dispatcher	3
	<u>18</u>
SEMESTER II	
AVT 122 Aviation Law	3
AVT 123 Ground School Commercial	3
AVT 128 Aero Engine and Systems	3
AVT 221 Advanced Navigation	3
AVT 262 Practical Dispatching	3
	<u>15</u>
Minimum Hours Required	33

NOTE: Students enrolling in this program who plan to transfer to a four-year institution should consult an advisor or counselor regarding transfer requirements and the transferability of these courses to the four-year institution of their choice.

AVIATION TECHNOLOGY -- AIRLINE MARKETING OPTION

Mountain View only

(Associate Degree)

The Airline Marketing Option stresses the significance and functions of marketing from the airline viewpoint. Students completing the program may opt to enter a variety of marketing related positions in the areas of customer service, sales and promotion, crew scheduling or entry level management.

CREDIT HOURS

SEMESTER I

AVT 110	Introduction to Aviation	3
AVT 121	Ground School Private	3
AVT 122	Aviation Law	3
AVT 210	FAA Regulations, Airspace and Air Traffic Control	3
BUS 105	Introduction to Business	3

15

SEMESTER II

AVT 249	Air Transportation, Traffic and Cargo	3
ACC 201	Principles of Accounting I	3
CIS 103	Introduction to Computer Information Systems	3
ENG 101	Composition I	3
+ Elective	.....	3

15

SEMESTER III

AVT 212	Airport Management	3
AVT 223	Airline Management	3
ECO 201	Principles of Economics I	3
PSY 131	Applied Psychology and Human Relations or	
PSY 101	Introduction to Psychology	3
SC 101	Introduction to Speech Communication	3

15

SEMESTER IV

AVT 225	Aviation Marketing	3
+ Elective	.....	3
ACC 202	Principles of Accounting II	3
ECO 202	Principles of Economics II	3
+ + Elective	.....	3

15

Minimum Hours Required 60

+ Elective--must be selected from the following:

MTH 101	College Algebra	3
MTH 130	Business Mathematics	3
MTH 195	Technical Mathematics I	3

+ + Elective--must be selected from the following:

MKT 206	Principles of Marketing	3
MKT 230	Salesmanship	3
MKT 233	Advertising and Sales Promotion	3
BUS 234	Business Law	3

NOTE: Students enrolling in this program who plan to transfer to a four-year institution should consult an advisor or counselor regarding transfer requirements and the transferability of these courses to the four-year institution of their choice.

AVIATION TECHNOLOGY – FIXED BASED OPERATIONS/AIRPORT MANAGEMENT OPTION

Mountain View only

(Associate Degree)

This option provides students with a general administrative overview combining aviation and business courses stressing terminology, management techniques and functions as they apply to the aviation industry. Students completing this program may qualify for support or training positions in airport management, as staff members to operations superintendents or aviation authority boards. Positions as fixed base operators for aircraft dealers may include equipment sales and service and aircraft sales.

	CREDIT HOURS
SEMESTER I	
AVT 110 Introduction to Aviation	3
AVT 121 Ground School Private	3
AVT 122 Aviation Law	3
AVT 210 FAA Regulations, Airspace and Air Traffic Control	3
BUS 105 Introduction to Business	3
	15
SEMESTER II	
AVT 226 Meteorology	3
AVT 249 Air Transportation, Traffic and Cargo	3
CIS 103 Introduction to Computer Information Systems	3
ENG 101 Composition I	3
+ Elective	3
	15
SEMESTER III	
AVT 223 Airline Management	3
ACC 201 Principles of Accounting I	3
ECO 201 Principles of Economics I	3
PSY 131 Applied Psychology and Human Relations or	
PSY 101 Introduction to Psychology	3
SC 101 Introduction to Speech Communication	3
	15
SEMESTER IV	
AVT 212 Airport Management	3
MGT 153 Small Business Management	3
ACC 202 Principles of Accounting II	3
BUS 234 Business Law	3
ECO 202 Principles of Economics II	3
	15
Minimum Hours Required	60

+ Math elective—must be selected from the following:

MTH 101	College Algebra	3
MTH 195	Technical Mathematics I	3
MTH 130	Business Mathematics	3

NOTE: Students enrolling in this program who plan to transfer to a four-year institution should consult an advisor or counselor regarding transfer requirements and the transferability of these courses to the four-year institution of their choice.

CHILD DEVELOPMENT ASSOCIATE

Brookhaven and Eastfield only

(Associate Degree)

The Child Development Program offers students an in-depth study of young children from birth to twelve years of age in conjunction with the Parent/Child Study Center that provides students day-to-day involvement with young children. The program is designed to enable students to provide an optimal learning and caring environment for children.

CREDIT HOURS

SEMESTER I

CD 135	Introduction to Early Childhood Programs and Services**	4
CD 140	Early Childhood Development, 0-3 Years**	3
COM 131	Applied Communications or	
ENG 101	Composition I	3
SOC 101	Introduction to Sociology	3
+ Elective		3-4

16-17

SEMESTER II

CD 137	Early Childhood Learning Environments, Activities and Materials**	4
CD 141	Early Childhood Development, 3-5 Years**	3
CD 702	Cooperative Work Experience or	(2)
CD 713	Cooperative Work Experience or	(3)
CD 804	Cooperative Work Experience	4

PSY 101	Introduction to Psychology or	
PSY 131	Applied Psychology and Human Relations	3

+ Elective		3-4

15-18

SEMESTER III

CD 100	Directed Participation in Early Childhood Programs* or	
CD 233	Directed Participation in Early Childhood Programs	4
CD 239	Studies in Child Guidance**	3
GVT 201	American Government	3
SC 101	Introduction to Speech Communication	3

+ Elective		2-4

+ + Elective		3

18-22

SEMESTER IV

CD 150	Nutrition Health and Safety of the Young Child**	3
CD 200	Application of Child Development Learning Theories* or	
CD 244	Application of Child Development Learning Theories	4
MTH 115	College Mathematics or	
MTH 130	Business Mathematics or	
MTH 139	Applied Mathematics	3
SOC 203	Marriage and the Family	3
+ + + Elective		3-4

16-17

Minimum Hours Required: 65

+ Electives--must be selected from the following:

CD 125	Infant and Toddler Learning Environments, Activities and Materials	4
CD 127	Early Childhood Development, 5-12 Years	3
CD 128	Cultural Diversity in the Classroom	3
CD 203	Parents and the Child Caregiver/Teacher	3
CD 209	Early Childhood Development Special Projects	3
CD 236	The Special Child: Growth and Development	3
CD 250	Supportive Services for Exceptional Children	3
CD 251	Learning Programs for Children with Special Needs	3
CD 253	Abuse Within the Family	3
CD 254	Introduction to Administration of Child Care Programs	3
CD 256	Advanced Administrative Practices for Child Care	3
CD 702	Cooperative Work Experience or	(2)
CD 713	Cooperative Work Experience or	(3)
CD 804	Cooperative Work Experience	4

+ + Elective--must be selected from the following:

ACC 131	Bookkeeping I	3
ACC 201	Principles of Accounting I	3
BUS 105	Introduction to Business	3
CIS 103	Introduction to Computer Information Systems	3
MGT 153	Small Business Management	3
OFC 172	Beginning Typing	3

+ + + Elective--must be selected from the following:

ART 104	Art Appreciation	3
BIO 115	Biological Science	4
MUS 104	Music Appreciation	3
SPA 101	Beginning Spanish	4
ITP 141	Beginning Sign Language	4

*CD 100 and CD 200 are taken as one-hour courses concurrently with the six (6) required CD courses (**) and two (2) of the following CD electives: CD 125, CD 127, CD 203, CD 254, or CD 256. CD 100 and CD 200 are repeated for credit for a total of eight (8) hours and are equivalent to CD 233 and CD 244.

NOTE: Students enrolling in this program who plan to transfer to a four-year institution should consult an advisor or counselor regarding transfer requirements and the transferability of these courses to the four-year institution of their choice.

CHILD DEVELOPMENT -- ADMINISTRATIVE OPTION

Brookhaven and Eastfield only

(Certificate)

This certificate program will provide an opportunity for the student to study administrative procedures for child care facilities.

	CREDIT HOURS
SEMESTER I	
CD 135 Introduction to Early Childhood Programs and Services	4
CD 140 Early Childhood Development, 0-3 Years or	
CD 141 Early Childhood Development, 3-5 Years.	3
CD 254 Introduction to Administration of Child Care Programs	3
COM 131 Applied Communications or	
ENG 101 Composition I	3
+ Elective	3
	16
SEMESTER II	
CD 150 Nutrition, Health and Safety of the Young Child	3
CD 239 Studies in Child Guidance	3
CD 256 Advanced Administrative Practices for Child Care Facilities	3
SC 101 Introduction to Speech Communication	3
CIS 103 Introduction to Computer Information Systems or	
MTH 115 College Mathematics I or	
MTH 130 Business Mathematics or	
MTH 139 Applied Mathematics	3
+ Elective	3
	18

Minimum Hours Required: 34

+ Electives--must be selected from the following:

CD 100 Directed Participation of Early Childhood Programs	1
CD 127 Child Development, 5-12 years	3
CD 200 Application of Child Development Learning Theories	1
CD 203 Parents and the Child Caregiver	3
CD 209 Early Childhood Special Projects	3
CD 253 Abuse Within the Family	3
CD 713 Cooperative Work Experience	3

CHILD DEVELOPMENT -- CDA TRAINING CERTIFICATE

Brookhaven and Eastfield only

(Certificate)

This certificate program provides course work to assist the student to prepare for the CDA (Child Development Associate) assessment process. Students interested in applying for this national credential should consult a Child Development Instructor.

	CREDIT HOURS
SEMESTER I	
CD 135 Introduction to Early Childhood Programs and Services	4
CD 140 Early Childhood Development, 0-3 Years	3
CD 150 Nutrition, Health and Safety of the Young Child	3
CD 239 Studies in Child Guidance	3
HD 106 Personal and Social Growth	3
+ Elective	3-4
	19-20
SEMESTER II	
CD 137 Early Childhood Learning Environments, Activities and Materials	4
CD 141 Early Childhood Development, 3-5 Years.	3
CD 702 Cooperative Work Experience or (2)	
CD 713 Cooperative Work Experience or (3)	
CD 804 Cooperative Work Experience	4
COM 131 Applied Communications or	
ENG 101 Composition I	3
+ Elective	6-8
	18-22

Minimum Hours Required: 37

+ Electives--must be selected from the following:

CD 125 Infant and Toddler Learning Environments, Activities and Materials	4
CD 203 Parents and the Child Caregiver/Teacher	3
CD 209 Early Childhood Development Special Projects	3
CD 236 The Special Child: Growth and Development	3
CD 250 Supportive Services for Exceptional Children	3
CD 251 Learning Programs for Children with Special Needs	4
CD 253 Abuse Within the Family	3
CD 254 Introduction to Administration of Child Care Programs	3
CD 256 Advanced Administration Practices for Child Care Facilities	3
ITP 141 Beginning Sign Language	4

CHILD DEVELOPMENT -- INFANT-TODDLER OPTION

Brookhaven and Eastfield only

(Certificate)

This certificate program provides for an in-depth study of infant-toddler growth and development, programs, and services.

	CREDIT HOURS
SEMESTER I	
CD 135 Introduction to Early Childhood Programs and Services	4
CD 140 Early Childhood Development, 0-3 Years	3
CD 239 Studies in Child Guidance	3
COM 131 Applied Communications or ENG 101 Composition I	3
+ Elective	3
	16

SEMESTER II	
CD 150 Nutrition, Health and Safety of the Young Child	3
CD 125 Infant and Toddler Learning Environ- ments, Activities and Materials	4
CD 203 Parents and the Child Caregiver/Teacher	3
SC 101 Introduction to Speech Communication	3
CD 253 Abuse Within the Family	3
+ Elective	3
	19

Minimum Hours Required: 35

+ Electives--must be selected from the following:

CD 100 Directed Participation of Early Childhood Programs	1
CD 200 Application of Child Development Learning Theories	1
CD 209 Early Childhood Special Projects	3
CD 713 Cooperative Work Experience	3
SOC 203 Marriage and the Family	3

CHILD DEVELOPMENT -- SPECIAL CHILD CERTIFICATE

Brookhaven and Eastfield only

(Certificate)

This certificate program is planned to emphasize the needs of special children and their families.

	CREDIT HOURS
SEMESTER I	
CD 140 Early Childhood Development, 0-3 Years	3
CD 150 Nutrition, Health and Safety of the Young Child	3
CD 236 The Special Child: Growth and Development	3
CD 239 Studies in Child Guidance	3
HD 106 Personal and Social Growth	3
	15

SEMESTER II	
CD 141 Early Childhood Development, 3-5 Years	3
CD 250 Supportive Services for Exceptional Children	3
CD 251 Learning Programs for Children with Special Needs	4
CD 702 Cooperative Work Experience or	(2)
CD 713 Cooperative Work Experience or	(3)
CD 804 Cooperative Work Experience	4
COM 131 Applied Communications or ENG 101 Composition I	3
+ Elective	3-4
	18-20

Minimum Hours Required: 33

+ Elective--must be selected from the following:

CD 125 Infant and Toddler Learning Environments, Activities and Materials	4
CD 127 Early Childhood Development, 5-12 Years	3
CD 253 Abuse Within the Family	3
ITP 141 Beginning Sign Language	4

COMMERCIAL MUSIC -- ARRANGER/COMPOSER/COPYIST

Cedar Valley only

(Associate Degree)

This program is designed to prepare the student with the writing skills required for arranging and composing for small and large instrumental and vocal groups in all areas of commercial music, i.e., jazz, rock, pop, country/western. Standard manuscript techniques will be emphasized in actual writing assignments.

	CREDIT HOURS
SEMESTER I	
MUS 145 Music Theory I	3
MUS 161 Musicianship I	1
MUS 117 Piano Class I	1
MUS 190 Survey of Recording	2
MUS 191 Survey of Recording Lab	1
MUS 192 Music in America	3
MUS 199 Recital	1
MTH 139 Applied Mathematics	3
+ Ensemble	1
+ + Applied Music	1-2
	17-18
SEMESTER II	
MUS 146 Music Theory II	3
MUS 162 Musicianship II	1
MUS 118 Piano Class II	1
MUS 196 Business of Music	3
MUS 199 Recital	1
BUS 105 Introduction to Business	3
PSY 131 Applied Psychology and Human Relations	3
+ Ensemble	1
+ + Applied Music	1-2
	17-18
SEMESTER III	
MUS 193 Improvisation	3
MUS 189 Computerized Music Production I	2
MUS 199 Recital	1
MUS 292 Arranging/Orchestration	3
MUS 245 Music Theory III	3
+ Ensemble	1
+ + Applied Music	1-2
	14-15

SEMESTER IV

MUS 199 Recital	1
MUS 203 Composition	3
MUS 246 Music Theory IV	3
COM 131 Applied Communications or ENG 101 Composition I	3
SC 101 Introduction to Speech Communication	3
+ Ensemble	1
+ + Applied Music	1-2
Elective	1-3
	16-19

Minimum Hours Required 64

+ Ensembles--must be selected from the following:

MUS 103 Guitar Ensemble	1
MUS 150 Choir	1
MUS 155 Vocal Ensemble	1
MUS 160 Band	1
MUS 171 Woodwind Ensemble	1
MUS 172 Brass Ensemble	1
MUS 173 Percussion Ensemble	1
MUS 174 Keyboard Ensemble	1
MUS 176 Symphonic Wind Ensemble	1
MUS 181 Lab Band	1
MUS 185 Stage Band	1

+ + Applied Music--courses to be selected from any music course numbered from MUS 121 through MUS 143 or MUS 221 through MUS 243.

NOTE: Students enrolling in this program who plan to transfer to a four-year institution should consult an advisor or counselor regarding transfer requirements and the transferability of these courses to the four-year institution of their choice.

COMMERCIAL MUSIC – MUSIC RETAILING

Cedar Valley only

(Associate Degree)

This program is designed to prepare the music major in retailing for the music industry job market. Training is provided in music skills as well as in business, i.e., business of music, salesmanship, small business management. The training is culminated with work experience coordinated through local merchants.

CREDIT HOURS

SEMESTER I

MUS 145	Music Theory I	3
MUS 161	Musicianship I	1
MUS 117	Piano Class I	1
MUS 196	Business of Music	3
MUS 199	Recital	1
BUS 105	Introduction to Business	3
COM 131	Applied Communications or	
ENG 101	Composition I	3
+ Ensemble		1
+ + Applied Music		1

17

SEMESTER II

MUS 146	Music Theory II	3
MUS 162	Musicianship II	1
MUS 118	Piano Class II	1
MUS 199	Recital	1
MKT 137	Principles of Retailing	3
MKT230	Salesmanship	3
SC 101	Introduction to Speech	
	Communication	3
+ Ensemble		1
+ + Applied Music		1

17

SEMESTER III

MUS 190	Survey of Recording	2
MUS 191	Survey of Recording Laboratory	1
MUS 199	Recital	1
MUS 703	Cooperative Work Experience	3
MTH 130	Business Mathematics	3
PSY 131	Applied Psychology and Human	
	Relations	3
+ + Applied Music		1

14

SEMESTER IV

MUS 189	Computerized Music Production I	2
MUS 199	Recital	1
MUS 713	Cooperative Work Experience	3
ACC 201	Principles of Accounting I	3
MGT 153	Small Business Management	3
+ + Applied Music		1-2
Elective		1-3

14-17

Minimum Hours Required 62

+ Ensembles--must be selected from the following:

MUS 103	Guitar Ensemble	1
MUS 150	Choir	1
MUS 155	Vocal Ensemble	1
MUS 160	Band	1
MUS 171	Woodwind Ensemble	1
MUS 172	Brass Ensemble	1
MUS 173	Percussion Ensemble	1
MUS 174	Keyboard Ensemble	1
MUS 176	Symphonic Wind Ensemble	1
MUS 181	Lab Band	1
MUS 185	Stage Band	1

+ + Applied Music--courses must be selected from any music course numbered from MUS 121 through MUS 143 or MUS 221 through MUS 243.

NOTE: Students enrolling in this program who plan to transfer to a four-year institution should consult an advisor or counselor regarding transfer requirements and the transferability of these courses to the four-year institution of their choice.

COMMERCIAL MUSIC -- MUSIC RETAILING CERTIFICATE

Cedar Valley only

(Certificate)

This program is designed to prepare the music major in retailing for the music industry job market. Training is provided in music skills as well as in business, i.e., business of music, salesmanship, retailing techniques.

CREDIT HOURS

SEMESTER I

MUS 113	Fundamentals of Music I	3
MUS 117	Piano Class I	1
MUS 196	Business of Music	3
MUS 199	Recital	1
COM 131	Applied Communications or	
ENG 101	Composition I	3
BUS 105	Introduction to Business	3
+ Ensemble		1
+ + Applied Music		1
		16

SEMESTER II

MUS 189	Computerized Music Production I	2
MUS 199	Recital	1
SC 101	Introduction to Speech	
	Communication	3
MTH 130	Business Mathematics	3
MKT 137	Principles of Retailing	3
MKT 230	Salesmanship	3
+ Ensemble		1
+ + Applied Music		1
		17

Minimum Hours Required 33

+ Ensembles--must be selected from the following:

MUS 103	Guitar Ensemble	1
MUS 150	Choir	1
MUS 155	Vocal Ensemble	1
MUS 160	Band	1
MUS 171	Woodwind Ensemble	1
MUS 172	Brass Ensemble	1
MUS 173	Percussion Ensemble	1
MUS 174	Keyboard Ensemble	1
MUS 176	Symphonic Wind Ensemble	1
MUS 181	Lab Band	1
MUS 185	Stage Band	1

+ + Applied music courses to be selected from any music course numbered from MUS121 through MUS 143 or MUS 221 through MUS 243.

COMMERCIAL MUSIC -- PERFORMING MUSICIAN

Cedar Valley only

(Associate Degree)

This program is designed to prepare the instrumental and vocal student for performances in commercial music, i.e., jazz, rock, pop, country/western. This training will include work in performance techniques, styles, solo and ensemble work, repertoire for small and large groups, and actual performances.

CREDIT HOURS

SEMESTER I

MUS 145	Music Theory I	3
MUS 161	Musicianship I	1
MUS 117	Piano Class I	1
MUS 190	Survey of Recording	2
MUS 191	Survey of Recording Lab	1
MUS 192	Music in America	3
MUS 199	Recital	1
MTH 139	Applied Mathematics	3
+ Ensemble		1
+ + Applied Music		1-2

17-18

SEMESTER II

MUS 146	Music Theory II	3
MUS 162	Musicianship II	1
MUS 118	Piano Class II	1
MUS 196	Business of Music	3
MUS 199	Recital	1
BUS 105	Introduction to Business	3
COM 131	Applied Communications or	
ENG 101	Composition I	3
+ Ensemble		1
+ + Applied Music		1-2

17-18

SEMESTER III

MUS 193	Improvisation	3
MUS 199	Recital	1
MUS 292	Arranging/Orchestration	3
MUS 293	Independent Study or	
MUS 703	Cooperative Work Experience	3
SC 101	Introduction to Speech	
	Communication	3
+ Ensemble		1
+ + Applied Music		1-2

15-16

SEMESTER IV

MUS 199	Recital	1
MUS 194	Jazz Workshop	3
MUS 713	Cooperative Work Experience	3
PSY 131	Applied Psychology and Human	
	Relations	3
+ Ensemble		1
+ + Applied Music		1-2
Elective		1-3

13-16

Minimum Hours Required 62

+ Ensembles--must be selected from the following:

MUS 103	Guitar Ensemble	1
MUS 150	Choir	1
MUS 155	Vocal Ensemble	1
MUS 160	Band	1
MUS 171	Woodwind Ensemble	1
MUS 172	Brass Ensemble	1
MUS 173	Percussion Ensemble	1
MUS 174	Keyboard Ensemble	1
MUS 176	Symphonic Wind Ensemble	1
MUS 181	Lab Band	1
MUS 185	Stage Band	1

+ + Applied Music--courses to be selected from any music course numbered from MUS 121 through MUS 143 or MUS 221 through MUS 243.

NOTE: Students enrolling in this program who plan to transfer to a four-year institution should consult an advisor or counselor regarding transfer requirements and the transferability of these courses to the four-year institution of their choice.

COMMERCIAL MUSIC – RECORDING TECHNOLOGY

Cedar Valley only

(Associate Degree)

This program is designed to prepare commercial musicians with additional skills in the field of recording technology. In addition to preparing the student in vocal or instrumental commercial music techniques, training is provided in the basic console recording skills such as microphone selection and placement, mix down techniques, master tape production, studio techniques, trouble-shooting, and session procedures. Emphasis is placed on the specific needs of the commercial musician in the field of recording.

CREDIT HOURS

SEMESTER I

MUS 145	Music Theory I	3
MUS 161	Musicianship I	1
MUS 117	Piano Class I	1
MUS 190	Survey of Recording	2
MUS 191	Survey of Recording Laboratory	1
MUS 192	Music in America	3
MUS 199	Recital	1
MTH 139	Applied Mathematics	3
+ Ensemble		1
+ + Applied Music		1-2
		17-18

SEMESTER II

MUS 146	Music Theory II	3
MUS 162	Musicianship II	1
MUS 118	Piano Class II	1
MUS 180	Audio Production for Voice	2
MUS 197	Studio Technology	2
MUS 198	Studio Technology Laboratory	1
MUS 199	Recital	1
COM 131	Applied Communications or	
ENG 101	Composition I	3
+ Ensemble		1
+ + Applied Music		1-2
		16-17

SEMESTER III

MUS 189	Computerized Music Production I	2
MUS 199	Recital	1
MUS 293	Independent Study or	
MUS 703	Cooperative Work Experience	3
MUS 296	Recording Studio Practices	3
PSY 131	Applied Psychology and Human Relations	3
SC 101	Introduction to Speech Communication	3
+ Ensemble		1
+ + Applied Music		1-2
		17-18

SEMESTER IV

MUS 196	Business of Music	3
MUS 199	Recital	1
MUS 293	Independent Study or	
MUS 713	Cooperative Work Experience	3
MUS 297	Studio Production	3
BUS 105	Introduction to Business	3
+ Ensemble		1
+ + Applied Music		1-2
Elective		1-3
		16-19

Minimum Hours Required 66

+ Ensembles—Must be selected from the following:

MUS 103	Guitar Ensemble	1
MUS 150	Choir	1
MUS 155	Vocal Ensemble	1
MUS 160	Band	1
MUS 171	Woodwind Ensemble	1
MUS 172	Brass Ensemble	1
MUS 173	Percussion Ensemble	1
MUS 174	Keyboard Ensemble	1
MUS 176	Symphonic Wind Ensemble	1
MUS 181	Lab Band	1
MUS 185	Stage Band	1

+ + Applied Music—courses to be selected from any music course numbered from MUS 121 through MUS 143 or MUS 221 through MUS 243.

NOTE: Students enrolling in this program who plan to transfer to a four-year institution should consult an advisor or counselor regarding transfer requirements and the transferability of these courses to the four-year institution of their choice.

COMMERCIAL MUSIC – RECORDING TECHNOLOGY CERTIFICATE

Cedar Valley only

(Certificate – Accelerated Program)

This program is designed to prepare commercial musicians with additional skills in the field of recording technology. In addition to preparing the student in vocal or instrumental commercial music techniques, training is provided in the basic console recording skills such as microphone selection and placement, mix down techniques, master tape production, studio techniques, trouble-shooting, and session procedures. Emphasis is placed on the specific needs of the commercial musician in the field of recording.

CREDIT
HOURS

SEMESTER I

MUS 113	Fundamentals of Music I	3
MUS 190	Survey of Recording	2
MUS 191	Survey of Recording Laboratory	1
MUS 192	Music in America	3
MUS 199	Recital	1
MTH 139	Applied Mathematics	3
		<u>13</u>

SEMESTER II

MUS 196	Business of Music	3
MUS 197	Studio Technology	2
MUS 198	Studio Technology Laboratory	1
MUS 199	Recital	1
COM 131	Applied Communications or	
ENG 101	Composition I	3
MUS 180	Audio Production for Voice	2
+ Elective		1
		<u>13</u>

SEMESTER III

MUS 296	Recording Studio Practices	3
		<u>3</u>

SEMESTER IV

MUS 297	Studio Production	3
		<u>3</u>

Minimum Hours Required 32

+ Elective—must be selected from any music course.

COMMERCIAL MUSIC – RECORDING TECHNOLOGY CERTIFICATE

Cedar Valley only

(Certificate – Balanced Semester Program)

This program is designed to prepare commercial musicians with additional skills in the field of recording technology. In addition to preparing the student in vocal or instrumental commercial music techniques, training is provided in the basic console recording skills such as microphone selection and placement, mix down techniques, master tape production, studio techniques, trouble-shooting, and session procedures. Emphasis is placed on the specific needs of the commercial musician in the field of recording.

CREDIT
HOURS

SEMESTER I

MUS 190	Survey of Recording	2
MUS 191	Survey of Recording Laboratory	1
MUS 199	Recital	1
MTH 139	Applied Mathematics	3
		<u>7</u>

SEMESTER II

MUS 113	Fundamentals of Music I	3
MUS 197	Studio Technology	2
MUS 198	Studio Technology Laboratory	1
MUS 199	Recital	1
MUS 180	Audio Production for Voice	2
		<u>9</u>

SEMESTER III

MUS 192	Music in America	3
MUS 296	Recording Studio Practices	3
COM 131	Applied Communications or	
ENG 101	Composition I	3
		<u>9</u>

SEMESTER IV

MUS 196	Business of Music	3
MUS 297	Studio Production	3
+ Elective		1
		<u>7</u>

Minimum Hours Required 32

+ Elective—must be selected from any music course.

COMPUTER AIDED DESIGN AND DRAFTING

Eastfield and Mountain View only

(Associate Degree)

This program prepares the student for employment in a wide range of industries as a CAD operator, printed circuit board designer or technician. Information in related fields is provided to enable the student to work effectively with engineers, technologists, architects and professional staff. Enrollment in CAD cooperative work experience courses (co-op) provides students with on-the-job experience while in the program.

	CREDIT HOURS
SEMESTER I	
CAD 135 Reproduction Processes	2
CAD 183 Basic Drafting	4
COM 131 Applied Communications or	
ENG 101 Composition I	3
MTH 195 Technical Mathematics I or	
MTH 101 College Algebra	3
**Elective	3-4
	<u>15-16</u>
SEMESTER II	
CAD 101 CAD Operations	2
CAD 161 Manufacturing Fundamentals	2
CAD 245 Computer Aided Design	3
+ CAD Course or	
+ + Cooperative Work Experience	3-4
MTH 196 Technical Mathematics II or	
MTH 102 Plane Trigonometry	3
SC 101 Introduction to Speech	
Communication	3
	<u>16-17</u>
SEMESTER III	
+ CAD Course	3
EGR 106 Descriptive Geometry or	
Technical Elective	3
HD 105 Basic Processes of Interpersonal	
Relationships or	
PSY 131 Applied Psychology and Human	
Relations	3
**Elective or	
+ + Cooperative Work Experience	3-4
*Elective	3
	<u>15-16</u>

SEMESTER IV

CAD 246 Advanced CAD-Electronic or	
CAD 248 Advanced CAD-Mechanical or	
CAD 249 Advanced CAD-Architectural	3
+ CAD Course or	
+ + Cooperative Work Experience	3-4
PHY 131 Applied Physics	4
GVT 202 American Government or	
HST 102 History of the United States	3
**Elective	3-4
	<u>16-18</u>

Minimum Hours Required: 62

+ CAD Courses--must be selected from the following:

CAD 136 Civil Design	3
CAD 185 Architectural Design	
CAD 230 Structural Design	3
CAD 231 Electronic Design	3
CAD 232 CAD Illustration	3
CAD 235 Facilities Management Design	3
CAD 236 Pipe Design	3
CAD 237 Advanced 3-D Illustration	3
CAD 246 Advanced CAD-Electronic	3
CAD 248 Advanced CAD-Mechanical	3
CAD 249 Advanced CAD-Architectural	3
CAD 250 Electromechanical Packaging Design	3
CAD 252 Advanced CAD-Menu Customizing & LISP	3
CAD 253 Geometric Dimensioning and Tolerancing	3
CAD 255 Selected Topics in Drafting	3

+ + Drafting Cooperative Work Experience courses--must be selected from the following:

CAD 704 Cooperative Work Experience	4
CAD 714 Cooperative Work Experience	4
CAD 803 Cooperative Work Experience	3
CAD 813 Cooperative Work Experience	3

*Elective--must be selected from the following:

ACC 131 Bookkeeping I	3
ACC 201 Principles of Accounting I	3
BUS 105 Introduction to Business	3
ECO 201 Principles of Economics I	3
FR 101 Beginning French	4
HUM 101 Introduction to the Humanities	3
MGT 136 Principles of Management	3
MUS 104 Music Appreciation	3
PHI 101 Introduction to Philosophy	3
SPA 101 Beginning Spanish	4
THE 101 Introduction to Theatre	3

**Electives--must be selected from the following:

BPR 177 Blueprint Reading	2
BPR 178 Blueprint Reading	2
OFC 176 Keyboarding	1
CIS 103 Introduction to Computer Information Systems	3
GA 120 Printing Fundamentals	3
This elective may also be selected from CAD courses as approved by the Computer Aided Design & Drafting Department.	

NOTE: Students enrolling in this program who plan to transfer to a four-year institution should consult an advisor or counselor regarding transfer requirements and the transferability of these courses to the four-year institution of their choice.

COMPUTER AIDED DESIGN AND DRAFTING -- ELECTRONIC DESIGN OPTION

Eastfield only

(Associate Degree)

This program prepares the student for employment in a wide range of industries as a CAD operator, printer circuit board designer to technician. Information in related fields is provided to enable the student to work effectively with the engineers, technologists, and professional staff. Enrollment in CAD cooperative work experience (co-op) provides students with on-the-job training while in the program.

	CREDIT HOURS
SEMESTER I	
CAD 161 Manufacturing Fundamentals	3
CAD 183 Basic Drafting	4
COM 131 Applied Communications or	
ENG 101 Composition I	3
ET 190 D.C. Circuits and Electrical	
Measurements	4
MTH 195 Technical Mathematics I or	
MTH 101 College Algebra	3
	<u>17</u>
SEMESTER II	
CAD 101 CAD Operations	2
CAD 231 Electronic Design	3
CAD 240 Printed Circuit Design	3
MTH 196 Technical Mathematics II or	
MTH 102 Plane Trigonometry	3
PSY 131 Applied Psychology and Human	
Relations	3
SC 101 Introduction to Speech	
Communication	3
	<u>17</u>
SEMESTER III	
CAD 135 Reproduction Processes	2
CAD 241 Integrated Circuit Design or	
CAD 243 Advanced Printed Circuit Design	3
CAD 245 Computer Aided Design	3
ET 192 Digital Computer Principles or	
ET 250 Principles of Electronic	
Integrated Circuits	3-4
**Elective	3-4
	<u>14-16</u>
SEMESTER IV	
+ CAD Course	3
+ CAD Course	3
CAD 246 Advanced CAD-Electronic	3
*Elective	3
**Elective	3-4
	<u>15-16</u>
Minimum Hours Required	63

+ CAD Courses—must be selected from the following:

CAD 232	CAD Illustration	3
CAD 242	Advanced Integrated Circuit Design	3
CAD 247	Applied Printed Circuit Design	3
CAD 249	Advanced CAD - Architectural	3
CAD 250	Sheet Metal Design	3
CAD 252	Advanced CAD-Menu Customizing & LISP	3
CAD 255	Selected Topics in Drafting	3
CAD 704	Cooperative Work Experience	4
CAD 714	Cooperative Work Experience	4
CAD 803	Cooperative Work Experience	3
CAD 813	Cooperative Work Experience	3
EGR 106	Descriptive Geometry	3

*Elective—must be selected from the following:

ACC 131	Bookkeeping I	3
ACC 201	Principles of Accounting I	3
BUS 105	Introduction to Business	3
ECO 201	Principles of Economics I	3
FR 101	Beginning French	4
HUM 101	Introduction to the Humanities	3
MGT 136	Principles of Management	3
MGT 153	Small Business Management	3
MGT 160	Principles of Purchasing	3
MUS 104	Music Appreciation	3
PHI 101	Introduction to Philosophy	3
SPA 101	Beginning Spanish	4
THE 101	Introduction to Theatre	3

**Elective—must be selected from the following:

BPR 177	Blueprint Reading	2
BPR 178	Blueprint Reading	2
CIS 103	Introduction to Computer Information Systems	3
ET 191	AC Circuits	3
GA 120	Printing Fundamentals	3
OFC 176	Keyboarding	1

This elective may also be selected from CAD courses as approved by the Computer Aided Design & Drafting Department.

NOTE: Students enrolling in this program who plan to transfer to a four-year institution should consult an advisor or counselor regarding transfer requirements and the transferability of these courses to the four-year institution of their choice.

COMPUTER INFORMATION SYSTEMS – BUSINESS COMPUTER ASSISTANT

El Centro only

(Certificate)

This one-year certificate program is designed to develop skills and knowledge related to the use of personal computers for business. The graduate will be qualified to be a trainee in any number of categories: personal computer operator/software package user, data entry specialist, or information processing assistant. A touch typing speed of 20 words per minute is suggested for most CIS courses with a lab component. Students are advised to develop this proficiency.

	CREDIT HOURS
SEMESTER I	
CIS 108 PC Software Applications	4
BUS 105 Introduction to Business	3
SC 101 Introduction to Speech Communication	3
CIS 111 Data Entry Applications and Concepts	3
ACC 131 Bookkeeping I*	3
	16
SEMESTER II	
CIS 160 Data Communications	3
CIS 119 Text Processing Applications	3
PSY 131 Applied Psychology and Human Relations**	3
CIS 116 Systems Management/Operations I ...	4
CIS 701 Cooperative Work Experience***	1
	14

Minimum Hours Required 30

NOTE: Students may obtain credit toward a certificate for only one of each of the pairs of courses listed below:

CIS 210 or CS 211
CIS 172 or CS 122

*ACC 201 may be substituted for ACC 131

**PSY 101 may be substituted for PSY 131

***CIS 703 or 704 may be substituted for CIS 701

COMPUTER INFORMATION SYSTEMS -- BUSINESS COMPUTER INFORMATION SYSTEMS

Offered at all seven campuses

(Associate Degree)

This option is designed to develop entry-level skills and knowledge in computer information systems. The option includes several business courses found in university degree programs as well as CIS courses which will prepare students for CIS course work at a university. A touch typing speed of 20 words per minute is suggested for most CIS courses with a lab component. Students are advised to develop this proficiency.

	CREDIT HOURS
SEMESTER I	
CIS 103 Introduction to Computer Information Systems	3
BUS 105 Introduction to Business or	3
MGT 136 Principles of Management	(3)
MTH 111 Mathematics for Business and Economics I	3
ENG 101 Composition I	3
+ Elective	3
	<u>15</u>
SEMESTER II	
CIS 162 COBOL Programming I	4
MTH 112 Mathematics for Business and Economics II	3
SC 101 Introduction to Speech Communication	3
CIS 150 Computer Program Logic and Design	3
ACC 201 Principles of Accounting I*	3
	<u>16</u>
SEMESTER III	
CIS 164 COBOL Programming II	4
ECO 201 Principles of Economics I	3
ACC 202 Principles of Accounting II	3
+ + Elective	3
CIS 160 Data Communications	3
	<u>16</u>
SEMESTER IV	
CIS 210 Assembly Language I or	4
CIS 212 C Programming	(4)
ECO 202 Principles of Economics II	3
Any CIS/CS or Accounting course	3
+ + + Elective	3-4
	<u>13-14</u>

Minimum Hours Required: 60

+ Elective--must be selected from the following:

HST 101	History of the United States	3
GVT 201	American Government	3
PSY 101	Introduction to Psychology	3
SOC 101	Introduction to Sociology	3

+ + Elective--must be selected from the following:

ENG 102	Composition II	3
HUM 101	Introduction to the Humanities	3

+ + + Electives--must be selected from the following:

CIS 108	PC Software Applications	4
CIS 114	Problem Solving With The Computer	4
CIS 119	Text Processing Applications	3
CIS 169	4th Generation Languages	4
CIS 170	RPG Programming	3
CIS 172	BASIC Programming	3
CIS 173	Pascal Programming for Business	3
CIS 200	Fundamentals of Networking	3
CIS 212	C Programming	4
CIS 218	Spreadsheet Applications	4
CIS 228	Database Applications	4
CIS 701	Cooperative Work Experience	1
CIS 703	Cooperative Work Experience	3
CIS 704	Cooperative Work Experience	4
CIS 713	Cooperative Work Experience	3
CIS 714	Cooperative Work Experience	4

Students may obtain credit toward a degree for only one of each of the pairs of courses listed below:

CIS 172 or CS 122
CIS 210 or CS 211

*ACC 131 and ACC 132 may be substituted for ACC 201.

NOTE: Students enrolling in this program who plan to transfer to a four-year institution should consult an advisor or counselor regarding transfer requirements and the transferability of these courses to the four-year institution of their choice.

COMPUTER INFORMATION SYSTEMS – BUSINESS COMPUTER PROGRAMMER

Offered at all seven campuses

(Associate Degree)

This option is intended for the preparation of entry-level computer programmers who will work in an applications setting to support the information processing function. It is designed as a two-year career program to prepare students for direct entry into the work environment. It is intended to provide a sufficient foundation so the graduate with experience and continued learning may advance in career paths appropriate to their own particular interests and abilities. Touch typing speed of 20 words per minute is suggested for most CIS courses with a lab component. Students are advised to develop this proficiency.

	CREDIT HOURS
SEMESTER I	
CIS 103 Introduction to Computer Information Systems	3
BUS 105 Introduction to Business or	
MGT 136 Principles of Management	3
MTH 115 College Mathematics I*	3
ENG 101 Composition I	3
PSY 131 Applied Psychology and Human Relations**	3
	<u>15</u>
SEMESTER II	
CIS 150 Computer Program Logic and Design ..	3
CIS 160 Data Communications	3
CIS 162 COBOL Programming I	4
ACC 201 Principles of Accounting I***	3
SC 101 Introduction to Speech Communication	3
	<u>16</u>
SEMESTER III	
CIS 164 COBOL Programming II	4
CIS 205 Control Language and Operating Environments	4
ACC 202 Principles of Accounting II	3
+ Elective	3-4
+ + Elective	3
	<u>17-18</u>
SEMESTER IV	
CIS 225 Systems Analysis and Design	4
CIS 258 On-Line Applications	4
CIS 254 Data Base Systems	4
+ + + Elective	3-4
	<u>15-16</u>
Minimum Hours Required	63

+ Electives—must be selected from the following:

Any CIS or CS course (including CIS 701, 703, 704, 713 or 714).

ACC 204	Managerial Accounting	3
ACC 238	Cost Accounting	3
ACC 250	Microcomputer-Based Accounting Applications	3

+ + Electives—must be selected from the following:

ENG 102	Composition II	3
HUM 101	Introduction to the Humanities	3
PHI 103	Critical Thinking	3

+ + + Electives—must be selected from the following:

CIS 108	PC Software Applications	4
CIS 114	Problem Solving With the Computer	4
CIS 119	Text Processing Applications	3
CIS 169	4th Generation Languages	4
CIS 170	RPG Programming	3
CIS 172	BASIC Programming	3
CIS 173	PASCAL Programming for Business	3
CIS 200	Fundamentals of Networking	3
CIS 210	Assembly Language I	4
CIS 212	C Programming	4
CIS 218	Spreadsheet Applications	4
CIS 228	Database Applications	4
Any 200 level CIS course		3-4

NOTE: Students may obtain credit toward a degree for only one of each of the pairs of courses listed below:

CIS 172 or CS 122
CIS 210 or CS 211

*MTH 111 or MTH 130 may be substituted.

**PSY 101 may be substituted.

***ACC 131 and ACC 132 may be substituted for ACC 201.

NOTE: Students enrolling in this program who plan to transfer to a four-year institution should consult an advisor or counselor regarding transfer requirements and the transferability of these courses to the four-year institution of their choice.

COMPUTER INFORMATION SYSTEMS -- COMPUTER CENTER SPECIALIST

El Centro only

(Associate Degree)

This option is intended to prepare students to function in programmer/analyst/operator positions within a mid-sized computer center. It may also serve as a career path for those completing the operations certificate program, as all courses within that curriculum can be applied to the first year of this curriculum. A touch typing speed of 20 words per minute is suggested for most CIS courses with a lab component. Students are advised to develop this proficiency.

	CREDIT HOURS
SEMESTER I	
CIS 103 Introduction to Computer Information Systems or	3
CIS 108 PC Software Applications	(4)
CIS 116 Systems Management/Operations I	4
BUS 105 Introduction to Business or	3
MGT 136 Principles of Management	(3)
SC 101 Introduction to Speech Communication	3
ACC 131 Bookkeeping I*	3
	<u>16-17</u>
SEMESTER II	
CIS 126 Systems Management/Operations II	4
CIS 205 Control Language and Operating Environments	4
CIS 160 Data Communications	3
CIS 119 Text Processing Applications	3
CIS 701 Cooperative Work Experience**	1
	<u>15</u>
SEMESTER III	
CIS 170 RPG Programming or	3
CIS 162 COBOL Programming I	(4)
MTH 115 College Mathematics I***	3
CIS 150 Computer Program Logic and Design	3
ENG 101 Composition I	3
Elective	3-4
	<u>15-17</u>
SEMESTER IV	
CIS 256 Computer Center Management	3
PSY 131 Applied Psychology and Human Relations****	3
CIS 221 PC Operating Systems and Utilities	4
+ Elective	3
+ + Elective	3-4
	<u>16-17</u>
Minimum Hours Required	62

+ Elective--must be selected from the following:

ENG 102	Composition II	3
HUM 101	Introduction to the Humanities	3

+ + Electives--must be selected from the following:

Any CIS or CS course (including CIS 701, 703, 704, 713 or 714)

*ACC 201 may be substituted for ACC 131.

**CIS 703 or 704 may be substituted for CIS 701.

***MTH 111, MTH 130 or an equivalent business mathematics course.

****PSY 101 may be substituted for PSY 131.

NOTE: Students may obtain credit toward a degree for only one of each of the pairs of courses listed below:

CIS 172 or CS 122
CIS 210 or CS 211

NOTE: Students enrolling in this program who plan to transfer to a four-year institution should consult an advisor or counselor regarding transfer requirements and the transferability of these courses to the four-year institution of their choice.

COMPUTER INFORMATION SYSTEMS -- COMPUTER OPERATIONS TECHNICIAN

El Centro only

(Certificate)

This one-year certificate is designed to develop skills and knowledge to meet the demands of computer operations in any mainframe business data processing environment. The graduate will be qualified to be an operator-trainee in any of a number of categories: RJE terminal operator, microcomputer operator, mini computer operator, I/O or peripheral device operator, or junior computer operator. A touch typing speed of 20 words per minute is suggested for most CIS courses with a lab component. Students are advised to develop this proficiency.

	CREDIT HOURS
SEMESTER I	
CIS 103 Introduction to Computer Information Systems or	3
CIS 108 PC Software Applications	(4)
CIS 116 Systems Management/Operations I	4
BUS 105 Introduction to Business or	3
MGT 136 Principles of Management	(3)
SC 101 Introduction to Speech Communication	3
ACC 131 Bookkeeping I*	3
	16-17
SEMESTER II	
CIS 126 Systems Management/Operations II ...	4
CIS 205 Control Language and Operating Environments	4
CIS 160 Data Communications	3
CIS 119 Text Processing Applications	3
CIS 701 Cooperative Work Experience**	1
	15

Minimum Hours Required 31

NOTE: Students may obtain credit toward a certificate for only one of each of the pairs of courses listed below:

CIS 172 or CS 122
CIS 210 or CS 211

*ACC 201 may be substituted for ACC 131.

**CIS 703 or 704 may be substituted for CIS 701.

COMPUTER INFORMATION SYSTEMS -- LOCAL AREA NETWORK ADMINISTRATOR

Eastfield and North Lake only

(Associate Degree)

This program will provide training and education for individuals interested in developing their knowledge and skills as a local area network administrator. The program emphasizes practical skills required to perform duties in the work environment under the supervision of an experienced local area network administrator. The objectives of the program are to provide instruction that presents the fundamentals of computer networking, an in-depth look at fundamentals of designing and implementing computer-related local area networks, local area network software, network and hardware supply to local area networks, and instruction that will help the student build his background in the area of operation and management in the local area network environment. Additionally, practical experience and skills will be acquired through the student's participation in cooperative education work experiences. This course of study will allow the student to get work-related exposure for applying skills as a local area network administrator.

	CREDIT HOURS
SEMESTER I	
CIS 108 PC Software Applications or	4
CIS 103 Introduction to Computer Information Systems	(3)
ENG 101 Composition I	3
MTH 111 Mathematics for Business and Economics I	3
PSY 131 Applied Psychology and Human Relations or	
PSY 101 Introduction to Psychology	3
SC 101 Introduction to Speech Communication	3
	<u>16</u>
SEMESTER II	
CIS 118 Text Processing Applications	3
CIS 160 Data Communications	3
MGT 136 Principles of Management	3
+ Elective	3
+ + Elective	3-4
	<u>15-16</u>
SEMESTER III	
CIS 200 Fundamentals of Networking	3
CIS 207 Network Software	4
CIS 221 PC Operating Systems and Utilities ...	4
+ + + Electives	3-4
	<u>14-15</u>

SEMESTER IV

CIS 223 PC Hardware	3
CIS 239 User Documentation and Training	3
CIS 277 Network Hardware	4
CIS 287 Network Problems and Applications ...	4
+ + + Electives	3-4
	<u>17-18</u>

Minimum Hours Required: 62

+ Elective—must be selected from the following:

ENG 102 Composition II	3
HUM 101 Introduction to the Humanities	3
PHI 103 Critical Thinking	3

+ + Elective—must be selected from the following:

CIS 114 Problem Solving With The Computer	4
CIS 150 Computer Program Logic and Design	3
CIS 172 BASIC Programming	3

+ + + Electives—must be selected from the following:

CIS 169 4th Generation Languages	4
CIS 218 Spreadsheet Applications	4
CIS 272 Advanced BASIC Techniques	3
CIS 703 Cooperative Work Experience	3
CIS 704 Cooperative Work Experience	4
ENG 210 Technical Writing	3

+ + + + Electives—must be selected from the following:

CIS 228 Database Applications	4
CIS 297 Unix Operating System	4
CIS 703 Cooperative Work Experience	3
CIS 704 Cooperative Work Experience	4
CIS 713 Cooperative Work Experience	3
CIS 714 Cooperative Work Experience	4
MTH 202 Introduction to Statistics	3

Students who wish to pursue a particular interest in connection with networking should select their elective courses accordingly. For example, a student who needs to build his/her skills in the area of documentation should select ENG 102, ENG 210, CIS 703, or CIS 704. The cooperative work experience should be selected to include documentation. A student who has an interest related to network use of applications should select CIS 114, CIS 218, CIS 228, or appropriate work experience. A LAN student interested in programming skills should select CIS 150, CIS 172, CIS 169 or CIS 272.

NOTE: Students enrolling in this program who plan to transfer to a four-year institution should consult an advisor or counselor regarding transfer requirements and the transferability of these courses to the four-year institution of their choice.

COMPUTER INFORMATION SYSTEMS -- PERSONAL COMPUTER SUPPORT

Eastfield, El Centro, Mountain View, and Richland only

(Associate Degree)

This program includes education/training to qualify students to provide support for personal computer users; to trouble-shoot software and hardware problems, implementing corrections where possible; to evaluate new software and hardware, matching company standards to product specifics; to install hardware and software, including equipment assembly and diagnostics; and to assist in the development of training courses, providing training for users.

A touch typing speed of 20 words per minute is suggested for most CIS courses with a lab component. Students are advised to develop this proficiency.

	CREDIT HOURS
SEMESTER I	
CIS 108 PC Software Applications	4
BUS 105 Introduction to Business or	3
MGT 136 Principles of Management	(3)
ENG 101 Composition I	3
MTH 115 College Mathematics I*	3
PSY 131 Applied Psychology and Human Relations**	3
	16
SEMESTER II	
CIS 114 Problem Solving With the Computer ...	4
CIS 119 Text Processing Applications	3
CIS 160 Data Communications	3
ACC 201 Principles of Accounting I	3
SC 101 Introduction to Speech Communication	3
	16
SEMESTER III	
CIS 218 Spreadsheet Applications	4
CIS 221 PC Operating Systems and Utilities ...	4
CIS 224 PC Hardware	3
OFC 231 Business Communications	3
+ Elective	3
	17
SEMESTER IV	
CIS 228 Database Applications	4
CIS 275 User Documentation and Training	3
CIS 280 Applied Studies	3
CIS XXX Any PC Programming Language	3-4
+ + CIS Elective	3-4
	16-18
Minimum Hours Required	65

+ Elective to be selected from the following:

ENG 102	Composition II	3
HUM 101	Introduction to Humanities	3
PHI 103	Critical Thinking	3

+ + CIS elective to be selected from any CIS course offered (including CIS 701, 703 and 704).

*Mathematics 111 or 130 may be substituted.

**PSY 101 may be substituted.

NOTE: Students enrolling in this program who plan to transfer to a four-year institution should consult an advisor or counselor regarding transfer requirements and the transferability of these courses to the four-year institution of their choice.

COMPUTERIZED NUMERICAL CONTROL TECHNOLOGY

Mountain View only

(Associate Degree)

This is a two year associate degree plan designed to develop the skills and knowledge necessary so that a graduate may advance in career paths appropriate to a person's own particular interest and abilities in the field of C.N.C. programming, manufacturing engineering or supervising. In addition to the specific technical skills and knowledge required to produce parts on C.N.C. machinery and supervise employees in a C.N.C. shop, the graduate will have covered skills in other areas such as tool design, drafting, manufacturing processes, problem solving and decision making, related communication and human relations.

	CREDIT HOURS
SEMESTER I	
MS 130 Introduction to Turning and Milling	3
CAD 183 Basic Drafting	4
CNC 110 Basic Turning Center	5
MTH 195 Technical Mathematics I	3
ENG 101 Composition I or	
COM 131 Applied Communications	3
	18
SEMESTER II	
CNC 111 Basic Machining Center	5
CAD 253 Geometric Dimensioning and Tolerancing	3
MTH 196 Technical Mathematics II	3
CNC 101 Introduction to Turning Center C.N.C. Programming	3
SC 101 Introduction to Speech Communication	3
	17
SEMESTER III	
QCT 122 Dimensional Measurement	3
CNC 102 Introduction to Machining Center C.N.C. Programming	3
CNC 210 Advanced Turning Center	4
CNC 201 Advanced Turning Center C.N.C. Programming	3
PHY 131 Applied Physics	4
	17

SEMESTER IV	
EGR 186 Manufacturing Processes	2
PSY 131 Applied Psychology and Human Relations	3
CNC 211 Advanced Machining Center	4
CNC 202 Advanced Machining Center C.N.C. Programming	3
CNC 103 Introduction to Computer Aided Manufacturing, (C.A.M.)	2
CAD 161 Manufacturing Fundamentals	2
EGT 243 Robotics I or	
CNC 723 Cooperative Work Experience	3
	19

Minimum Hours Required 71

NOTE: Students enrolling in this program who plan to transfer to a four-year institution should consult an advisor or counselor regarding transfer requirements and the transferability of these courses to the four-year institution of their choice.

COMPUTERIZED NUMERICAL CONTROL TECHNOLOGY -- COMPUTERIZED NUMERICAL CONTROL OPERATIONS

Mountain View only

(One Year Certificate)

This is a one year certificate plan that provides the student with technical knowledge and hands on skills required to work as a C.N.C. machine operator in the manufacturing machine shop industry. In addition the student will learn basic C.N.C. part programming, parts inspection and quality control, designing of the tooling and holding fixtures, drafting practices, blueprint reading and shop math as it applies to the C.N.C. machine operator. After completion of this plan, students will be qualified to enter the manufacturing field as a C.N.C. machine operator.

	CREDIT HOURS
SEMESTER I	
CNC 110 Basic Turning Center	5
CNC 111 Basic Machining Center	5
CAD 161 Manufacturing Fundamentals	2
CAD 183 Basic Drafting	4
MTH 195 Technical Mathematics I	3
	19
SEMESTER II	
CNC 100 Introduction to C.N.C. Programming ..	3
CNC 210 Advanced Turning Center	4
CNC 211 Advanced Machining Center	4
QCT 122 Dimensional Measurement	3
CAD 253 Geometric Dimensioning and Tolerancing	3
MTH 196 Technical Mathematics II	3
	20
Minimum Hours Required	39

COMPUTERIZED NUMERICAL CONTROL TECHNOLOGY -- MACHINE SHOP OPERATIONS

Mountain View only

(One Year Certificate)

This is a one year certificate plan that provides the student with technical knowledge and hands on skills required to work as a machinist in the manufacturing machine shop industry. In addition the student will learn parts inspection and quality control, designing of the tooling and holding fixtures, drafting practices, blueprint reading and shop math as it applies to the machinist. After completion of this plan, students will be qualified to enter the manufacturing field as an apprentice machinist.

	CREDIT HOURS
SEMESTER I	
MS 133 Basic Engine Lathe	5
MS 134 Basic Milling Machine	5
CAD 161 Manufacturing Fundamentals	2
CAD 183 Basic Drafting	4
MTH 195 Technical Mathematics I	3
	19
SEMESTER II	
MS 233 Advanced Engine Lathe	5
MS 234 Advanced Milling Machine	5
QCT 122 Dimensional Measurement	3
CAD 253 Geometric Dimensioning and Tolerancing	3
MTH 196 Technical Mathematics II	3
	19
Minimum Hours Required	38

CONSTRUCTION MANAGEMENT AND TECHNOLOGY

North Lake only

(Associate Degree)

Construction Management is a relatively new discipline within the environmental design professions yet, virtually every commercial building project in the United States today--from the smallest retail "strip" center to the tallest skyscraper--requires construction leadership that is knowledgeable of labor; construction materials, installation methods and equipment; contract administration, construction scheduling, cost estimating and much more.

The Construction Management Curriculum at North Lake College prepares the student with the essential tools for a managerial career in construction or related industry endeavors. Such career positions could include project manager, field engineer, scheduler, specifier, sales representative, owner/develop liaison, estimator, purchaser, expeditor, inspector.

This program is a candidate for accreditation by the American Council for Construction Education. Approval by ACCE is anticipated in 1992, the only two-year accredited construction program in the State of Texas.

This two-year curriculum transfers to major universities with similar fields of study.

	CREDIT HOURS
SEMESTER I	
CMT 121 Construction Materials, Methods and Equipment I	3
CMT 123 Construction Graphics	4
CMT 133 Construction Industry	2
CMT 232 Safety Management	3
MTH 195 Technical Mathematics I or MTH 101 College Algebra	3
	<u>15</u>
SEMESTER II	
CMT 122 Construction Materials, Methods and Equipment II	3
CMT 124 Electrical and Mechanical Equipment for Buildings	4
CMT 235 Building Codes	3
CIS 108 PC Software Applications	4
ENG 101 Composition I	3
MTH 196 Technical Mathematics II or MTH 102 Plane Trigonometry	3
	<u>20</u>

SEMESTER III

CMT 136	Surveying and Measurements	4
CMT 138	Construction Management I	4
CMT 231	Construction Contracts and Specifications	3
EGR 290	Mechanics of Structure	3
SC 101	Introduction to Speech Communication	3
		<u>17</u>

SEMESTER IV

CMT 230	Quality Control and Cost Control	4
CMT 233	Commercial Estimating	4
CMT 237	Soils, Foundations, and Reinforced Concrete	4
CMT 238	Construction Management II	4
+ Elective		3-4
		<u>19-20</u>

Minimum Hours Required 71

+ Electives--must be selected from the following:

ANT 100	Introduction to Anthropology	3
ART 104	Art Appreciation	3
GVT 201	American Government	3
HST 101	History of the United States or	
HST 102	History of the United States	3
HST 105	Western Civilization or	
HST 106	Western Civilization	3
HUM 101	Introduction to the Humanities	3
PHI 101	Introduction to Philosophy	3
SPA 101	Beginning Spanish	4
	(Or any higher level Spanish course)	

NOTE: Students enrolling in this program who plan to transfer to a four-year institution should consult an advisor or counselor regarding transfer requirements and the transferability of these courses to the four-year institution of their choice.

CONSTRUCTION TECHNOLOGY

North Lake only

(Associate Degree)

This program is designed to develop the skills and knowledge necessary so that a graduate may advance in career paths appropriate to a person's own particular interests and abilities, in either the field of residential or commercial building or contracting. In addition to the specific technical skills and knowledge required to build buildings and supervise employees on a construction job, the graduate will have covered skills in other areas such as planning and organization, problem solving and decision making, related communication, and business and human relations.

CREDIT HOURS

SEMESTER I

CT 110	Construction I - Systems and Materials	3
CT 115	Blueprint Reading/Specifications	3
CT 117	Construction Safety	1
MTH 195	Technical Mathematics I or	
MTH 130	Business Mathematics	3
SC 101	Introduction to Speech Communication	3
+ Electives	.....	3
		<u>16</u>

SEMESTER II

CT 111	Construction II - Mechanical, Electrical, and Plumbing Systems	3
COM 101	Communications or	
ENG 101	Composition I	3
PSY 131	Applied Psychology and Human Relations	3
+ Electives	.....	6
		<u>15</u>

SEMESTER III

CT 135	Engineering Principles and Practices	3
+ Electives	.....	9-10
+ + Electives	.....	3
		<u>15-16</u>

SEMESTER IV

CT 118	Codes/Inspection I	3
BUS 105	Introduction to Business or	
+ + Electives	.....	3
+ Electives	.....	9-10
		<u>15-16</u>

Minimum Hours Required 61

+ Electives must be selected from the following:

Any CT course (including CT 700 level Cooperative Work Experience*)

+ + Electives—must be selected from the following:

MGT 136	Principles of Management	3
BUS 234	Business Law	3
CIS 103	Introduction to Computer Information Systems	3
ECO 201	Principles of Economics	3
ACC 201	Principles of Accounting	3
RE 130	Real Estate Principles	3
SPA 101	Beginning Spanish	3

*Cooperative Work Experience may only be taken in Semester II, III, or IV.

NOTE: Students enrolling in this program who plan to transfer to a four-year institution should consult an advisor or counselor regarding transfer requirements and the transferability of these courses to the four-year institution of their choice.

CONSTRUCTION TECHNOLOGY

North Lake only

(Certificate)

This is a one-year certificate that provides the student with the technical knowledge and hands-on skills required to work in one of two areas: residential or commercial carpentry. In addition, the student will cover job planning and materials estimating, human-relation skills and the economics of the construction industry. After completion of the program, students will be qualified to enter the construction field as a carpenter.

	CREDIT HOURS
SEMESTER I	
CT 110 Construction I - Systems and Materials	3
CT 115 Blueprint Reading/Specifications	3
CT 117 Construction Safety	1
CT 120 Foundations I	3
MTH 139 Applied Math	3
PSY 131 Applied Psychology and Human Relations	3
	16
SEMESTER II	
CT 111 Construction II - Mechanical, Electrical, and Plumbing Systems or	
CT 212 Commercial Systems, Materials and Equipment	3
CT 125 Building Construction I	3
CT 220 Foundations II or	
CT 225 Building Construction II	3
CT 130 Finish Systems I or	
CT 230 Finish Systems II	3
+ Electives	3-4
	15-16

Minimum Hours Required 31

+ Electives must be selected from the following:

Any CT course (including CT 700 level Cooperative Work Experience*).

*Cooperative Work Experience may only be taken in Semester II, III, or IV.

CRIMINAL JUSTICE

El Centro only

(Associate Degree)

The curriculum is designed for those with Criminal Justice backgrounds as well as for recent high school graduates interested in preparing for employment in the fields of law enforcement, corrections, probations and paroles or private security.

CREDIT HOURS

SEMESTER I

CJ 130	Fundamentals of Criminal Law	3
CJ 140	Introduction to Criminal Justice	3
ENG 101	Composition I	3
PSY 101	Introduction to Psychology	3
MTH 101	College Algebra or	
MTH 115	College Mathematics I	3
		<u>15</u>

SEMESTER II

CJ 132	Courts and Criminal Procedure	3
CJ 139	Crime in America	3
ENG 102	Composition II	3
SC 101	Introduction to Speech Communication	3
SOC 101	Introduction to Sociology	3
		<u>15</u>

SUMMER SESSION

+ Electives	6
	<u>6</u>

SEMESTER III

GVT 201	American Government	3
+ Elective		3
+ + Required Support Courses		6-7
Elective		3
		<u>15-16</u>

SEMESTER IV

PSY 205	Psychology of Personality or	
HD 105	Basic Processes of Interpersonal Relationships or	
SOC 102	Social Problems	3
+ + Required Support Course		3-4
+ + + Criminal Justice Elective		3-4
		<u>9-11</u>

Minimum Hours Required.....60

+ Electives—must be selected from the following:

HST 101	History of the United States	3
HUM 101	Introduction to the Humanities	3
THE 101	Introduction to the Theatre	3

+ + Required Support Courses—must be chosen from the following:

CJ 240	Criminal Investigation	3
CJ 247	Legal Aspects of Law Enforcement	3
CJ 248	Police Systems and Practices	3
CJ 703	Cooperative Work Experience	3
CJ 704	Cooperative Work Experience	4
CJ 713	Cooperative Work Experience	3
CJ 714	Cooperative Work Experience	4
SPA 101	Beginning Spanish	4

+ + + Criminal Justice Electives—must be chosen from the following:

CJ 242	Juvenile Procedures	3
CJ 250	Correctional Systems and Practices	3
CJ 251	Community Resources in Corrections	3
SPA 102	Beginning Spanish	4

To be taken only after completing thirty semester hours of approved academic courses, to include fifteen hours of the transfer curriculum in Criminal Justice:

CJ 148	Texas Peace Officers Law	3
CJ 150	Texas Peace Officers Procedures	3
CJ 232	Texas Peace Officers Skills	3

A student enrolling in the Criminal Justice program should meet the Texas Commission on Law Enforcement Officer Standards and Education Requirements for minimum standards if you plan to seek employment in the law enforcement field. Licensing: (a) not currently on probation for any criminal offense; (b) not convicted of a Class B misdemeanor in the last six (6) months, or a Class A misdemeanor in the last twelve (12) months, or DWI or DWD in the last two (2) years; (c) never been convicted of a felony.

NOTE: Students enrolling in this program who plan to transfer to a four-year institution should consult an advisor or counselor regarding transfer requirements and the transferability of these courses to the four-year institution of their choice.

EDUCATIONAL PERSONNEL

Richland only

(Associate Degree)

This program is designed to prepare educational personnel in a wide range of competencies needed for effective roles in public and nonpublic schools. A student can take courses required for the one year Educational Assistant Certificate and continue in the program to receive the two year Associate in Applied Sciences Degree.

Educational personnel are employed under job titles such as teacher aide, assistant teacher, library assistant, P.E. aide, study hall teacher, tutor, tutoring coordinator, youth worker, special education aides, etc. Individuals working with handicapped children have found this program to be especially beneficial.

	CREDIT HOURS
SEMESTER I	
EP 131 Introduction to Educational Processes I	3
EP 135 Arts and Crafts	3
SC 101 Introduction to Speech Communication	3
HD 105 Basic Processes of Interpersonal Relationships	3
HST 101 History of the United States or	
+ Elective	3
	15
SEMESTER II	
EP 129 Language Skills for Educational Personnel	3
EP 134 Introduction to Media	3
EP 136 Principles and Practices of Multi-Cultural Communications	3
ENG 101 Composition I	3
HST 102 History of the United States or	
+ Elective	3
	15
SEMESTER III	
EP 249 The Exceptional Child	3
EP 702 Cooperative Work Experience* or	(2)
EP 703 Cooperative Work Experience* or	(3)
EP 704 Cooperative Work Experience	4
ENG 102 Composition II	3
GVT 201 American Government or	
+ Elective	3
+ + Elective	3
	14-16

SEMESTER IV

EP 712 Cooperative Work Experience* or	(2)
EP 713 Cooperative Work Experience* or	(3)
EP 714 Cooperative Work Experience	4
GVT 202 American Government or	
+ Elective	3
MTH 101 College Algebra or	
MTH 117 Fundamental Concepts of Mathematics for Elementary Teachers	3
+ + + Elective	4-6
	12-16

Minimum Hours Required 60

*If less than 4 hours of Cooperative Work Experience are taken, student must take additional electives to meet the minimum hours required.

Elective—must be selected from the following:

EP 133 Introduction to Educational Processes II	3
EP 210 Computer Instruction for Educators	3
EP 245 Diversified Studies	1
EP 246 Diversified Studies	2
EP 247 Diversified Studies	3
HD 107 Developing Leadership Behavior	3
LS 102 College Library Research Methods and Materials	3
PEH 257 Advanced First Aid and Emergency Care	3
PSY 101 Introduction to Psychology	3
PSY 201 Developmental Psychology	3
SOC 101 Introduction to Sociology	3
SOC 102 Social Problems	3
SOC 204 American Minorities	3
ITP 141 Beginning Sign Language	4
ITP 143 Intermediate Sign Language	4

+ + Elective—must be selected from the following:

ART 104 Art Appreciation	3
HUM 101 Introduction to the Humanities	3
MUS 104 Music Appreciation	3
PHI 101 Introduction to Philosophy	3
THE 101 Introduction to the Theatre	3

+ + + Elective—must be selected from the following:

AST 101 Descriptive Astronomy	3
AST 102 General Astronomy	3
BIO 115 Biological Science	4
BIO 116 Biological Science	4
CHM 115 Chemical Sciences	4
CHM 116 Chemical Sciences	4
OFC 172 Beginning Typing	3
OFC 173 Intermediate Typing	3

NOTE: Students enrolling in this program who plan to transfer to a four-year institution should consult an advisor or counselor regarding transfer requirements and the transferability of these courses to the four-year institution of their choice.

EDUCATIONAL PERSONNEL -- BILINGUAL/ESL OPTION

Richland only

(Associate Degree)

The Bilingual/ESL Option in the Educational Personnel Program is designed to prepare the student to assist in the instructional development of children who have a limited English proficiency.

The Associate In Applied Sciences Degree is awarded for successful completion of at least 63 credit hours as outlined.

CREDIT HOURS

SEMESTER I

EP 131	Introduction to Educational Processes I	3
EP 134	Introduction to Media	3
ENG 101	Composition I	3
HST 101	History of the United States	3
SPA 101	Beginning Spanish	4

16

SEMESTER II

EP 140	Topics in Child Language Development	3
ENG 102	Composition II	3
HST 102	History of the United States	3
MTH 117	Fundamental Concepts of Mathematics for Elementary Teachers or	
MTH 101	College Algebra	3
SPA 102	Beginning Spanish	4

16

SEMESTER III

EP 143	Bilingual Education: Philosophy, Techniques, Materials	3
EP 210	Computer Instruction for Educators	3
PSY 101	Introduction to Psychology	3
SC 101	Introduction to Speech Communication	3

+ Elective 3-4

15-16

SEMESTER IV

EP 241	Techniques for Teaching English to Non-Native Speakers	3
EP 249	Exceptional Child	3
EP 702	Cooperative Work Experience or	(2)
EP 703	Cooperative Work Experience or	(3)
EP 704	Cooperative Work Experience	4
GVT 201	American Government	3

+ + Elective 3-4

14-17

Minimum Hours Required 61

+ Elective--must be selected from the following:

ART 104	Art Appreciation	3
HUM 101	Introduction to the Humanities	3
LS 102	College Library Research Methods and Materials	3
MUS 104	Music Appreciation	3

+ + Elective--must be selected from the following:

BUS 105	Introduction to Business	3
BIO 101	General Biology or	
BIO 115	Biological Science	4
OFC 172	Beginning Typing	3
PSC 118	Physical Science	4

NOTE: Students enrolling in this program who plan to transfer to a four-year institution should consult an advisor, or counselor regarding transfer requirements and the transferability of these courses to the four-year institution of their choice.

EDUCATIONAL PERSONNEL -- EDUCATIONAL ASSISTANT

Richland only

(Certificate)

CREDIT
HOURS

SEMESTER I

EP 131	Introduction to Educational Processes I	3
EP 135	Arts and Crafts	3
+ Technical Electives		9
		15

SEMESTER II

EP 129	Language Skills for Educational Personnel	3
EP 134	Introduction to Media	3
EP 249	The Exceptional Child	3
+ Technical Electives		6
		15

Minimum Hours Required 30

+ Technical Electives--must be selected from the following:

COM 131	Applied Communications	3
EP 133	Introduction to Educational Processes II	3
EP 136	Principles and Practices of Multi-Cultural Communications	3
EP 210	Computer Instruction for Educators	3
EP 245	Diversified Studies	1
EP 246	Diversified Studies	2
EP 247	Diversified Studies	3
EP 702	Cooperative Work Experience	2
EP 703	Cooperative Work Experience	3
EP 704	Cooperative Work Experience	4
EP 712	Cooperative Work Experience	2
EP 713	Cooperative Work Experience	3
EP 714	Cooperative Work Experience	4
ENG 101	Composition I	3
ENG 102	Composition II	3
ENG (200 level)		3
HD 104	Educational and Career Planning	3
HD 105	Basic Processes of Interpersonal Relationships	3
HD 107	Developing Leadership Behavior	3
LS 102	College Library Research Methods and Materials	3
MTH 117	Fundamental Concepts of Mathematics for Elementary Teachers or Mathematics Elective	3
OFC 172	Beginning Typing	3
OFC 173	Intermediate Typing	3
PEH 101	Fundamentals of Health	3
PEH 144	Introduction to Physical Education	3
PEH 257	Advanced First Aid and Emergency Care	3
PSY 101	Introduction to Psychology	3
PSY 201	Developmental Psychology	3
SOC 101	Introduction to Sociology	3
SOC 102	Social Problems	3
SOC 203	Marriage and Family	3
SOC 204	American Minorities	3
SC 105	Fundamentals of Public Speaking	3
ITP 141	Beginning Sign Language	4
ITP 143	Intermediate Sign Language	4

Art or music as appropriate and approved by EP instructor. Other courses occupationally appropriate and approved by the EP instructor.

ELECTRICAL TECHNOLOGY

North Lake only

(Associate Degree)

The Electrical Technology program prepares the student for career opportunities by developing technical knowledge and practical skills necessary to enter or advance in the electrical technology field.

Students wishing to earn an Associate In Applied Sciences Degree with a major in Electrical Technology must complete all of the courses listed below.

	CREDIT HOURS
SEMESTER I	
ELE 106 Fundamentals of Electricity	4
ELE 107 Electrical Transformers	4
ELE 108 General Electrical Codes	2
MTH 195 Technical Mathematics I	3
SC 101 Introduction to Speech Communication	3
	<u>16</u>
SEMESTER II	
ELE 115 Low Voltage Circuits	3
ELE 116 General Electrical Wiring	3
ELE 117 General Electrical Planning	4
ELE 118 Commercial Codes	2
COM 131 Applied Communications	3
	<u>15</u>
SEMESTER III	
ELE 205 Commercial Wiring	3
ELE 206 Commercial Planning	4
ELE 207 Industrial Planning	2
ELE 208 Industrial Codes	2
ELE 703 Cooperative Work Experience or	3
ELE 704 Cooperative Work Experience	(4)
CIS 103 Introduction to Computer Information Systems	3
	<u>17-18</u>
SEMESTER IV	
ELE 213 Electrical Motor Fundamentals	2
ELE 214 Solid State Controls	3
ELE 216 Motor Controls	3
ELE 218 Electrical Design	3
PSY 131 Applied Psychology and Human Relations	3
ELE 713 Cooperative Work Experience or	
ELE 714 Cooperative Work Experience or	
Elective	3-4
	<u>17-18</u>

Minimum Hours Required 65

NOTE: Students enrolling in this program who plan to transfer to a four-year institution should consult an advisor or counselor regarding transfer requirements and the transferability of these courses to the four-year institution of their choice.

ELECTRICAL TECHNOLOGY

North Lake only

(Certificate)

Completion of all courses listed below qualifies a student for a Certificate in Electrical Technology. The courses may be taken in any order after consultation with the instructor.

	CREDIT HOURS
SEMESTER I	
ELE 105 Introduction to Electrical Technology	2
ELE 106 Fundamentals of Electricity	4
ELE 107 Electrical Transformers	4
ELE 108 General Electrical Codes	2
MTH 195 Technical Mathematics I	3
	<u>15</u>
SEMESTER II	
ELE 115 Low Voltage Circuits	3
ELE 116 General Electrical Wiring	3
ELE 117 General Electrical Planning	4
ELE 118 Commercial Codes	2
COM 131 Applied Communications	3
	<u>15</u>

Minimum Hours Required 30

ELECTRONIC TELECOMMUNICATIONS

Eastfield and Mountain View only

(Associate Degree)

This program is designed to prepare students to work as hardware technicians in the field of telecommunications. The student will be trained to test, interface, trouble-shoot, and repair equipment for the telecommunications industry. The student will learn schematic interpretation, test equipment usage, and technical communications.

CREDIT HOURS

SEMESTER I

ET 190	DC Circuits and Electrical Measurements	4
ET 191	AC Circuits	4
ENG 101	Composition I	3
MTH 195	Technical Mathematics I*	3
PSY 101	Introduction to Psychology or	
PSY 131	Applied Psychology and Human Relations	3
		17

SEMESTER II

ET 102	Introduction to Telecommunications ...	3
ET 103	Introduction to Telecommunications Laboratory	1
ET 192	Digital Computer Principles	3
ET 193	Active Devices	4
SC 101	Introduction to Speech Communication	3
MTH 196	Technical Mathematics II	3
		17

SEMESTER III

ET 290	Advanced Electronic Devices or	
ET 260	Sinusoidal Circuits	4
ET 291	Linear Integrated Circuit Applications or	
ET 238	Linear Integrated Circuits	4
ET 292	Telephony Switching Systems	4
ET 293	Basic Radio Circuitry	4
		16

SEMESTER IV

ET 294	High Frequency Transmission Systems	4
ET 295	Telecommunication Signaling	4
ET 297	System Installation and Testing	4
+ Elective	.....	3
		15

Minimum Hours Required 65

+ Electives—must be chosen from the following:

ACC 131	Bookkeeping I	3
ART 104	Art Appreciation	3
BUS 105	Introduction to Business	3
BUS 143	Personal Finance	3
CIS 103	Introduction to Computer Information Systems ...	3
HUM 101	Introduction to the Humanities	3
MGT 136	Principles of Management	3
MGT 153	Small Business Management	3
MUS 104	Music Appreciation	3
OFC 172	Beginning Typing	3
PHY 131	Applied Physics	4
SPA 101	Beginning Spanish	4

*MTH 101 or 102 or equivalent may be substituted for Technical Mathematics.

NOTE: Students enrolling in this program who plan to transfer to a four-year institution should consult an advisor or counselor regarding transfer requirements and the transferability of these courses to the four-year institution of their choice.

ELECTRONICS/COMPUTER TECHNOLOGY

Eastfield only

(Associate Degree)

This curriculum is designed to prepare a graduate to work as a technician on devices that require digital circuits such as computers, test equipment, automatic control units and central distribution systems. The student will learn schematic interpretation, test equipment usage, and technical communications.

	CREDIT HOURS
SEMESTER I	
ET 190 D.C. Circuits and Electrical Measurements*	4
ENG 101 Composition I	3
MTH 195 Technical Mathematics I**	3
PSY 101 Introduction to Psychology or	
PSY 131 Applied Psychology and Human Relations	3
+ Elective	3
	16
SEMESTER II	
ET 191 A.C. Circuits*	4
ET 192 Digital Computer Principles	3
ET 193 Active Devices	4
SC 101 Introduction to Speech Communication	3
MTH 196 Technical Mathematics II	3
	17
SEMESTER III	
ET 260 Sinusoidal Circuits	4
ET 263 Digital Computer Theory	4
ET 266 Computer Applications	4
+ + Elective(s)	4
	16
SEMESTER IV	
ET 238 Linear Integrated Circuits	4
ET 264 Digital Systems	4
ET 265 Digital Research	3
ET 267 Microprocessors	4
	15
Minimum Hours Required	64

+ Electives--must be chosen from the following:

ACC 131	Bookkeeping I	3
ART 104	Art Appreciation	3
BUS 105	Introduction to Business	3
BUS 143	Personal Finance	3
CIS 103	Introduction to Computer Information Systems	3
HUM 101	Introduction to the Humanities	3
MGT 136	Principles of Management	3
MGT 153	Small Business Management	3
MUS 104	Music Appreciation	3
OFC 172	Beginning Typing	3
PHY 131	Applied Physics	4
SPA 101	Beginning Spanish	4

+ + Electives--must be selected from the following:

ET 102	Introduction to Telecommunications	3
ET 103	Introduction to Telecommunications Laboratory	1
ET 170	Printed Circuit Board Manufacturing	1
ET 172	Soldering	1
ET 174	Oscilloscope Utilization	1
ET 194	Instrumentation	3
ET 200	Special Applications of Electronics	4
ET 261	Pulse and Switching Circuits	4
ET 268	Microprocessor Trouble-shooting and Interface	4
ET 290	Advanced Electronic Devices	4
ET 291	Linear Integrated Circuit Applications	4
ET 292	Telephony Switching Systems	4
ET 293	Basic Radio Circuitry	4
ET 704	Cooperative Work Experience	4
ET 714	Cooperative Work Experience	4
CAD 240	Printed Circuit Design	3
CS 111	Computing Science I	3
CS 122	Introduction to Basic Programming	3
MTH 101	College Algebra	3
MTH 102	Plane Trigonometry	3
MTH 297	Technical Mathematics III	3

*ET 135 may be substituted for ET 190 and ET 191.

**MTH 101 or 102, or equivalent may be substituted for Technical Mathematics.

NOTE: Students enrolling in this program who plan to transfer to a four-year institution should consult an advisor or counselor regarding transfer requirements and the transferability of these courses to the four-year institution of their choice.

ELECTRONICS/COMPUTER TECHNOLOGY -- BASIC ELECTRONICS TECHNOLOGY CERTIFICATE

Eastfield only

(Certificate)

This one-year program provides the student with the basic skills needed in the electronic industry. All of the courses for the one-year certificate are applicable to the Electronics/Computer Technology associate degree.

CREDIT HOURS

SEMESTER I

ET 190	DC Circuits and Electrical Measurements	4
ET 191	AC Circuits	4
ET 192	Digital Computer Principles	3
MTH 195	Technical Mathematics I	3
		14

SEMESTER II

ET 193	Active Devices	4
ET 194	Instrumentation	3
MTH 196	Technical Mathematics II	3
		10

SEMESTER III

ET 260	Sinusoidal Circuits	4
ET 263	Digital Computer Theory	4
ET 266	Computer Applications	4
		12

Minimum Hours Required 36

ELECTRONICS TECHNOLOGY

Mountain View and North Lake only

(Associate Degree)

This program prepares students for work as electronics technicians by familiarizing them with most electronic testing equipment, training them in technical communications and providing them with electronic theory and skills.

	CREDIT HOURS
SEMESTER I	
ET 190 DC Circuits and Electrical Measurements or	(4)
ET 135 DC-AC Theory and Circuit Analysis	6
COM 131 Applied Communications or	
ENG 101 Composition I	3
CAD 182 Technician Drafting or	(2)
CAD 183 Basic Drafting or	(4)
CAD 231 Electronic Drafting	3
MTH 195 Technical Mathematics I or	
MTH 101 College Algebra	3
+ Elective	3
	<u>15-19</u>
SEMESTER II	
ET 191 AC Circuits	
(Unless ET 135 Completed)	(4)
ET 193 Active Devices	4
ET 194 Instrumentation	3
SC 101 Introduction to Speech	
Communication	3
MTH 196 Technical Mathematics II or	
MTH 102 Plane Trigonometry	3
	<u>13-17</u>
SEMESTER III	
ET 231 Special Circuits with Communi-	
cations Applications	4
ET 232 Analysis of Electronic Logic and	
Switching Circuits	4
ET 238 Linear Integrated Circuits	4
ET 240 Electronic Theory and Application	
of Digital Computers	4
PHY 131 Applied Physics or	
PHY 117 Concepts in Physics	4
	<u>20</u>
SEMESTER IV	
ET 234 Electronic Circuits & Systems	3
ET 237 Modular Memories & Microprocessors	4
ET 239 Microwave Theory	3
+ + Elective	7-8
	<u>17-18</u>
Minimum Hours Required:	65

+ Electives—must be selected from the following:

GVT 201	American Government	3
GVT 202	American Government	3
HST 101	History of the United States	3
HST 102	History of the United States	3
HD 104	Educational and Career Planning	3
HD 105	Basic Processes of Interpersonal Relationships	3
PSY 101	Introduction to Psychology	3
PSY 131	Applied Psychology and Human Relations	3

+ + Electives—must be selected from the following:

ET 170	Printed Circuit Board Manufacturing	1
ET 172	Soldering	1
ET 174	Oscilloscope Utilization	1
ET 200	Special Applications of Electronics	4
ET 210	Basic CRT Display	4
ET 268	Microprocessor Troubleshooting and Interface	4
ET 704	Cooperative Work Experience	4
EGT 243	Robotics I	3

NOTE: Students enrolling in this program who plan to transfer to a four-year institution should consult an advisor or counselor regarding transfer requirements and the transferability of these courses to the four-year institution of their choice.

ELECTRONICS TECHNOLOGY -- AUTOMATED MANUFACTURING OPTION

Mountain View Only

(Associate Degree)

The Automated Manufacturing option prepares students to work as electronics technicians in maintenance, field service and research and development on automated equipment used in manufacturing in a wide array of industries. Training in theory and hands-on skills in electronic and control devices, computers and software, mechanical equipment and robotics, power systems and processes and applications used in automated manufacturing provides graduates with a diverse background to be prepared for the multi-technology based job opportunities for today and tomorrow.

CREDIT HOURS

SEMESTER I

ET 135	DC-AC Theory and Circuit Analysis or	(6)
ET 190	DC Circuits and Electrical Measurements	4
COM 131	Applied Communications or	
ENG 101	Composition I	3
CAD 182	Technician Drafting or	2
CAD 183	Basic Drafting or	(4)
CAD 231	Electronic Drafting	(3)
MTH 195	Technical Mathematics I or	
MTH 101	College Algebra	3
+ Elective		3
		<u>15-19</u>

SEMESTER II

ET 191	AC Circuits (Unless ET 135 Completed)	(4)
ET 193	Active Devices	4
ET 194	Instrumentation	3
SC 101	Introduction to Speech Communication	3
MTH 196	Technical Mathematics II or	
MTH 102	Plane Trigonometry	3
		<u>13-17</u>

SEMESTER III

ET 232	Analysis of Electronic Logic and Switching Circuits	4
ET 238	Linear Integrated Circuits	4
ET 240	Electronic Theory and Applications of Digital Computers	4
ET 202	Industrial Power Systems	4
		<u>16</u>

SEMESTER IV

ET 201	Automated Manufacturing	4
ET 203	Industrial Controls	4
ET 234	Electronic Circuits & Systems	3
ET 237	Modular Memories and Microprocessors	4
PHY 131	Applied Physics or	
PHY 117	Concepts in Physics	4
		<u>19</u>

Minimum Hours Required 63

+ Elective--must be selected from the following:

GVT 201	American Government	3
GVT 202	American Government	3
HST 101	History of the United States	3
HST 102	History of the United States	3
HD 104	Educational and Career Planning	3
HD 105	Basic Processes of Interpersonal Relationships	3
PSY 101	Introduction to Psychology	3
PSY 131	Applied Psychology and Human Relations	3

NOTE: Students enrolling in this program who plan to transfer to a four-year institution should consult an advisor or counselor regarding transfer requirements and the transferability of these courses to the four-year institution of their choice.

ELECTRONICS TECHNOLOGY -- AVIONICS OPTION

Mountain View only

(Associate Degree)

The Associate Degree program in Avionics is an option to the Electronics Technology Program. This option provides the student with an electronics background and specialized skills in avionics. In this program a level of knowledge and practical skills adequate to gain entry level employment in the installation and maintenance of aircraft electronics systems (avionics) is gained by students.

	CREDIT HOURS
SEMESTER I	
ET 135 DC-AC Theory and Circuit Analysis or	(6)
ET 190 DC Circuits and Electrical Measurements	4
AV 129 Introduction to Aircraft Electronic Systems	3
COM 131 Applied Communications or	
ENG 101 Composition I	3
MTH 195 Technical Mathematics I or	
MTH 101 College Algebra	3
	<u>13-15</u>
SEMESTER II	
ET 191 AC Circuits (Unless ET 135 Completed)	(4)
ET 193 Active Devices	4
AV 235 Operational Testing of Aircraft Electronic Systems	4
SC 101 Introduction to Speech Communication	3
MTH 196 Technical Mathematics II or	
MTH 102 Plane Trigonometry	3
PHY 131 Applied Physics or	
PHY 117 Concepts in Physics	4
	<u>18-22</u>
SEMESTER III	
ET 231 Special Circuits with Communication Applications	4
ET 232 Analysis of Electronic Logic and Switching Circuits	4
ET 238 Linear Integrated Circuits or	
ET 704 Cooperative Work Experience	4
ET 240 Electronic Theory and Applications of Digital Computers	4
+ Elective	3
	<u>19</u>

SEMESTER IV

ET 237	Modular Memories and Microprocessors	4
ET 239	Microwave Technology	3
AV 132	Aircraft Electrical and Electronics Systems Installation	4
MGT 153	Small Business Management	3
		<u>14</u>

Minimum Hours Required 63

+ Elective--must be selected from the following:

GVT 201	American Government	3
GVT 202	American Government	3
HST 101	History of the United States	3
HST 102	History of the United States	3
HD 104	Educational and Career Planning	3
HD 105	Basic Processes of Interpersonal Relationships ...	3
PSY 101	Introduction to Psychology	3
PSY 131	Applied Psychology and Human Relations	3

NOTE: Students enrolling in this program who plan to transfer to a four-year institution should consult an advisor or counselor regarding transfer requirements and the transferability of these courses to the four-year institution of their choice.

ENGINEERING TECHNOLOGY -- COMPUTER INTEGRATED MANUFACTURING

Richland only

(Associate Degree)

The Computer Integrated Manufacturing Option prepares students for technician level employment in the high-tech automated manufacturing environment. Training includes electronics, computer controls, robotics and fluid power systems, CAD/CAM, CNC machine tools, and the integration of these technologies into a total automated manufacturing system.

CREDIT HOURS

SEMESTER I

QCT 121	Introduction to Quality Control	2
EGT 140	Fluid Power Systems	4
CAD 183	Basic Drafting	4
EGT 188	Manufacturing Processes	2
ET 190	DC Circuits and Electrical Measurements	4
MTH 195	Technical Mathematics I*	3
		19

SEMESTER II

ET 191	AC Circuits	4
EGT 243	Robotics I	3
EGT 143	Technical Programming	4
COM 131	Applied Communications	3
MTH 196	Technical Mathematics II	3
		17

SEMESTER III

ET 193	Active Devices	4
EGT 247	Robotics II	3
EGT 248	Computer Aided Design	4
PHY 131	Technical Physics I	4
SC 101	Introduction to Speech Communication	3
		18

SEMESTER IV

EGT 270	Computer Integrated Manufacturing	4
+ Technical Elective		3-4
MTH 297	Technical Mathematics III	3
PHY 132	Applied Physics*	4
Humanities Elective		3
		17-18

Minimum Hours Required 71

+ Technical electives -- must be selected from the following:

EGT 230	Digital Machine Control	4
EGT 252	Design for Manufacturing	4
QCT 122	Dimensional Measurement	3
QCT 236	Advanced Quality Control Systems	4

NOTE: Students enrolling in this program who plan to transfer to a four-year institution should consult an advisor or counselor regarding transfer requirements and the transferability of these courses to the four-year institution of their choice.

ENGINEERING TECHNOLOGY -- ELECTRONICS ENGINEERING TECHNOLOGY OPTION

Richland only

(Associate Degree)

The two year Electronics Engineering Technology option will prepare students for technician level employment in electronics and related industries. The emphasis in this option is on engineering technology, particularly in an automated manufacturing environment. Studies include electronic devices and their application in analog and digital circuits, basic microprocessors, microprocessor interfacing, basic robotics, and digital machine control systems.

	CREDIT HOURS
SEMESTER I	
QCT 121 Introduction to Quality Control	2
EGT 141 Basic Hydraulics and Fluid Mechanics	4
CAD 182 Technician Drafting or (2)	
CAD 183 Basic Drafting	4
EGR 186 Manufacturing Processes	2
ET 190 DC Circuits and Electrical Measurements*	4
MTH 195 Technical Mathematics I*	3
	17-19
SEMESTER II	
EGT 144 Instrumentation and Testing	4
ET 191 AC Circuits*	4
ET 193 Active Devices	4
COM 131 Applied Communications*	3
MTH 196 Technical Mathematics II*	3
	18
SEMESTER III	
EGT 143 Technical Programming	4
EGT 239 Principles of Microprocessor Control**	4
EGT 242 Digital Control Circuits	4
PHY 131 Applied Physics*	4
SC 101 Introduction to Speech Communication	3
	19
SEMESTER IV	
EGT 228 Amplifiers and Control Circuits**	4
EGT 268 Microprocessor Interfacing and Troubleshooting	4
EGT 230 Digital Machine Control	4
PHY 132 Applied Physics*	4
MTH 297 Technical Mathematics III	3
+ Elective	3
	18

Minimum Hours Required: 72

+ Electives--must be selected from the following:

ART 104	Art Appreciation	3
HUM 101	Introduction to the Humanities	3
MUS 104	Music Appreciation	3
PHI 101	Introduction to Philosophy	3
THE 101	Introduction to the Theatre	3
ANY COURSE IN ANT, GVT, HST, HD, PSY, SOC, Foreign Language, or Literature		

*The following substitutions for required courses are permitted:

ET 135	for ET 190 and ET 191
ENG 101	for COM 131
MTH 101, MTH 102 and MTH 124	for MTH 195, MTH 196, and MTH 297
PHY 201 and PHY 202	for PHY 131 and PHY 132

**Cooperative Work Experience may be substituted.

NOTE: Students enrolling in this program who plan to transfer to a four-year institution should consult an advisor or counselor regarding transfer requirements and the transferability of these courses to the four-year institution of their choice.

ENGINEERING TECHNOLOGY -- ELECTRONICS ENGINEERING TECHNOLOGY CERTIFICATE

Richland only

(Certificate)

This one-year program develops the basic skills necessary for entry level positions in electronics related industries. All courses required for the certificate are applicable to the Engineering Technology degree, Electronic Controls option.

	CREDIT HOURS
SEMESTER I	
ET 190 DC Circuits and Electrical Measurements*	4
MTH 195 Technical Mathematics I*	3
EGT 143 Technical Programming	4
CAD 182 Technician Drafting or	2
CAD 183 Basic Drafting	(4)
EGR 186 Manufacturing Processes	2
	15-17
SEMESTER II	
ET 191 AC Circuits*	4
ET 193 Active Devices	4
EGT 242 Digital Control Circuits	4
EGT 144 Instrumentation and Testing	4
MTH 196 Technical Mathematics II*	3
	19

Minimum Hours Required: 34

*The following substitutions for required courses are permitted:

MTH 101 and MTH 102	for MTH 195 and MTH 196
ET 135	for ET 190 and ET 191

ENGINEERING TECHNOLOGY -- ELECTRONIC QUALITY CONTROL OPTION

Richland Only

(Associate Degree)

The Electronic Quality Control Program prepares the graduate to enter the high opportunity area of electronic product quality control.

The objectives of quality control include providing a customer with the highest quality product at the lowest cost and preventing defective products from ever reaching a customer. Specialized quality control courses provide training in applied statistics, metrology, physical and environmental testing, nondestructive testing, as well as an introduction to quality control techniques such as control charts, sampling plans, reliability analysis, cost control and product liability.

The program also includes a strong emphasis in electronics and provides a broad technology background in drafting, manufacturing processes, hydraulics, and technical programming.

	CREDIT HOURS
SEMESTER I	
QCT 121 Introduction to Quality Control	2
EGT 141 Basic Hydraulics and Fluid Mechanics	4
CAD 182 Technician Drafting or (2)	
CAD 183 Basic Drafting	4
EGR 186 Manufacturing Processes	2
ET 190 DC Circuits and Electrical Measurements	4
MTH 195 Technical Mathematics I*	3
	17-19
SEMESTER II	
QCT 122 Dimensional Measurement	3
EGT 144 Instrumentation and Testing	4
ET 191 AC Circuits	4
COM 131 Applied Communications*	3
MTH 196 Technical Mathematics II*	3
	17
SEMESTER III	
EGT 143 Technical Programming	4
ET 193 Active Devices	4
QCT 220 Physical and Environmental Testing ...	3
PHY 131 Applied Physics*	4
SC 101 Introduction to Speech Communication	3
	18

SEMESTER IV

QCT 227 Nondestructive Evaluation**	3
QCT 236 Advanced Quality Control Systems	4
MTH 297 Technical Mathematics III*	3
PHY 132 Applied Physics* or	
CHM 115 Chemical Sciences	4
+ Elective	3
	17

Minimum Hours Required: 69

+ Electives--must be selected from the following:

ART 104 Art Appreciation	3
HUM 101 Introduction to the Humanities	3
MUS 104 Music Appreciation	3
PHI 101 Introduction to Philosophy	3
THE 101 Introduction to the Theatre	3
ANY COURSE IN ANT, GVT, HST, HD, PSY, SOC, Foreign Language, or Literature	

*The following substitutions for required courses are permitted.

ENG 101 for COM 131
MTH 101, MTH 102, and MTH 124 for MTH 195, MTH 196, and MTH 297
PHY 201 and PHY 202 for PHY 131 and PHY 132

**Cooperative Work Experience may be substituted.

NOTE: Students enrolling in this program who plan to transfer to a four-year institution should consult an advisor or counselor regarding transfer requirements and the transferability of these courses to the four-year institution of their choice.

ENGINEERING TECHNOLOGY -- INDUSTRIAL TECHNOLOGY OPTION

Mountain View only

(Associate Degree)

The Industrial Technology Option prepares the student for technician level employment with a broad based curriculum involving electronics and computers; mechanical automation equipment, and fluid power devices and systems. Job opportunities exist in all types of manufacturing, equipment repair and maintenance, and research and development of new systems.

	CREDIT HOURS
SEMESTER I	
CAD 182 Technician Drafting or	(2)
CAD 183 Basic Drafting	4
ET 135 DC-AC Theory and Circuit Analysis or	(6)
ET 190 DC Circuits and Electrical Measurements	4
EGT 243 Robotics I	3
MTH 195 Technical Mathematics I or	
MTH 101 College Algebra	3
COM 131 Applied Communications or	
ENG 101 Composition I	3
	<u>17-19</u>
SEMESTER II	
EGT 141 Basic Hydraulics and Fluid Mechanics	4
ET 191 AC Circuits	(4)
(If ET 135 is not taken)	
ET 193 Active Devices	4
MTH 196 Technical Mathematics II or	
MTH 102 Plane Trigonometry	3
SC 101 Introduction to Speech Communication	3
	<u>14</u>
SEMESTER III	
EGT 143 Technical Programming or	
ET 240 Electronic Theory and Application of Digital Computers	4
EGT 230 Digital Machine Control	4
+ Elective	3
+ + Elective	7
	<u>18</u>
SEMESTER IV	
QCT 121 Introduction to Quality Control	2
EGR 186 Manufacturing Processes or	(2)
ET 234 Electronic Circuits and Systems	3
PHY 131 Applied Physics or	
PHY 201 General Physics	4
+ + Elective	8
	<u>16-17</u>

Minimum Hours Required 65

+ Electives--must be selected from the following:

ART 104	Art Appreciation	3
HD 104	Education and Career Planning	3
HD 105	Basic Processes of Interpersonal Relationships	3
HUM 101	Introduction to Humanities	3
MUS 104	Music Appreciation	3
PHI 101	Introduction to Philosophy	3
PSY 101	Introduction to Psychology	3
PSY 131	Applied Psychology and Human Relations	3
THE 101	Introduction to Theatre	3

+ + Electives--must be selected from the following:

QCT 122	Dimensional Measurement	3
EGT 144	Instrumentation and Testing or	3
ET 194	Instrumentation	3
EGR 187	Manufacturing Processes	2
EGT 222	Fundamentals of Pneumatics	3
EGT 232	Applied Mechanics	4
EGT 228	Amplifiers and Control Circuits or	
ET 238	Linear Integrated Circuits	4
EGT 239	Principles of Microcomputer Controls or	
ET 237	Modular Memories and Microprocessors	4
EGT 242	Digital Control Circuits or	
ET 232	Analysis of Electronic Logic and Switching Circuits	4
CAD 245	Computer Aided Design or	(3)
MT 248	Computer Aided Design	4
EGT 247	Robotics II	3
EGT 251	Advanced Robotics and Automated Systems	3
EGT 268	Microprocessor Interfacing and Troubleshooting	4
EGT 270	Computer Integrated Manufacturing	4
EGT 704	Cooperative Work Experience	4

NOTE: Students enrolling in this program who plan to transfer to a four-year institution should consult with an advisor or counselor regarding transfer requirements and the transferability of these courses to the four-year institution of their choice.

ENGINEERING TECHNOLOGY -- MANUFACTURING DESIGN TECHNOLOGY OPTION

Richland only

(Associate Degree)

The purpose of the Manufacturing Design Technology Option is to prepare the student for employment in the field of manufacturing design. Both theory and application are provided by courses in mechanisms, fluid power, manufacturing processes, and mechanical design courses. Technical programming and computer graphics provide the latest in state-of-the-art training in the manufacturing design field. Emphasis is on the design of machines, the component parts, gages, jigs, fixtures, and special tooling.

CREDIT HOURS

SEMESTER I

QCT 121	Introduction to Quality Control	2
EGT 140	Fluid Power System	4
CAD 183	Basic Drafting	4
EGT 188	Manufacturing Processes	2
ET 190	DC Circuits and Electrical Measurements	4
MTH 195	Technical Mathematics I*	3
		19

SEMESTER II

EGT 198	Electro-Mechanical Design	4
EGT 248	Computer-Aided Design	4
ET 191	AC Circuits	3
MTH 196	Technical Mathematics II*	3
SC 101	Introduction to Speech Communication	3
		17

SEMESTER III

EGT 232	Applied Mechanics	4
EGT 249	Applications In Computer-Aided Design	4
CAD 253	Geometric Dimensioning and Tolerancing	3
MTH 297	Technical Mathematics III*	3
PHY 131	Applied Physics**	4
		18

SEMESTER IV

EGT 252	Electro-Mechanical Design	4
PHY 132	Applied Physics*	4
COM 131	Applied Communications	4
+ Elective or Cooperative Work Experience		2-4
		14-16

Minimum Hours Required 68

+ Elective may be selected from any 2 to 4 credit hour Engineering Technology course.

+ + Electives--must be selected from the following:

ART 104	Art Appreciation	3
HUM 101	Introduction to the Humanities	3
MUS 104	Music Appreciation	3
PHI 101	Introduction to Philosophy	3
THE 101	Introduction to the Theatre	3
ANY COURSE IN ANT, GVT, HST, HD, PSY, SOC, Foreign Language, or Literature		

*The following substitutions for required courses are permitted:

ENG 101 for COM 131

MTH 101, MTH 102, and MTH 124 for MTH 195, MTH 196, and MTH 297

PHY 201 and PHY 202 for PHY 131 and PHY 132

NOTE: Students enrolling in this program who plan to transfer to a four-year institution should consult an advisor or counselor regarding transfer requirements and the transferability of these courses to the four-year institution of their choice.

ENGINEERING TECHNOLOGY -- MANUFACTURING DESIGN TECHNOLOGY CERTIFICATE

Richland only

(Certificate)

The Manufacturing Design Technology certificate provides the student with basic skills development in the area of mechanical design. All courses required for the one-year certificate are applicable to the Engineering Technology degree.

CREDIT HOURS

SEMESTER I

CAD 183	Basic Drafting	4
MTH 195	Technical Mathematics I*	3
EGT 188	Manufacturing Processes	2
ET 190	DC Circuits and Electrical Measurements	4
COM 131	Applied Communications*	3
		16

SEMESTER II

EGT 198	Electro-Mechanical Design	4
CAD 253	Geometric Dimensioning and Tolerancing	3
EGT 248	Computer Aided Design	4
MTH 196	Technical Mathematics II*	3
QCT 121	Introduction to Quality Control	2
		16

Minimum Hours Required 32

*The following substitutions for required courses are permitted:

MTH 101 and MTH 102 for MTH 195 and MTH 196

ENG 101 for COM 131

ENGINEERING TECHNOLOGY -- MECHANICAL QUALITY CONTROL OPTION

Richland only

(Associate Degree)

The Mechanical Quality Control Program prepares the graduate to enter the high opportunity area of mechanical product quality control.

The objectives of quality control include providing a customer with the highest quality product at the lowest cost and preventing defective products from ever reaching a customer. Specialized quality control courses provide training in applied statistics, metrology, physical and environmental testing, nondestructive testing, as well as an introduction to quality control techniques such as control and product liability.

The program also includes a broad technology background in DC circuits, hydraulics, pneumatics, drafting, manufacturing processes, CAD/CAM and technical programming.

	CREDIT HOURS
SEMESTER I	
QCT 121 Introduction to Quality Control	2
EGT 141 Basic Hydraulics and Fluid Mechanics ..	4
CAD 183 Basic Drafting	4
EGR 186 Manufacturing Processes	2
ET 190 DC Circuits and Electrical Measurements	4
MTH 195 Technical Mathematics I*	3
	<u>19</u>
SEMESTER II	
QCT 122 Dimensional Measurement	3
EGR 187 Manufacturing Processes	2
EGT 222 Fundamentals of Pneumatics	3
COM 131 Applied Communications*	3
MTH 196 Technical Mathematics II*	3
	<u>14</u>
SEMESTER III	
EGT 143 Technical Programming	4
QCT 220 Physical/Environmental Testing	3
EGT 232 Applied Mechanics**	4
PHY 131 Applied Physics*	4
SC 101 Introduction to Speech Communication	3
	<u>18</u>
SEMESTER IV	
QCT 227 Nondestructive Testing**	3
QCT 236 Advanced Quality Control	4
MTH 297 Technical Mathematics III*	3
PHY 132 Applied Physics* or	
CHM 115 Chemical Science	4
+ Elective	3
	<u>17</u>

Minimum Hours Required: 68

+ Elective--must be selected from the following:

ART 104	Art Appreciation	3
HUM 101	Introduction to the Humanities	3
MUS 104	Music Appreciation	3
PHI 101	Introduction to Philosophy	3
THE 101	Introduction to the Theatre	3
ANY COURSE IN ANT, GVT, HST, HD, PSY, SOC, Foreign Language, or Literature		

*The following substitutions for required courses are permitted:

ENG 101 for COM 131
MTH 101, MTH 102, and MTH 124 for MTH 195, MTH 196, and MTH 297
PHY 201 and PHY 202 for PHY 131 and PHY 132

**Cooperative Work Experience may be substituted

NOTE: Students enrolling in this program who plan to transfer to a four-year institution should consult an advisor or counselor regarding transfer requirements and the transferability of these courses to the four-year institution of their choice.

ENGINEERING TECHNOLOGY – QUALITY CONTROL CERTIFICATE

Richland only

(Certificate)

This one-year program develops the basic skills necessary for advancement in a purchased materials, machine shop or assembly inspection department. All of the courses required for the certificate are applicable to the Engineering Technology Associate Degree, either the Electronic Quality Control option or the Mechanical Quality Control option.

CREDIT HOURS

SEMESTER I

QCT 121	Introduction to Quality Control	2
QCT 122	Dimensional Measurement	3
ET 190	DC Circuits and Electrical Measurements	4
MTH 195	Technical Mathematics I*	3
CAD 183	Basic Drafting	4
EGR 186	Manufacturing Processes	2
		18

SEMESTER II

QCT 220	Physical/Environmental Testing	3
QCT 227	Nondestructive Evaluation	3
EGT 143	Technical Programming or ET 240 Electronic Theory and Application of Digital Computers	4
MTH 196	Technical Mathematics II*	3
COM 131	Applied Communications*	3
		17

Minimum Hours Required: 35

*The following substitutions for required courses are permitted:

MTH 101 and MTH 102 for MTH 195 and MTH 196
ENG 101 for COM 131

ENGINEERING TECHNOLOGY -- ROBOTICS AND FLUID POWER OPTION

Richland only

(Associate Degree)

The Robotics and Fluid Power option prepares the student for technician level employment in industrial robotics and/or industrial hydraulics and pneumatics. The student also receives training in electronics, microcomputers, quality control, drafting and computer aided design, and manufacturing processes.

	CREDIT HOURS
SEMESTER I	
QCT 121 Introduction to Quality Control	2
EGT 141 Basic Hydraulics and Fluid Mechanics	4
CAD 182 Technician Drafting or	2
CAD 183 Basic Drafting	(4)
EGR 186 Manufacturing Processes	2
ET 190 DC Circuits and Electrical Measurements	4
MTH 195 Technical Mathematics I*	3
	<u>17-19</u>
SEMESTER II	
ET 191 AC Circuits	4
EGT 222 Fundamentals of Pneumatics	3
EGT 243 Robotics I	3
COM 131 Applied Communications*	3
MTH 196 Technical Mathematics II*	3
	<u>16</u>
SEMESTER III	
EGT 143 Technical Programming	4
ET 193 Active Devices	4
EGT 247 Robotics II	3
PHY 131 Applied Physics*	4
SC 101 Introduction to Speech Communication	3
	<u>18</u>
SEMESTER IV	
EGT 230 Digital Machine Control	3
MTH 297 Technical Mathematics III*	3
PHY 132 Applied Physics*	4
+ Elective	3
+ + Electives	6
	<u>19</u>
Minimum Hours Required:	70

+ Electives--must be selected from the following:

ART 104	Art Appreciation	3
HUM 101	Introduction to Humanities	3
MUS 104	Music Appreciation	3
PHI 101	Introduction to Philosophy	3
THE 101	Introduction to the Theatre	3
ANY COURSE IN ANT, GVT, HST, HD, PSY, SOC, Foreign Language, or Literature		3

+ + Electives--must be selected from the following:

QCT 122	Dimensional Measurement	3
EGT 144	Instrumentation and Testing	4
EGR 187	Manufacturing Processes	2
EGT 225	Advanced Fluid Power Systems	4
EGT 232	Applied Mechanics	4
EGT 239	Principles of Microcomputer Controls	4
EGT 242	Digital Control Circuits	4
EGT 251	Advanced Robotics and Automated Systems	3
MT 248	Computer-Aided Design	4
EGT 268	Microprocessor Interfacing and Troubleshooting	4
EGT 270	Computer Integrated Manufacturing	4
EGT 704	Cooperative Work Experience	4

*The following substitutions for required courses are permitted:

ENG 101 for COM 131
MTH 101, MTH 102, and MTH 124 for MTH 195, MTH 196, and MTH 297
PHY 201 and PHY 202 for PHY 131 and PHY 132

NOTE: Students enrolling in this program who plan to transfer to a four-year institution should consult an advisor or counselor regarding transfer requirements and the transferability of these courses to the four-year institution of their choice.

ENGINEERING TECHNOLOGY -- ROBOTICS AND FLUID POWER CERTIFICATE

Mountain View, and Richland only

(Certificate)

This one-year program provides the student with the basic skills needed in the industrial robotics and/or industrial hydraulics and pneumatics industry. All of the courses for the one-year certificate are applicable to the Engineering Technology Associate Degree, Robotics and Fluid Power option.

	CREDIT HOURS
SEMESTER I	
ET 190 DC Circuits and Electrical Measurements	4
EGR 186 Manufacturing Processes	2
EGT 141 Basic Hydraulics and Fluid Mechanics	4
EGT 243 Robotics I	3
MTH 195 Technical Mathematics I*	3
	16
SEMESTER II	
CAD 182 Technician Drafting	2
EGT 222 Fundamentals of Pneumatics	3
EGT 225 Advanced Fluid Power Systems	4
EGT 247 Robotics II	3
MTH 196 Technical Mathematics II*	3
+ Technical Elective	2-4
	17-19

Minimum Hours Required: 33

+ Technical Electives—must be selected from the following:

EGR 187	Manufacturing Processes	2
EGT 144	Instrumentation and Testing	4
EGT 143	Technical Programming	4
EGT 251	Advanced Robotics and Automated Systems	3

*MTH 101 and MTH 102 may be substituted for MTH 195 and MTH 196.

ENGINEERING TECHNOLOGY -- ROBOTICS TECHNOLOGY OPTION

Mountain View only

(Associate Degree)

The Robotics Technology Option prepares the student for technician level employment in industrial robotics and automated manufacturing systems. The student also receives training in electronics and computers, manufacturing processes, control systems and computer aided design.

	CREDIT HOURS
SEMESTER I	
CAD 182 Technician Drafting or	(2)
CAD 183 Basic Drafting	4
ET 135 DC-AC Theory and Circuit Analysis or	(6)
ET 190 DC Circuits and Electrical Measurements	4
EGT 243 Robotics I	3
MTH 195 Technical Mathematics I or	
MTH 101 College Algebra	3
COM 131 Applied Communications or	
ENG 101 Composition I	3
	<u>17-19</u>
SEMESTER II	
EGT 141 Basic Hydraulics and Fluid Mechanics	4
ET 191 AC Circuits (If ET 135 is not taken)	(4)
ET 193 Active Devices	4
MTH 196 Technical Mathematics II or	
MTH 102 Plane Trigonometry	3
SC 101 Introduction to Speech Communication	3
	<u>14-18</u>
SEMESTER III	
EGT 143 Technical Programming or	
ET 240 Electronic Theory and Application of Digital Computers	4
EGT 230 Digital Machine Control	4
+ Elective	3
+ + Electives	7
	<u>18</u>
SEMESTER IV	
QCT 121 Introduction to Quality Control	2
EGR 186 Manufacturing Processes or	(2)
ET 234 Electronic Circuits and Systems	3
EGT 247 Robotics II	3
PHY 131 Applied Physics or	
PHY 201 General Physics	4
+ + Electives	5
	<u>16-17</u>

Minimum Hours Required 65

+ Electives--must be selected from the following:

ART 104	Art Appreciation	3
HD 104	Educational and Career Planning	3
HD 105	Basic Processes of Interpersonal Relationships ...	3
HUM 101	Introduction to Humanities	3
MUS 104	Music Appreciation	3
PHI 101	Introduction to Philosophy	3
PSY 101	Introduction to Psychology	3
PSY 131	Applied Psychology and Human Relations	3
THE 101	Introduction to Theatre	3

+ + Electives--must be selected from the following:

QCT 122	Dimensional Measurement	3
EGT 144	Instrumentation and Testing or	4
ET 194	Instrumentation	(3)
EGR 187	Manufacturing Processes	2
EGT 222	Fundamentals of Pneumatics	3
EGT 232	Applied Mechanics	4
EGT 228	Amplifiers and Control Circuits or	
ET 238	Linear Integrated Circuits	4
EGT 239	Principles of Microcomputer Controls or	
ET 237	Modular Memories and Microprocessors	4
EGT 242	Digital Control Circuits or	
ET 232	Analysis of Electronic Logic and Switching Circuits	4
CAD 245	Computer Aided Design or	3
MT 248	Computer Aided Design	(4)
EGT 251	Advanced Robotics and Automated Systems ...	3
EGT 268	Microprocessor Interfacing and Troubleshooting	4
EGT 270	Computer Integrated Manufacturing	4
EGT 704	Cooperative Work Experience	4

NOTE: Students enrolling in this program who plan to transfer to a four-year institution should consult with an advisor or counselor regarding transfer requirements and the transferability of these courses to the four-year institution of their choice.

FASHION MARKETING

Brookhaven and Cedar Valley only

(Associate Degree)

This two-year program is designed for those interested in careers related to fashion wholesaling and retailing. Students explore merchandising, buying, textiles, display, advertising and computer applications in the fashion industry. Emphasis is placed on cooperative work experience which gives the student necessary preparation and experience needed for an entry-level position.

	CREDIT HOURS
SEMESTER I	
MKT 137 Principles of Retailing	3
MKT 239 Automated Inventory Management	3
MKT 291 Fashion Merchandising	3
BUS 105 Introduction to Business	3
ENG 101 Composition I	3
MTH 130 Business Mathematics	3
	18
SEMESTER II	
MKT 230 Salesmanship	3
DES 135 Textiles	3
MKT 251 Visual Merchandising	3
PSY 131 Applied Psychology and Human Relations or	
PSY 101 Introduction to Psychology	3
ENG 102 Composition II	3
SC 101 Introduction to Speech Communication	3
	18
SEMESTER III	
MKT 206 Principles of Marketing	3
MKT 292 Fashion Design	3
HUM 101 Introduction to the Humanities or	
ART 104 Art Appreciation	3
MKT 703 Cooperative Work Experience	3
+ Elective	3
	15
SEMESTER IV	
MKT 233 Advertising and Sales Promotion	3
MKT 290 Fashion Buying	3
MKT 713 Cooperative Work Experience	3
ACC 201 Accounting I or	
ACC 131 Bookkeeping	3
+ Elective	3
	15
Minimum Hours Required:	66

+ Electives—may be selected from the following:

BUS 234	Business Law	3
CIS 103	Introduction to Computer Information Systems ...	3
ECO 201	Principles of Economics I	3
ECO 202	Principles of Economics II	3
MGT 136	Principles of Management	3
MGT 237	Organizational Behavior	3
MKT 211	Special Topics in Fashion Marketing	1
MKT 212	Special Topics in Fashion Marketing	2
MKT 222	Fashion Show Production	2
MKT 223	Special Topics in Fashion Marketing	3

NOTE: Students enrolling in this program who plan to transfer to a four-year institution should consult an advisor or counselor regarding transfer requirements and the transferability of these courses to the four-year institution of their choice.

FIRE PROTECTION TECHNOLOGY

El Centro only

(Associate Degree)

The curriculum is primarily designed to provide professional training for firemen. Students who do not work for a fire department may be admitted to the program after a review of their backgrounds by the FPT consultant, the FPT counselor or the Physical and Social Science Division Chairperson. Three courses are offered each long semester at night on the "flip-flop" basis to accommodate work shift changes. The following curriculum guide is designed for full-time students; those attending part-time will find the program takes considerably longer. The sequence of FPT courses through 1989 may be obtained by contacting the Physical and Social Science Division. Students may enter the sequence at the beginning of any long semester. The sequence is designed to cycle the student through the entire program.

CREDIT HOURS

SEMESTER I

FPT 131	Fundamentals of Fire Protection	3
FPT 132	Fire Prevention	3
ENG 101	Composition I	3
MTH 101	College Algebra or	
MTH 130	Business Mathematics	3
+ Elective		3

15

SEMESTER II

FPT 135	Fire Administration I	3
FPT 136	Fire and Arson Investigation	3
SC 101	Introduction to Speech Communication	3
GVT 201	American Government	3
+ Elective		3

15

SEMESTER III

FPT 140	Fire Fighting Tactics and Strategy	3
FPT 231	Building Codes and Construction	3
CHM 115	Chemical Sciences	4

10

SEMESTER IV

FPT 232	Industrial Fire Protection I	3
FPT 137	Hazardous Materials I	3
CHM 116	Chemical Sciences	4

10

SEMESTER V

FPT 233	Fire Protection Systems	3
FPT 234	Industrial Fire Protection II	3
+ + Elective		3

9

SEMESTER VI

FPT 235	Fire Administration II	3
FPT 243	Technical Writing for Firefighters	3
+ + Elective		3

9

Minimum Hours Required 68

+ Electives--must be selected from the following:

FPT 236	Legal Aspects of Fire Protection	3
FPT 237	Hazardous Materials II	3
FPT 238	Fire Safety Education	3
FPT 239	Fire Service Communications	3
FPT 240	Fire Insurance Fundamentals	3
FPT 241	Advanced Fire Loss Statistical Systems	3
FPT 242	Urban Fire Problem Analysis	3

+ + Electives--must be selected from the following:

HD 105	Basic Processes of Interpersonal Relationships	3
PSY 101	Introduction to Psychology	3
SOC 101	Introduction to Sociology	3

NOTE: Students enrolling in this program who plan to transfer to a four-year institution should consult an advisor or counselor regarding transfer requirements and the transferability of these courses to the four-year institution of their choice.

FOOD AND HOSPITALITY SERVICE

El Centro only

(Associate Degree)

The Food and Hospitality Service Program trains students to assume responsible positions in the Food Hospitality Industry. Courses are designed to cover the various operational functions of restaurants, clubs, cafeterias, coffee shops and other types of hospitality service.

CREDIT HOURS

SEMESTER I

FHS 110	Principles of Food and Beverage Administration* or	
FHS 112	Organization and Management* or	
FHS 115	Principles of Hotel Administration	3
FHS 119	Food Service Equipment	3
FHS 120	Basic Food Preparation	3
FHS 124	Food Service Sanitation and Safety	3
ENG 101	Composition I	3
MTH 130	Business Math	3
		<u>18</u>

SEMESTER II

FHS 111	Dining Room Service Management	3
FHS 116	Supervision for Hospitality Services	3
FHS 122	Advanced Food Preparation	3
FHS 132	Food Purchasing, Handling and Storage	3
FHS 135	Nutrition and Menu Planning	3
SC 101	Introduction to Speech Communication	3
		<u>18</u>

SEMESTER III

FHS 220	Quantity Food Preparation and Service	4
FHS 233	Food Marketing** or	
FHS 248	Advanced Nutrition and Dietetics** or	
FHS 249	Child Nutrition or	
FHS 210	Hotel-Motel Sales Development**	3
FHS 704	Cooperative Work Experience	4
+ Elective		3
+ + Elective		3
		<u>17</u>

SEMESTER IV

FHS 138	Food Service Cost Control	3
FHS 222	Advanced Quantity Food Preparation and Service	4
FHS 714	Cooperative Work Experience	4
PSY 131	Applied Psychology and Human Relations or	
PSY 101	Introduction to Psychology or	
HD 105	Basic Processes of Interpersonal Relationships	3
Elective		3
		<u>17</u>

Minimum Hours Required 70

+ Electives—must be selected from the following:

FHS 114	Front Office Procedures	3
FHS 140	Elementary Bakery Training	3
FHS 201	Hotel-Restaurant-Institution-Special Topics	1
FHS 202	Hotel-Restaurant-Institution-Special Topics	2
FHS 203	Hotel-Restaurant-Institution-Special Topics	3
FHS 204	Hotel-Restaurant-Institution-Special Topics	3
FHS 214	Hotel-Motel Law	3
FHS 233	Food Marketing	3
FHS 238	Garde-Mange Training	3
FHS 239	Saucier Training	3
FHS 245	Advanced Pastry Shop Training	3
FHS 247	Beverage Operations and Service	3
FHS 248	Advanced Nutrition and Dietetics	3
FHS 249	Child Nutrition	3
ACC 201	Principles of Accounting I	3
BUS 234	Business Law	3
ECO 105	Economics of Contemporary Social Issues	3
ECO 201	Principles of Economics I	3

+ + Electives—must be selected from the following:

ART 104	Art Appreciation	3
Any two courses from the following:		
ENG 201	British Literature	3
ENG 205	American Literature	3
HST 101	History of the United States	3
HST 102	History of the United States	3
GVT 201	American Government	3
GVT 202	American Government	3
HUM 101	Introduction to the Humanities	3
MUS 104	Music Appreciation	3
PHI 101	Introduction to Philosophy	3
THE 101	Introduction to Theatre	3
Foreign Language		

*FHS 110 is recommended for those interested in Commercial Food Service - such as restaurants.

*FHS 112 is recommended for those interested in Institutional Food Service - such as school, hospitals.

*FHS 115 is recommended for those interested in Hotel-Motel Management.

**FHS 233 is suggested for those interested in Restaurant Management.

**FHS 248 is suggested for those interested in the areas of hospital dietetics.

**FHS 249 is suggested for those interested in the fields of child nutrition.

**FHS 210 is suggested for those interested in Hotel and Motel Sales.

NOTE: Students enrolling in this program who plan to transfer to a four-year institution should consult an advisor or counselor regarding transfer requirements and the transferability of these courses to the four-year institution of their choice.

FOOD AND HOSPITALITY SERVICE

El Centro only

(Certificate)

This certificate program prepares the student to function as a hospitality services worker. All credits earned in this program may be applied toward the Associate Degree in Food and Hospitality Service.

	CREDIT HOURS
SEMESTER I	
FHS 110 Principles of Food and Beverage Administration or	
FHS 112 Organization and Management or	
FHS 115 Principles of Hotel Administration	3
FHS 119 Food Service Equipment	3
FHS 120 Basic Food Preparation	3
FHS 124 Food Service Sanitation and Safety	3
MTH 130 Business Math	3
	15
SEMESTER II	
FHS 116 Supervision for Hospitality Services	3
FHS 122 Advanced Food Preparation	3
FHS 135 Nutrition and Menu Planning	3
FHS 138 Food Service Cost Control	3
FHS 233 Food Marketing or	
FHS 248 Advanced Nutrition and Dietetics or	
FHS 249 Child Nutrition and Dietetics or	
FHS 210 Hotel-Motel Sales Development	3
	15
Minimum Hours Required	30

GRAPHIC COMMUNICATIONS

Eastfield only

(Associate Degree)

The student's understanding of graphic processes is developed for employment in a commercial printing firm or publication facility such as a newspaper or magazine. Students also learn production and management concepts and techniques useful in the field of graphic communications including photography and journalism.

CREDIT HOURS

SEMESTER I

GA 120	Printing Fundamentals	3
GA 136	Beginning Copy Preparation	3
ENG 101	Composition I or	
COM 131	Applied Communications	3
JN 101	Introduction to Mass	
	Communications	3
OFC 172	Beginning Typing	3

15

SEMESTER II

GA 134	Basic Camera Operations	3
GA 140	Beginning Offset Printing	3
MTH 130	Business Mathematics or	
MTH 115	College Mathematics I	3
SC 101	Introduction to Speech	
	Communication	3
+ Elective	.....	3

15

SEMESTER III

GA 142	Basic Typesetting	3
GA 234	Intermediate Camera Operations	3
GA 236	Advanced Copy Preparation	3
GA 704	Cooperative Work Experience or	(4)
+ Elective	.....	3
PHO 110	Introduction to Photography and	
	Photo-Journalism	3

15-16

SEMESTER IV

GA 240	Advanced Offset Printing or	
GA 242	Intermediate Typesetting	3
GA 714	Cooperative Work Experience or	(4)
+ + Elective	.....	3
JN 102	News Gathering and Writing or	
PHO 111	Advanced Photography and Photo-	
	Journalism	3
PSY 101	Introduction to Psychology or	
PSY 131	Applied Psychology and Human	
	Relations	3
+ + Elective	.....	3

15-16

Minimum Hours Required 61

+ Electives—must be selected from the following:

CAD 232	Technical Illustrations	3
CIS 103	Introduction to Computer Information Systems	3
GA 204	Electronic Publishing	4
GA 206	Graphic Projects	3
GA 225	Special Topics	3
JN 103	News Gathering and Writing	3
PHO 111	Advanced Photography and Photo-Journalism	3
PHO 207	Photography for Publication	3

+ + Electives—must be selected from the following:

ACC 131	Bookkeeping I	3
BUS 105	Introduction to Business	3
MGT 136	Principles of Management	3
MGT 153	Small Business Management	3

NOTE: Students enrolling in this program who plan to transfer to a four-year institution should consult an advisor or counselor regarding transfer requirements and the transferability of these courses to the four-year institution of their choice.

GRAPHIC COMMUNICATIONS -- GRAPHIC ARTS

Eastfield only

(Certificate)

This certificate program provides the student with skill development opportunities in the field of graphic arts. Successful completion of this certificate program qualifies a person for employment in a commercial printing firm or in the printing division of a large company.

	CREDIT HOURS
SEMESTER I	
GA 120 Printing Fundamentals	3
GA 136 Beginning Copy Preparation	3
ENG 101 Composition I or	
COM 131 Applied Communications	3
JN 101 Introduction to Mass	
Communications	3
OFC 172 Beginning Typing	3
	15
SEMESTER II	
GA 134 Basic Camera Operations	3
GA 140 Beginning Offset Printing	3
MTH 130 Business Mathematics or	
MTH 115 College Mathematics I	3
SC 101 Introduction to Speech	
Communication	3
+ Elective	3
	15

Minimum Hours Required 30

+ Elective--must be selected from the following:

CAD 232 Technical Illustration	3
CIS 103 Introduction to Computer Information Systems ...	3
GA 204 Electronic Publishing	4
GA 206 Graphic Projects	3
GA 225 Special Topics	3
JN 103 News Gathering and Writing	3
PHO 111 Advanced Photography and Photo-Journalism ...	3

INTERIOR DESIGN

El Centro only

(First Professional Level Certificate in Interior Design)

(Associate Degree--Semesters I through IV)

The interior designer provides design solutions for environmental spaces of public structures and private residences. In the designer's presentation, the needs of the client are met by shaping the physical environment. A knowledge of construction and materials, both structural and decorative, is essential for the planning of aesthetic yet functional spaces "to enhance the quality of life and protect the health, safety and welfare of the public." A Professional Level Certificate program "is the first component of a sequence including formal education, entry level experience and satisfactory completion of a qualifying examination, the National Council for Interior Design Qualification (NCIDQ)." Upon completion of these three steps the individual is qualified to become a professional registered interior designer in the State of Texas.

This program is fully accredited by F.I.D.E.R. (Foundation for Interior Design Education Research), the source of the above quotations.

	CREDIT HOURS
FALL - SEMESTER I	
INT 164 Color Theory and Applications for Interior Designers	3
INT 171 Drafting for Interior Designers	3
ART 105 Survey of Art History	3
ART 165 Fundamental Design Studio I	4
ENG 101 Composition I	3
SC 101 Introduction to Speech Communication	3
	<u>19</u>
SPRING - SEMESTER II	
INT 166 Interior Design Studio II	4
INT 173 Construction Drawings for Interior Designers	3
INT 176 Perspective Drawing for Interior Designers	2
INT 191 History of Modern Design	3
ART 106 Survey of Art History	3
MTH 116 College Mathematics II	3
	<u>18</u>
SUMMER SESSION I	
HUM 101 Introduction to the Humanities or	
PHI 101 Introduction to Philosophy or	
Foreign Language (on approval)	3
	<u>3</u>

SUMMER SESSION II

HD 105 Basic Processes of Interpersonal Relationships or	
PSY 101 Introduction to Psychology or	
PSY 131 Applied Psychology and Human Relations	3
	<u>3</u>

FALL - SEMESTER III

INT 261 Interior Design Studio III	3
INT 276 Delineation Techniques for Interior Designers	3
INT 281 Textiles for Interior Design	3
INT 293 History of the Interior Arts	3
INT 245 Design Sketching	3
	<u>15</u>

SPRING - SEMESTER IV

INT 262 Interior Design Studio IV	3
INT 283 Materials for Interior Design	3
INT 284 Lighting Design	3
INT 294 Comparative Survey of Styles	3
Elective	3
	<u>15</u>

FALL - SEMESTER V

INT 363 Interior Design Studio V	3
INT 385 Professional Practice for Interior Designers	3
INT 395 Restoration and Preservation	3
INT 703 Cooperative Work Experience or	
Elective	3
	<u>12</u>

SPRING - SEMESTER VI

INT 364 Interior Design Studio VI	3
ARC 257 Computer Graphics	3
INT 702 Cooperative Work Experience	2
Art 114 Drawing I	3
	<u>11</u>

Minimum Hours Required For Associate Degree .. 73

Upon completion of the course work required for semesters five and six and an additional twenty-four credit hours of approved course work (as required by F.I.D.E.R.), the student will be awarded the First Professional Level Certificate in Interior Design.

NOTE: Students enrolling in this program who plan to transfer to a four-year institution should consult an advisor or counselor regarding transfer requirements and the transferability of these courses to the four-year institution of their choice. (Inverted degree, B.A.A.S., is offered at the University of North Texas.)

INTERNATIONAL BUSINESS AND TRADE

Richland only

(Associate Degree)

The International Business and Trade Program prepares students for entry-level employment in such positions as export-import specialists in the growing international trade community. Skills developed for the export and import of goods and services are presented in the context of the global economy and cross-cultural awareness. Emphasis is placed on the contribution of exports to the local, state, and national economies. Entrepreneurs or managers of firms with export potential may also benefit from international management studies.

CREDIT HOURS

SEMESTER I

IBT 275	Introduction to International Business and Trade	3
MGT 136	Principles of Management	3
MKT 206	Principles of Marketing	3
ECO 201	Principles of Economics I	3
ENG 101	Composition I	3
		15

SEMESTER II

IBT 276	International Marketing Management	3
MGT 237	Organizational Behavior	3
ECO 202	Principles of Economics II	3
BUS 234	Business Law	3
+ Elective	.....	3
MTH 111	Mathematics for Business and Economics I or	
MTH 130	Business Mathematics	3
		18

SEMESTER III

IBT 277	International Comparative Management	3
TRT 243	Export/Import Practices	3
ACC 201	Principles of Accounting I	3
CIS 103	Introduction to Computer Information Systems	3
*FR 101	Beginning French or	
SPA 101	Beginning Spanish	4
		16

SEMESTER IV

IBT 278	International Finance	3
IBT 279	International Business Law	3
ACC 202	Principles of Accounting II	3
*FR 102	Beginning French or	
SPA 102	Beginning Spanish	4
SC 101	Introduction to Speech Communication	3
+ + Elective	.....	3
		19

Minimum Hours Required 68

+ Electives—must be selected from the following:

ANT 101	Cultural Anthropology	3
GVT 211	Introduction to Comparative Politics	3
GPY 102	Economic Geography	3
GPY 103	Cultural Geography	3
HST 103	World Civilizations or	
HST 103	World Civilizations	3
PSY 101	Introduction to Psychology	3

+ + Electives—must be selected from the following:

BUS 143	Personal Finance	3
ECO 203	Economics of Global Issues	3
IBT 704	Cooperative Work Experience	4
MGT 153	Small Business Management	3
MGT 171	Introduction to Supervision	3
**MGT 212	Special Problems in Business	1
MGT 242	Human Resources Management	3
MGT 244	Problem Solving and Decision-Making	3
MKT 137	Principles of Retailing	3
MKT 230	Salesmanship	3
MKT 233	Advertising and Sales Promotion	3
Any 200-level language course including SPA 209 Language Practicum in Spanish or FR 209 Language Practicum in French, both of which provide business applications.		

*Other languages, such as Chinese, Japanese, or German may be substituted. 200-level language courses are recommended for students who have completed basic language courses.

**International topics may be offered through this special problems course.

NOTE: Students enrolling in this program who plan to transfer to a four-year institution should consult an advisor or counselor regarding transfer requirements and the transferability of these courses to the four-year institution of their choice.

INTERNATIONAL BUSINESS AND TRADE CERTIFICATE

Richland only

(Certificate)

	CREDIT HOURS
SEMESTER I	
IBT 275 Introduction to International Business and Trade	3
MGT136 Principles of Management	3
MKT 206 Principles of Marketing	3
BUS 234 Business Law	3
ECO 201 Principles of Economics I	3
TRT 243 Export/Import Practices	3
	<u>18</u>
SEMESTER II	
IBT 276 International Marketing Management	3
IBT 277 International Comparative Management	3
IBT 278 International Finance	3
IBT 279 International Business Law	3
MGT 237 Organizational Behavior	3
ECO 202 Principles of Economics II	3
	<u>18</u>
Minimum Hours Required	36

INTERPRETER TRAINING PROGRAM

Eastfield only

(Associate Degree)

This program is designed to educate individuals to work with the deaf people, agencies and educational institutions. Course work will provide skills to work as an interpreter for the community, a vocational communication specialist, educational interpreter, interpreter aide in the schools and an aide for multiply handicapped deaf children or adults.

CREDIT
HOURS

SEMESTER I

ITP 140	Introduction to Deafness	3
ITP 141	American Sign Language I	4
ITP 144	Psychosocial Aspects of Deafness	3
ITP 148	Receptive Fingerspelling	1
ENG 101	Composition I	3
		14

SEMESTER II

ITP 143	American Sign Language II	4
ITP 231	Interpreting: Ethics and Specifics	3
ITP 248	Rehabilitation of the Multiply Handicapped Deaf	3
ITP 702	Cooperative Work Experience	2
+ Elective		3
		15

SEMESTER III

ITP 240	American Sign Language III	4
ITP 247	Special Topics in Deafness	3
ITP 250	Interpreting: Sign to Voice	3
BIO 101	General Biology	4
SC 101	Introduction to Speech Communication	3
		17

SEMESTER IV

ITP 251	Education/Specialized Signs	4
ITP 253	Interpreting: Voice to Sign	3
ITP 260	Practicum	3
MTH 101	College Algebra or	
MTH 130	Business Mathematics	3
+ Elective		3
		16

Minimum Hours Required 62

+ Electives--must be selected from the following:

ART 104	Art Appreciation	3
HUM 101	Introduction to the Humanities	3
MUS 104	Music Appreciation	3
PHI 101	Introduction to Philosophy	3
THE 101	Introduction to the Theatre	3

NOTE: Students enrolling in this program who plan to transfer to a four-year institution should consult an advisor or counselor regarding transfer requirements and the transferability of these courses to the four-year institution of their choice.

INTERPRETER TRAINING PROGRAM -- SIGN LANGUAGE STUDIES

Eastfield only

(Certificate)

This certificate offers entry level skills toward the development of sign language competency.

CREDIT
HOURS

SEMESTER I

ITP 140	Introduction to Deafness	3
ITP 141	American Sign Language I	4
ITP 144	Psychosocial Aspects of Deafness	3
ITP 148	Receptive Fingerspelling	1
ENG 101	Composition I	3
		14

SEMESTER II

ITP 143	American Sign Language II	4
ITP 231	Interpreting: Ethics and Specifics	3
ITP 248	Rehabilitation of the Multiply Handicapped Deaf	3
ITP 702	Cooperative Work Experience	2
+ Elective		3-4
		15-16

Minimum Hours Required 29

+ + Elective--must be selected from the following:

ITP 247	Special Problems in Deafness	3
ITP 251	Education/Specialized Signs	4

INVASIVE CARDIOVASCULAR TECHNOLOGY

El Centro only

(Associate Degree)

The El Centro Invasive Cardiovascular Technology program is a two year associate degree program. The intensive didactic and clinical training program prepares the graduate for employment in the medical specialty of invasive cardiovascular technology as an invasive cardiovascular technologist.

Invasive Cardiovascular Technology students study the theory of diagnostic techniques used in diagnosis, treatment, and follow-up of cardiovascular disease in humans. The first year of the program concentrates on cardiovascular anatomy and physiology, medical electronics/instrumentation and application of clinical skills in cardiovascular techniques. The second year of the program enables the student to apply acquired cardiovascular skills in actual clinical situations in area hospital cardiovascular labs.

Invasive cardiovascular technologists work in cardiac catheterization laboratories. They assist the cardiologist in performing intracardiac pressure and electrical measurements, oximetry determination, angiocardiography, and measurement/calculation of cardiac function indices. The technologist assists in all phases of the cardiac catheterization including catheter insertion, operation of the electronic instruments, and calculation of the cardiac data used by the physician in confirming diagnosis and designing treatment for the cardiac patient.

Admission requirements include an orientation session, satisfactory scores on a pre-entrance examination and completion of all requirements for admissions as a full-time student to the College. Contact the Testing Center at El Centro College (746-2178) to sign up for the pre-entrance exam.

CREDIT
HOURS

PREREQUISITES TO PROGRAM ADMISSION:

BIO 120	Introduction to Human Anatomy And Physiology or	
BIO 221	Anatomy and Physiology I	4
MTH 101	College Algebra	3
CHM 115	Chemical Science	4
ENG 101	Composition I	3
		14

SEMESTER I

BIO 121	Introduction to Human Anatomy and Physiology or	
BIO 222	Anatomy and Physiology II	4
PHY 111	Introductory General Physics	4
ICV 101	Introduction to Cardiovascular Technology	2
ICV 110	Cardiovascular Physiology	3
ICV 112	Medical Instrumentation	3
		16

SEMESTER II

*Humanities Elective		3
SC 101	Introduction to Speech Communication	3
ICV 120	Cardiovascular Physiology II	3
ICV 122	Medical Instrumentation II	3
ICV 124	Cath Lab Fundamentals I	3
		15

SUMMER I (5 Weeks)

ICV 130	Cath Lab Fundamentals II	1
ICV 132	Introduction to Cath Lab	1
		2

SUMMER II (5 Weeks)

ICV 134	Cardiac Cath I	1
ICV 136	Cath Lab Clinical I	2
		3

SEMESTER III

PSY 101	Introduction to Psychology	3
ICV 210	Cardiac Cath II	3
ICV 212	Cath Lab Clinical II	5
		11

SEMESTER IV

+ Elective		3
ICV 220	Cardiac Cath III	3
ICV 222	Cath Lab Clinical III	5
		11

Minimum Hours Required 72

*Humanities electives must be selected from the following:

ART 104	Art Appreciation	3
English 200-Level Literature		
Foreign Language		
HUM 101	Introduction to the Humanities	3
MUS 104	Music Appreciation	3
PHI 101	Introduction to Philosophy	3
THE 101	Introduction to the Theatre	3

+ Elective must be 100 level or higher, chosen from Humanities, Behavioral or Social Sciences, or Business.

NOTE: Students enrolling in this program who plan to transfer to a four-year institution should consult an advisor or counselor regarding transfer requirements and the transferability of these courses to the four-year institution of their choice.

LEGAL ASSISTANT

El Centro only

(Associate Degree)

The Legal Assistant Program is an associate degree program designed to prepare the student to function as a technically qualified assistant to the lawyer. The program was developed at the request of and in conjunction with the Dallas Bar Association. The four semester curriculum consists of legal technology courses combined with liberal arts and business courses.

CREDIT HOURS

SEMESTER I

LA 131	Introduction to Legal Technology	3
LA 135	Texas and Federal Court Systems	3
LA 138	Introductory Legal Research and Drafting	3
ENG 101	Composition I	3
MTH 101	College Algebra or	
MTH 130	Business Mathematics	3

15

SEMESTER II

LA 133	Law of Real Property and Real Estate Transactions	3
LA 134	Principles of Family Law	3
LA 225	Business Organizations	3
SC 101	Introduction to Speech Communication	3
ACC 201	Principles of Accounting I	3

15

SEMESTER III

LA 227	Civil Litigation I	3
LA 231	Wills, Trusts and Probate Administration	3
LA 238	Legal Office Management	3
GVT 201	American Government	3
+ Elective		3-4
+ + Elective		3

18-19

SEMESTER IV

LA 240	Advanced Legal Research and Drafting	3
LA 232	Tort and Insurance Law and Claims Investigation	3
LA 234	Personal Property, Sales and Credit Transactions	3
+ Elective		3-4
+ + + Elective		3

15-16

Minimum Hours Required 63

+ Electives--6 hours must be selected from the following:

LA 203	Legal Assistant Special Topics	3
LA 248	Constitutional and Criminal Law	3
LA 251	Civil Litigation II	3
LA 253	Bankruptcy and Creditors' Rights	3
LA 703	Cooperative Work Experience	3
LA 704	Cooperative Work Experience	4
LA 713	Cooperative Work Experience	3
LA 714	Cooperative Work Experience	4

+ + Electives--3 hours must be selected from the following:

ENG 102	Composition II	3
HST 101	History of the United States	3
HUM 101	Introduction to the Humanities	3
PHI 101	Introduction to Philosophy	3

+ + + Electives--3 hours must be selected from the following:

ACC 202	Principles of Accounting II	3
CIS 103	Introduction to Computer Information Systems	3
OFC 172	Beginning Typewriting	3
PSY 101	Introduction to Psychology	3
SOC 101	Introduction to Sociology	3

NOTE: Students enrolling in this program who plan to transfer to a four-year institution should consult an advisor or counselor regarding transfer requirements and the transferability of these courses to the four-year institution of their choice.

MANAGEMENT CAREERS -- ADMINISTRATIVE MANAGEMENT OPTION

Offered at all seven campuses

(Associate Degree)

The Administrative Management Option is designed for students seeking a broad program of study in all phases of business practices. This option focuses not only at the core of management (principles of management, organizational behavior, and personnel administration) but also encompasses the critical areas of business operations (principles of marketing, accounting, and business law).

	CREDIT HOURS
SEMESTER I	
MGT 136 Principles of Management	3
BUS 105 Introduction to Business	3
ENG 101 Composition I	3
MTH 111 Mathematics for Business and Economics I or	
MTH 130 Business Mathematics	3
+ Elective	3
	<u>15</u>
SEMESTER II	
MKT 206 Principles of Marketing	3
ACC 201 Principles of Accounting I	3
ENG 102 Composition II	3
CIS 103 Introduction to Computer Information Systems or	
CIS 108 PC Software Applications	(4)
+ + Elective	3
	<u>15-16</u>
SEMESTER III	
ACC 202 Principles of Accounting II	3
BUS 234 Business Law	3
ECO 201 Principles of Economics I	3
PSY 131 Applied Psychology and Human Relations	3
SC 101 Introduction to Speech Communication	3
	<u>15</u>
SEMESTER IV	
MGT 242 Human Resources Management	3
MGT 237 Organizational Behavior	3
ECO 202 Principles of Economics II	3
OFC 231 Business Communications	3
+ + Elective	3
+ + + Elective	3
	<u>18</u>
Minimum Hours Required:	63

+ Elective--must be selected from the following:

ART 104	Art Appreciation	3
HUM 101	Introduction to the Humanities	3
ENG 201	British Literature	3
ENG 202	British Literature	3
ENG 203	World Literature	3
ENG 204	World Literature	3
ENG 205	American Literature	3
ENG 206	American Literature	3
MUS 104	Music Appreciation	3
PHI 101	Introduction to Philosophy	3
THE 101	Introduction to the Theatre	3
	Foreign Language	

+ + Electives--may be selected from the following:

MGT 153	Small Business Management	3
MGT 171	Introduction to Supervision	3
MGT 212	Special Problems in Business	1
MGT 704	Cooperative Work Experience	4
MKT 137	Principles of Retailing	3
MKT 230	Salesmanship	3
MKT 233	Advertising and Sales Promotion	3
OFC 160	Office Calculating Machines	3
OFC 172	Beginning Typing	3

+ + + Elective--must be selected from the following:

GVT 201	American Government	3
GVT 202	American Government	3
HST 101	History of the United States	3
HST 102	History of the United States	3
SOC 101	Introduction to Sociology	3
SOC 102	Social Problems	3
HD 105	Basic Processes of Interpersonal Relationships	3
HD 106	Personal and Social Growth	3
ANT 100	Introduction to Anthropology	3
PSY 101	Introduction to Psychology	3
PSY 103	Human Sexuality	3

*Students may substitute ACC 131 and ACC 132 for ACC 201. Only three hours may be applied to the required number of hours for granting the degree.

NOTE: Students enrolling in this program who plan to transfer to a four-year institution should consult an advisor or counselor regarding transfer requirements and the transferability of these courses to the four-year institution of their choice.

MANAGEMENT CAREERS -- MID-MANAGEMENT OPTION

Offered at all seven campuses

(Associate Degree)

The Mid-Management Program provides an opportunity for students to acquire knowledge in the management field and at the same time update and sharpen personal management skills. In addition to learning about supervision, personnel management, human relations psychology, problem-solving, decision-making, and other related business topics, students also participate in an on-the-job management training course with their present employers. These management training courses at work allow students to apply what is learned in the classroom environment and obtain the valuable practical experience necessary to become competent business managers. The Mid-Management Program allows students the opportunity to bridge the gap between theory and practice as professional managers.

CREDIT HOURS

SEMESTER I

MGT 136	Principles of Management	3
MGT 171	Introduction to Supervision	3
MGT 704	Cooperative Work Experience	4
BUS 105	Introduction to Business	3
ENG 101	Composition I	3
SC 101	Introduction to Speech Communication	3
		19

SEMESTER II

MGT 242	Human Resources Management	3
MGT 714	Cooperative Work Experience	4
CIS 103	Introduction to Computer Information Systems or	3
CIS 108	PC Software Applications	(4)
MTH 111	Mathematics for Business and Economics I or	
MTH 130	Business Mathematics	3
ENG 102	Composition II	3
		16-17

SEMESTER III

MGT 237	Organizational Behavior	3
MGT 804	Cooperative Work Experience	4
ACC 201	Principles of Accounting I*	3
ECO 201	Principles of Economics I or	
ECO 105	Economics of Contemporary Social Issues	3
		13

SEMESTER IV

MGT 244	Problem Solving and Decision Making	3
MGT 814	Cooperative Work Experience	4
+ Elective		3
+ + Elective		3
		13

Minimum Hours Required: 61

+ Elective--must be selected from the following:

ART 104	Art Appreciation	3
HUM 101	Introduction to the Humanities	3
ENG 201	British Literature	3
ENG 202	British Literature	3
ENG 203	World Literature	3
ENG 204	World Literature	3
ENG 205	American Literature	3
ENG 206	American Literature	3
MUS 104	Music Appreciation	3
PHI 101	Introduction to Philosophy	3
THE 101	Introduction to the Theatre	3
Foreign Language		

+ + Elective--must be selected from the following:

ANT 100	Introduction to Anthropology	3
AST 101	Descriptive Astronomy	3
BIO 115	Biological Science	4
CHM 115	Chemical Science	4
GEO 101	Physical Geology	4
GVT 201	American Government	3
HST 101	History of the United States	3
HD 105	Basic Processes of Interpersonal Relationships	3
PSC 118	Physical Science	4
PHY 117	Concepts in Physics	4
PSY 101	Introduction to Psychology	3
SOC 101	Introduction to Sociology	3

*Students may substitute ACC 131 and ACC 132 for ACC 201. Only three hours may be applied to the required number of hours for granting the degree.

NOTE: Students enrolling in this program who plan to transfer to a four-year institution should consult an advisor or counselor regarding transfer requirements and the transferability of these courses to the four-year institution of their choice.

MANAGEMENT CAREERS – MID-MANAGEMENT CERTIFICATE OF COMPLETION

Offered at all seven colleges

(Certificate of Completion)

The Mid-Management program is designed to develop the fundamental skills, knowledge, attitudes and experiences which enable men and women to function in leadership and decision-making positions as managers. Students combine management classes and on-the-job management training with their present employers. All of the courses for this certificate are applicable to the Mid-Management associate degree option.

	CREDIT HOURS
SEMESTER I	
MGT 171 Introduction to Supervision	3
MGT 704 Cooperative Work Experience	4
	<u>7</u>
SEMESTER II	
MGT 242 Human Resources Management	3
MGT 714 Cooperative Work Experience	4
	<u>7</u>
SEMESTER III	
MGT 237 Organizational Behavior	3
MGT 804 Cooperative Work Experience	4
	<u>7</u>
SEMESTER IV	
MGT 244 Problem Solving and Decision Making .	3
MGT 814 Cooperative Work Experience	4
	<u>7</u>
Minimum Hours Required	28

MANAGEMENT CAREERS -- POSTAL SERVICE ADMINISTRATION OPTION

Mountain View only

(Associate Degree)

The Postal Service Administration curriculum is designed as a two-year program that leads to an Associate Degree in Applied Sciences. The program aids the student in developing postal skills and provides the student with an insight into multi-level functions employed throughout the postal service system. Emphasis is directed to the areas of methodology, technology, management, and leadership concepts reflected in modern day technology as applied to public service related agencies.

	CREDIT HOURS
SEMESTER I	
PSA 110 Introduction to Postal Service	3
ENG 101 Composition I	3
SC 101 Introduction to Speech Communication	3
MTH 111 Mathematics for Business and Economics or	
MTH 130 Business Mathematics	3
MGT 136 Principles of Management	3
	15
SEMESTER II	
PSA 122 Customer Service	3
ENG 102 Composition II	3
PSY 101 Introduction to Psychology	3
MGT 171 Introduction to Supervision	3
+ Elective	3
	15
SEMESTER III	
PSA 120 Mail Processing	3
CIS 103 Introduction to Computer Information Systems or	3
CIS 108 PC Software Applications	(4)
MGT 237 Organizational Behavior	3
SOC 101 Introduction to Sociology	3
MKT 206 Principles of Marketing or	
MKT 233 Advertising and Sales Promotion	3
	15
SEMESTER IV	
PSA 216 Postal Management	3
MGT 242 Human Resources Management	3
GVT 201 American Government	3
+ + Elective	6
	15
Minimum Hours Required	60

+ Elective—must be selected from the following:

ART 104	Art Appreciation	3
	Foreign Language	3
HUM 101	Introduction to the Humanities	3
MUS 104	Music Appreciation	3
PHI 101	Introduction to Philosophy	3
THE 101	Introduction to the Theatre	3

+ + Electives—must be selected from the following:

ACC 201	Principles of Accounting I	3
BUS 234	Business Law	3
CIS 218	Spreadsheet Applications	3
ECO 201	Principles of Economics I	3
GVT 202	American Government	3
HD 105	Basic Processes of Interpersonal Relationships	3
HST 101	History of the United States	3
HST 102	History of the United States	3

NOTE: Students enrolling in this program who plan to transfer to a four-year institution should consult an advisor or counselor regarding transfer requirements and the transferability of these courses to the four-year institution of their choice.

MANAGEMENT CAREERS -- SALES, MARKETING, AND RETAIL MANAGEMENT OPTION

Brookhaven and Cedar Valley only

(Associate Degree)

The Sales, Marketing, and Retail Management Option is designed to prepare students for career opportunities in retail management, sales, or marketing. Students specialize in courses in retail management, sales, and marketing. Students also have the opportunity to work in sales, marketing, or retail areas through a sponsoring business firm.

	CREDIT HOURS
SEMESTER I	
MGT 136 Principles of Management	3
MKT 137 Principles of Retailing	3
BUS 105 Introduction to Business	3
ENG 101 Composition I	3
+ Elective	3
	15
SEMESTER II	
MKT 206 Principles of Marketing	3
MKT 230 Salesmanship	3
ENG 102 Composition II	3
CIS 103 Introduction to Computer Information Systems or	3
CIS 108 PC Software Applications	(4)
MTH 111 Mathematics for Business and Economics I or	
MTH 130 Business Mathematics	3
SC 101 Introduction to Speech Communication	3
	18-19
SEMESTER III	
MKT 233 Advertising and Sales Promotion	3
ACC 201 Principles of Accounting I*	3
ECO 201 Principles of Economics I	3
PSY 131 Applied Psychology and Human Relations	3
MKT 703 Cooperative Work Experience	3
	15
SEMESTER IV	
ECO 202 Principles of Economics II	3
MGT 237 Organizational Behavior	3
MGT 242 Human Resources Management	3
MKT 713 Cooperative Work Experience	3
+ + Elective	3
	15
Minimum Hours Required:	63

+ Elective--may be selected from the following:

BUS 234	Business Law	3
MGT 153	Small Business Management	3
MGT 212	Special Problems in Business	1
OFC 160	Office Calculating Machines	3
OFC 172	Beginning Typing	3

+ + Electives--must be selected from the following:

ART 104	Art Appreciation	3
HUM 101	Introduction to the Humanities	3
MUS 104	Music Appreciation	3
PHI 101	Introduction to Philosophy	3
THE 101	Introduction to Theatre	3

*Students may substitute ACC 131 and ACC 132 for ACC 201. Only three hours may be applied to the required number of hours for granting the degree.

NOTE: Students enrolling in this program who plan to transfer to a four-year institution should consult an advisor or counselor regarding transfer requirements and the transferability of these courses to the four-year institution of their choice.

MANAGEMENT CAREERS -- SMALL BUSINESS MANAGEMENT OPTION

Cedar Valley, Mountain View, and Richland only

(Associate Degree)

The Small Business Management Option is designed for students who plan to become owners or managers of a small business. The practical aspects of planning, locating resources, financing, starting, and operating a business are emphasized. Owners and managers of small businesses may also benefit from the program.

	CREDIT HOURS
SEMESTER I	
MGT 136 Principles of Management	3
MGT 153 Small Business Management	3
BUS 105 Introduction to Business	3
BUS 143 Personal Finance	3
ENG 101 Composition I	3
MTH 111 Mathematics for Business and Economics I or	
MTH 130 Business Mathematics	3
	18
SEMESTER II	
MKT 206 Principles of Marketing	3
ACC 201 Principles of Accounting I	3
CIS 103 Introduction to Computer Information Systems or	3
CIS 108 PC Software Applications	(4)
SC 101 Introduction to Speech Communication	3
+ + Elective	3
+ + + Elective	3-4
	18-20
SEMESTER III	
MGT 211 Small Business Operations	3
MGT 237 Organizational Behavior	3
ECO 201 Principles of Economics I	3
ACC 202 Principles of Accounting II	3
+ Elective	3
	15
SEMESTER IV	
MGT 210 Small Business Capitalization, Acquisition and Finance or	
ACC 205 Business Finance	3
BUS 234 Business Law	3
ECO 202 Principles of Economics II	3
+ Electives	6
	15
Minimum Hours Required	66

+ Three electives must be selected from the following Management-related electives:

ACC 204	Managerial Accounting	3
ACC 238	Cost Accounting	3
ACC 239	Income Tax Accounting	3
IBT 275	Introduction to International Business and Trade	3
IBT 276	International Marketing Management	3
IBT 277	International Comparative Management	3
IBT 278	International Finance	3
IBT 279	International Business Law	3
MGT 160	Principles of Purchasing	3
MGT 171	Introduction to Supervision	3
MGT 212	Special Problems in Business	1
MGT 242	Human Resource Management	3
MKT 137	Principles of Retailing	3
MKT 230	Salesmanship	3
MKT 233	Advertising and Sales Promotion	3
MKT 245	Sales Management	3
MKT 246	Marketing and Management Cases	3
OFC 160	Office Machines	3
OFC 172	Beginning Typing	3
OFC 231	Business Communications	3
TRT 243	Export/Import Practices	3

+ + Elective--must be selected from the following:

ART 104	Art Appreciation	3
HUM 101	Introduction to the Humanities	3
MUS 104	Music Appreciation	3
PHI 101	Introduction to Philosophy	3
THE 101	Introduction to the Theatre	3
Foreign Language		

+ + + Electives--must be selected from the following:

ANT 100	Introduction to Anthropology	3
GVT 201	American Government	3
GVT 202	American Government	3
HST 101	History of the United States	3
HST 102	History of the United States	3
HD 105	Basic Processes of Interpersonal Relationships	3
HD 106	Personal and Social Growth	3
PSY 101	Introduction to Psychology	3
PSY 103	Human Sexuality	3
SOC 101	Introduction to Sociology	3
SOC 102	Social Problems	3

NOTE: Students enrolling in this program who plan to transfer to a four-year institution should consult an advisor or counselor regarding transfer requirements and the transferability of these courses to the four-year institution of their choice.

MANAGEMENT CAREERS -- SMALL BUSINESS MANAGEMENT

Richland only

(Certificate)

CREDIT HOURS

SEMESTER I

MGT 153	Small Business Management	3
ACC 201	Principles of Accounting	3
BUS 105	Introduction to Business	3
ENG 101	Composition I or	
OFC 231	Business Communications	3
BUS 143	Personal Finance	3

15

SEMESTER II

MGT 136	Principles of Management	3
MGT 210	Small Business Capitalization, Acquisition and Finance	3
MGT 211	Small Business Operations	3
MKT 206	Principles of Marketing	3
CIS 103	Introduction to Computer Information Systems or	3
CIS 108	PC Software Applications	(4)
+ Elective	.....	3

18-19

Minimum Hours Required 33

+ One elective must be selected from the following Management-related electives:

IBT 275	Introduction to International Business and Trade ..	3
MGT 237	Organizational Behavior	3
MGT 242	Human Resource Management	3
MKT 230	Salesmanship	3
MKT 137	Principles of Retailing	3
MKT 233	Advertising and Sales Promotion	3
MKT 246	Marketing and Management Cases	3
BUS 234	Business Law	3
ACC 202	Principles of Accounting II	3
ECO 201	Principles of Economics	3
OFC 231	Business Communications	3
MTH 130	Business Mathematics	3

NOTES

MEDICAL LABORATORY TECHNOLOGY

El Centro only

(Associate Degree)

The Medical Laboratory Technology program prepares the student to perform tests and related duties in a medical laboratory. The program is a balanced curriculum of science, liberal arts, and technical courses including didactic and clinical education.

Admission requirements include an orientation session, satisfactory scores on a pre-entrance examination and completion of all requirements for admission as a full-time student to the college. Contact the Testing Center at El Centro College (746-2178) to sign up for the orientation and pre-entrance exam.

Upon completion of the program, the student is awarded an Associate Degree in Applied Sciences.

	CREDIT HOURS
SEMESTER I - FALL	
BIO 221 Anatomy and Physiology	4
CHM 101 General Chemistry	4
MLT 133 Hematology	4
MLT 130 Introduction Seminar	1
MLT 134 Instrumentation	2
	<u>15</u>
SEMESTER II - SPRING	
BIO 222 Anatomy and Physiology	4
CHM 102 General Chemistry	4
ENG 101 Composition I	3
MLT 136 Immunology/Serology	3
MLT 137 Immunohematology	3
	<u>17</u>
SUMMER SESSION (12 weeks)	
MLT 141 Clinical Practice I	4
	<u>4</u>
SEMESTER III - FALL	
MTH 101 College Algebra*	3
CHM 203 Quantitative Analysis or	
CHM 201 Organic Chemistry	4
MLT 229 Medical Microbiology I	4
MLT 225 Urinalysis & Body Fluids	3
	<u>14</u>
SEMESTER IV - SPRING	
PSY 101 Introduction to Psychology or	
HD 105 Basic Processes of Interpersonal	
Skills	3
SC 101 Introduction to Speech	
Communication	3
MLT 231 Clinical Chemistry	4
MLT 236 Medical Microbiology II	4
CIS 103 Introduction to Computer Information	
Systems	3
	<u>17</u>

SUMMER SESSION (12 weeks)	
MLT 241 Clinical Practice II	4
	<u>4</u>

Minimum Hours Required 71

*Students without two years of high school Algebra will take Mathematics 093 before Mathematics 101.

NOTE: MLT designated courses available daytime only, other courses available at night.

NOTE: Students enrolling in this program who plan to transfer to a four-year institution should consult an advisor or counselor regarding transfer requirements and the transferability of these courses to the four-year institution of their choice.

MEDICAL TRANSCRIPTION

El Centro only

(Certificate)

The nine-month certificate program in Medical Transcription prepares the student to function as a medical typist or medical transcriptionist with a thorough knowledge of medical terminology, advanced typing, word processing skills, and work experience. Proper form, editing abilities, and legal implications are stressed. Entry requirement to this program is a typing skill of 50 words per minute. Job opportunities are available in medical records, pathology and radiology departments of hospitals and clinics; physician's offices; the health insurance industry; public and private health foundations and institutions; medical schools; and research centers. Cooperative work experience is a part of this program.

Admission requirements include an orientation session, satisfactory scores on the reading assessment test and typing test and meeting all requirements for admission for a full-time student. Call 324-7920 extension 2282 and leave your name and daytime phone number for orientation information.

		CREDIT HOURS
SEMESTER I		
BIO 123	Applied Anatomy and Physiology	4
ENG 101	Composition I	3
MTR 131	Medical Terminology	4
MTR 133	Fundamentals of Medical Transcription	3
MTR 135	Disease Processes I	2
MTR 137	Introduction to Medical Word Processing	2
		18
SEMESTER II		
ENG 102	Composition II	3
MTR 141	Medical Transcription	4
MTR 145	Disease Processes II	4
MTR 714	Cooperative Work Experience	4
		15
Minimum Hours Required		33

A grade of "C" or better is required in all courses for certificate completion.

MORTGAGE BANKING

North Lake College Only

(Associate)

This program is designed to develop the skills and knowledge necessary so that a graduate may advance in career paths appropriate to that person's own particular interests and abilities in the field of mortgage banking. In addition to the specific technical skills and knowledge required to originate, process and manage mortgage loans, the graduate will have covered skills in other areas such as real estate, planning and organization, problem solving and decision making, communication, accounting and business.

CREDIT HOURS

SEMESTER I

RE 130	Real Estate Principles	3
RE 131	Real Estate Finance	3
BUS 105	Introduction to Business	3
ENG 101	Composition I	3
MTH 130	Business Mathematics	3
		15

SEMESTER II

CIS 103	Introduction to Computer Information Systems	3
MB 101	Loan Origination	3
SC 101	Introduction to Speech Communication	3
ACC 201	Principles of Accounting I	3
+ Elective	.....	3
		15

SEMESTER III

MB 102	Loan Underwriting	3
MB 103	Loan Closing	3
ECO 201	Principles of Economics I	3
MB 704	Cooperative Work Experience	4
+ + Elective	.....	3
		16

SEMESTER IV

MB 104	Loan Quality Control	1
MB 205	Loan Servicing	3
MB 206	Secondary Market	3
MB 207	Investor Accounting	3
GVT 201	American Government	3
+ + Elective	.....	3
		16

Minimum Hours Required 62

+ Elective -- must be selected from the following:

ART 104	Art Appreciation	3
ENG 102	Composition II	3
ENG 201	British Literature	3
ENG 202	British Literature	3
ENG 203	World Literature	3
ENG 204	World Literature	3
ENG 205	American Literature	3
ENG 206	American Literature	3
ENG 210	Technical Writing	3
HST 101	History of the United States	3
HST 102	History of the United States	3
HUM 101	Introduction to the Humanities	3
MUS 104	Music Appreciation	3
PHI 101	Introduction to Philosophy	3
THE 101	Introduction to the Theatre	3

+ + Elective -- must be selected from the following:

ACC 202	Principles of Accounting II	3
ECO 202	Principles of Economics II	3
MB 714	Cooperative Work Experience	4
SC 105	Fundamentals of Public Speaking	3

NOTE: Students enrolling in this program who plan to transfer to a four-year institution should consult an advisor or counselor regarding transfer requirements and the transferability of these courses to the four-year institution of their choice.

MOTORCYCLE MECHANICS

Cedar Valley only

(Certificate)

This program is designed to train students to meet entry level requirements in the field of motorcycle mechanics. This will include diagnosis, repair, and maintenance of foreign and domestic motorcycles. Included in this program is the study of carburetion, ignition, and electrical systems, engine overhaul and tune-up, and motorcycle chassis. Throughout the entire program an emphasis is placed on the latest factory recommended techniques.

		CREDIT HOURS
SEMESTER I		
MM 135	Motorcycle Tune-up	4
MM 134	Motorcycle Service Principles	4
MM 136	Motorcycle Two Stroke Engine/ Transmission	4
		12
SEMESTER II		
MM 137	Motorcycle Four Stroke Engine/ Transmission	4
MM 138	Motorcycle Electrical Systems	4
MM 139	Motorcycle Chassis and Drive Systems	4
		12
SUMMER SESSION		
MM 703	Cooperative Work Experience	3
		3
Minimum Hours Required		27

OFFICE TECHNOLOGY

Offered at all seven campuses

(Associate)

The Office Technology freshman student is provided a core study related to working in an office environment. After completing this core, the sophomore student will begin the specialized program tracks of Administrative Assistant or Legal Secretary.

	CREDIT HOURS
CORE CURRICULUM	

(For all first year students in Office Careers)

SEMESTER I

ENG 101	Composition I	3
MTH 130	Business Mathematics	3
CIS 103	Introduction to Computer Information Systems	3
OFC 160	Office Calculating Machines	3
OFC 172	Beginning Typing*	3
BUS 105	Introduction to Business	3
		<u>18</u>

SEMESTER II

ENG 102	Composition II	3
OFC 150	Automated Filing Procedures	3
OFC 162	Office Procedures	3
OFC 173	Intermediate Typing*	3
ACC 131	Bookkeeping I or	
ACC 201	Principles of Accounting	3
OFC 179	Office Information Systems Concepts**#	2
OFC 182	Introduction to Word Processing**#	1
		<u>18</u>

Minimum Hours Required 36

* Students may be placed in typing courses based on proficiency level determined by previous training, experience and/or placement tests. If a student places out, any OFC course may be taken to supplement the minimum hours required.

**NOTE: OFC 145 equivalent to 143 and 144
OFC 190 equivalent to 179, 182 and 185

#Richland students must take OFC 190.

NOTE: Students enrolling in this program who plan to transfer to a four-year institution should consult an advisor or counselor regarding transfer requirements and the transferability of these courses to the four-year institution of their choice.

OFFICE TECHNOLOGY -- ADMINISTRATIVE ASSISTANT OPTION

Offered at all seven campuses

(Associate Degree)

The primary objective of the Administrative Assistant Option to the Office Technology program is to prepare students for positions as assistants to administrators within public or private firms and agencies. Emphasis in this program is on the development of organizational and management skills in addition to basic office skills.

	CREDIT HOURS

SEMESTERS I and II

Core Curriculum	36
	<u>36</u>

SEMESTER III

OFC 231	Business Communications	3
SC 101	Introduction to Speech Communication	3
PSY 131	Applied Psychology and Human Relations or	
HD 105	Basic Processes of Interpersonal Relationships	3
OFC 185	Basic Machine Transcription**	1
OFC 282	Word Processing Applications	1
OFC 273	Advanced Typing Applications*	2
OFC 159	Beginning Shorthand or	
OFC 103	Speedwriting Theory	4
		<u>17</u>

SEMESTER IV

HUM 101	Introduction to the Humanities	3
OFC 283	Specialized Software I	1
MGT 136	Principles of Management or	
MGT 237	Organizational Behavior	3
OFC 166	Intermediate Shorthand or	
OFC 106	Speedwriting Dictation and Transcription	4
OFC 703	Cooperative Work Experience or	
OFC 704	Cooperative Work Experience	3-4
		<u>14-15</u>

Minimum Hours Required: 67

*Students may be placed in typing courses based on proficiency level determined by previous training, experience and/or placement tests. If a student places out, any OFC course may be taken to supplement the minimum hours required.

**NOTE: OFC 190 Equivalent to 179, 182 and 185

NOTE: Students enrolling in this program who plan to transfer to a four-year institution should consult an advisor or counselor regarding transfer requirements and the transferability of these courses to the four-year institution of their choice.

OFFICE TECHNOLOGY -- LEGAL SECRETARY OPTION

Offered at all seven campuses

(Associate Degree)

The primary objective of this option is to prepare students to become competent legal secretaries, capable of performing office and clerical duties within public and private firms and agencies. Students enrolled in the program will have an opportunity to secure intensive training in basic skills. An Associate in Applied Sciences Degree is awarded for successful completion.

	CREDIT HOURS
SEMESTERS I and II	
Core Curriculum	36
	<u>36</u>
SEMESTER III	
OFC 231 Business Communications	3
SC 101 Introduction to Speech Communication	3
PSY 131 Applied Psychology and Human Relations or	
HD 105 Basic Processes of Interpersonal Relationships	3
OFC 185 Basic Machine Transcription**	1
OFC 282 Word Processing Applications	1
OFC 273 Advanced Typing Applications*	2
HUM 101 Introduction to the Humanities	3
	<u>16</u>
SEMESTER IV	
BUS 234 Business Law	3
OFC 167 Legal Terminology and Transcription ...	3
OFC 274 Legal Secretarial Procedures	3
OFC 285 Applied Machine Transcription	1
OFC 703 Cooperative Work Experience or (3)	
OFC 704 Cooperative Work Experience	4
	<u>13-14</u>

Minimum Hours Required: 65

*Students may be placed in typing courses based on proficiency level determined by previous training, experience, and/or placement tests. If a student places out, any OFC course may be taken to supplement the minimum hours required.

**NOTE: OFC 190 Equivalent to 179, 182 and 185

NOTE: Students enrolling in this program who plan to transfer to a four-year institution should consult an advisor or counselor regarding transfer requirements and the transferability of these courses to the four-year institution of their choice.

OFFICE TECHNOLOGY -- GENERAL OFFICE

Offered at all seven campuses

(Certificate)

The General Office Certificate Program with a clerical emphasis is designed to provide the student with a basic working knowledge of office procedures.

	CREDIT HOURS
SEMESTER I	
ENG 101 Composition I	3
MTH 130 Business Mathematics	3
OFC 160 Office Calculating Machines	3
OFC 172 Beginning Typing*	3
BUS 105 Introduction to Business	3
CIS 103 Introduction to Computer Information Systems	3
	<u>18</u>
SEMESTER II	
OFC 162 Office Procedures	3
OFC 173 Intermediate Typing*	3
OFC 190 Principles of Word Processing**	4
OFC 231 Business Communications	3
ACC 131 Bookkeeping I or	
ACC 201 Principles of Accounting	3
	<u>16</u>

Minimum Hours Required: 34

*Students may be placed in typing courses based on proficiency level determined by previous training, experience and/or placement tests. If students place out, any OFC course may be taken to supplement the minimum hours required.

**NOTE: OFC 190 equivalent to 179, 182 and 185

OFFICE INFORMATION SYSTEMS SPECIALIST

Offered at all seven campuses

(Associate Degree)

This program introduces the skills for operators, supervisors, and managers in automated office environments. Office Information Systems involves the use of automated equipment and techniques that include speed gathering, processing, storing, and distributing printed materials.

This program develops the skills to work with a group of principals as a part of a team under the direction of an administrative support supervisor/information systems manager. The specialist handles transcription and manipulation of data using a variety of software applications and provides special secretarial services.

	CREDIT HOURS
SEMESTER I	
ENG 101 Composition I	3
MTH 130 Business Mathematics	3
OFC 160 Office Calculating Machines**	3
OFC 173 Intermediate Typing*	3
OFC 179 Office Information Systems Concepts**#	2
OFC 182 Introduction to Word Processing***#	1
	15
SEMESTER II	
ENG 102 Composition II	3
OFC 162 Office Procedures	3
OFC 185 Basic Machine Transcription**#	1
OFC 273 Advanced Typing Applications*	2
OFC 282 Word Processing Applications***	1
CIS 103 Introduction to Computer Information Systems	3
ACC 131 Bookkeeping I or	
ACC 201 Principles of Accounting	3
	16
SEMESTER III	
SC 101 Introduction to Speech Communication	3
PSY 131 Applied Psychology and Human Relations or	
HD 105 Basic Processes of Interpersonal Relationships	3
OFC 150 Automated Filing Procedures	3
OFC 231 Business Communications	3
OFC 283 Specialized Software I*** or	
OFC 284 Specialized Software II***	1
OFC 285 Applied Machine Transcription	1
+ Elective	3
	17

SEMESTER IV

BUS 237	Organizational Behavior or	
MGT 136	Principles of Management	3
OFC 703	Cooperative Work Experience or	
OFC 704	Cooperative Work Experience or	
Elective(s)		3-4
+ Electives		3
+ + Electives		3
		12-13

Minimum Hours Required: 60

+ Electives—must be selected from the following:

OFC 182	Introduction to Word Processing***	1
OFC 282	Word Processing Applications***	1
OFC 283	Specialized Software I or	
OFC 284	Specialized Software II***	1

+ + Electives—must be selected from the following:

BUS 105	Introduction to Business	3
BUS 234	Business Law	3
MGT 136	Principles of Management	3

*Students may be placed in typing courses based on proficiency level determined by previous training, experience, and/or placement tests.

**Note: OFC 145 equivalent to 143 and 144
OFC 190 Equivalent to 179, 182 and 185

***Must be repeated for credit two additional times using different emphasis/equipment/software.

#Richland students must take OFC 190.

NOTE: Students enrolling in this program who plan to transfer to a four-year institution should consult an advisor or counselor regarding transfer requirements and the transferability of these courses to the four-year institution of their choice.

ORNAMENTAL HORTICULTURE TECHNOLOGY -- GREENHOUSE FLORIST OPTION

Richland only

(Associate Degree)

This option prepares a student to enter the florist industry. The program places emphasis on those skills required for success in wholesale greenhouse flower production, retail floral design and sales, and retail greenhouse florist production and sales. Upon graduation, a student is qualified to enter a wide number of positions in crop production, sales and distribution, floral design and flower shop management.

	CREDIT HOURS
SEMESTER I	
HLN 131 Horticulture Science	4
HLN 132 Landscape Trees	2
HLN 141 Floral Design	4
BIO 110 Introductory Botany or	
BIO 115 Biological Science	4
ENG 101* Composition I or	
COM 131 Applied Communications	3
	<u>17</u>
SEMESTER II	
HLN 133 Landscape Shrubs, Vines and Ground	
Cover	2
HLN 140 Herbaceous and Exotic Plants	3
ART 110 Basic Design I	3
BUS 105 Introduction to Business or	
MGT 153 Small Business Management	3
CIS 108 PC Software Applications	4
MTH 111* Mathematics for Business and	
Economics I or	
MTH 130 Business Mathematics	3
	<u>18</u>
SEMESTER III	
HLN 134 Interior Plant Identification	2
HLN 227 Greenhouse Horticulture	4
HLN 252 Flower Shop Management	3
MKT 206 Principles of Marketing or	
MKT 137 Principles of Retailing	3
SC 101 Introduction to Speech	
Communication	3
+ Elective	3
	<u>18</u>

SEMESTER IV

HLN 249 Foliage Plants and Interiorscaping	3
HLN 248 Advanced Floral Design	3
HLN 246 Problems and Practices in Industry or	
HLN 703 Cooperative Work Experience	3
ACC 201* Principles of Accounting I or	
ACC 131 Bookkeeping I	3
CHM 101* General Chemistry or	
CHM 115 Chemical Science or	
PSC 118 Physical Science	4
	<u>16</u>

Minimum Hours Required 69

+ Electives--must be selected from the following:

HLN 145 Landscape Development I	3
HLN 235 Propagation of Woody Ornamental	
Plants	2
BUS 234 Business Law	3
ECO 201 Principles of Economics	3
MGT 160 Principles of Purchasing	3
MGT 210 Small Business Capitalization,	
Acquisition and Finance	3
MGT 211 Small Business Operations	3
SPA 101 Beginning Spanish	4

*Indicates the preferred class in transferring to four-year institutions.

NOTE: Students enrolling in this program who plan to transfer to a four-year institution should consult an advisor or counselor regarding transfer requirements and the transferability of these courses to the four-year institution of their choice.

ORNAMENTAL HORTICULTURE -- INTERIORESCAPE OPTION

Richland only

(Associate Degree)

CREDIT
HOURS

SEMESTER I

HLN 131	Horticulture Science	4
HLN 132	Landscape Trees	2
HLN 141	Floral Design	4
HLN 145	Landscape Development I	3
HLN 146	Fundamentals of Landscape Planning	3
BIO 110	Introductory Botany or	4
BIO 115	Biological Science	(4)
		20

SEMESTER II

HLN 133	Landscape Shrubs, Vines and Ground Cover	2
HLN 140	Herbaceous and Exotic Plants	3
HLN 147	Landscape Development II	3
ENG 101*	Composition I or	3
COM 131	Applied Communications	(3)
ACC 201*	Principles of Accounting I or	3
ACC 131	Bookkeeping I	(3)
SC 101	Introduction to Speech Communication	3
		17

SEMESTER III

HLN 134	Interior Plant Identification	2
HLN 227	Greenhouse Horticulture	4
HLN 231	Landscape Design	4
MTH 111*	Mathematics for Business and Economics I or	3
MTH 130	Business Mathematics	(3)
CHM 101*	General Chemistry or	4
CHM 115	Chemical Science or	(4)
PSC 118	Physical Sciences	(4)
		17

SEMESTER IV

HLN 238	Landscape Management	3
HLN 703	Cooperative Work Experience or	3
HLN 246	Problems and Practices in Industry	(3)
HLN 249	Foliage Plants and Interiorscaping	3
CIS 108	PC Software Applications	4
+ Elective		3
		16

Minimum Hours Required 70

*Indicates the preferred class in transferring to 4-year institutions.

+ Elective -- must be selected from the following:

BUS 105	Introduction to Business	3
MGT 153	Small Business Management	3
PSY 131	Applied Psychology & Human Relations	3
HD 105	Basic Processes of Interpersonal Relationships	3

159

ORNAMENTAL HORTICULTURE -- INTERIORESCAPE

Richland only

(Certificate)

CREDIT
HOURS

SEMESTER I

HLN 131	Horticulture Science	4
HLN 134	Interior Plant Identification	2
HLN 141	Floral Design	4
HLN 145	Landscape Development I	3
HLN 146	Fundamentals of Landscape Planning	3
MTH 111*	Mathematics for Business and Economics I or	3
MTH 130	Business Mathematics	(3)
		19

SEMESTER II

HLN 140	Herbaceous and Exotic Plants	3
HLN 147	Landscape Development II	3
HLN 249	Foliage Plants and Interiorscaping	3
HLN 703	Cooperative Work Experience	3
+ Elective		3
		15

Minimum Hours Required 34

*Indicates the preferred class in transferring to 4-year institutions.

+ Elective -- must be selected from the following:

BUS 105	Introduction to Business	3
MGT 153	Small Business Management	3
PSY 131	Applied Psychology & Human Relations	3
HD 105	Basic Processes of Interpersonal Relationships	3

NOTE: Students enrolling in this program who plan to transfer to a four-year institution should consult an advisor or counselor regarding transfer requirements and the transferability of these courses to the four-year institution of their choice.

ORNAMENTAL HORTICULTURE TECHNOLOGY -- LANDSCAPE MANAGEMENT OPTION

Richland only

(Associate Degree)

This option prepares the student to enter the landscape contracting and the landscape installation and maintenance businesses. The student expands his preparation to meet his own specific goals through directing two semesters of cooperative work experience toward areas in which he desires greater preparation. Landscape management is the fastest growing field in ornamental horticulture and provides excellent employment opportunities. A student completing this option is also well prepared for work in city park departments and in state and federal park development.

	CREDIT HOURS
SEMESTER I	
HLN 131 Horticulture Science	4
HLN 132 Landscape Trees	2
HLN 145 Landscape Development I	3
HLN 146 Fundamentals of Landscape Planning	3
BIO 110 Introductory Botany or	
BIO 115 Biological Science	4
ENG 101* Composition I or	
COM 131 Applied Communications	3
	<u>19</u>
SEMESTER II	
HLN 133 Landscape Shrubs, Vines and Ground Cover	2
HLN 140 Herbaceous and Exotic Plants	3
HLN 147 Landscape Development II	3
CIS 108 PC Software Applications	4
MTH 111* Mathematics for Business and Economics I or	
MTH 130 Business Mathematics	3
SC 101 Introduction to Speech Communication	3
	<u>18</u>
SEMESTER III	
HLN 134 Interior Plant Identification	2
HLN 231 Landscape Design	4
HLN 246 Problems and Practices in Industry or	
HLN 703 Cooperative Work Experience	3
MGT 153 Small Business Management	3
ACC 201* Principles of Accounting I or	
ACC 131 Bookkeeping I	3
+ Elective	3
	<u>18</u>

SEMESTER IV

HLN 238 Landscape Management	3
HLN 249 Foliage Plants and Interiorscaping	3
HLN 250 Advanced Landscape Planning	3
HLN 713 Cooperative Work Experience	3
CHM 101* General Chemistry or	
CHM 115 Chemical Science or	
PSC 118 Physical Sciences	4
	<u>16</u>

Minimum Hours Required 71

+ Electives must be selected from the following:

BUS 105 Introduction to Business	3
BUS 234 Business Law	3
ECO 201 Principles of Economics I	3
MGT 210 Small Business Capitalization, Acquisition and Finance	3
MGT 211 Small Business Operations	3
SPA 101 Beginning Spanish	4

*Indicates the preferred class in transferring to four-year institutions.

NOTE: Students enrolling in this program who plan to transfer to a four-year institution should consult an advisor or counselor regarding transfer requirements and the transferability of these courses to the four-year institution of their choice.

ORNAMENTAL HORTICULTURE TECHNOLOGY -- LANDSCAPE NURSERY OPTION

Richland only

(Associate Degree)

This option prepares a student to enter both the landscaping industry and the nursery industry at a technician level. The program places emphasis on those skills required for success in landscape service, nursery production and landscape planning businesses. A student who completes this training is prepared for work in park and recreation departments, production nurseries, industrial parks and gardens.

	CREDIT HOURS
SEMESTER I	
HLN 131 Horticulture Science	4
HLN 132 Landscape Trees	2
HLN 145 Landscape Development I	3
HLN 146 Fundamentals of Landscape Planning	3
BIO 110 Introductory Botany or	
BIO 115 Biological Science	4
ENG 101* Composition I or	
COM 131 Applied Communications	3
	<u>19</u>
SEMESTER II	
HLN 133 Landscape Shrubs, Vines and Ground Cover	2
HLN 140 Herbaceous and Exotic Plants	3
HLN 147 Landscape Development II	3
CIS 108 PC Software Applications	4
MTH 111* Mathematics for Business and Economics I or	
MTH 130 Business Mathematics	3
SC 101 Introduction to Speech Communication	3
	<u>18</u>
SEMESTER III	
HLN 134 Interior Plant Identification	2
HLN 227 Greenhouse Horticulture	4
HLN 231 Landscape Design	4
HLN 233 Nursery Operations	3
HLN 235 Propagation of Woody Ornamental Plants	2
BUS 105 Introduction to Business or	
MGT 153 Small Business Management	3
	<u>18</u>

SEMESTER IV	
HLN 238 Landscape Management	3
HLN 246 Problems and Practices in Industry or	
HLN 703 Cooperative Work Experience	3
HLN 249 Foliage Plants and Interiorscaping	3
HLN 250 Advanced Landscape Planning	3
CHM 101* General Chemistry or	
CHM 115 Chemical Sciences or	
PSC 118 Physical Science	4
	<u>16</u>

Minimum Hours Required 71

*Indicates the preferred class in transferring to four-year institutions.

NOTE: Students enrolling in this program who plan to transfer to a four-year institution should consult an advisor or counselor regarding transfer requirements and the transferability of these courses to the four-year institution of their choice.

ORNAMENTAL HORTICULTURE TECHNOLOGY -- FLORIST OPTION

Richland only

(Certificate)

This program prepares the student to enter positions in floral design, retail flower shop operations, and sales and distribution of flowers and florist supplies.

	CREDIT HOURS
SEMESTER I	
HLN 141 Floral Design	4
ACC 201* Principles of Accounting I or	
ACC 131 Bookkeeping or	
MGT 157 Small Business Bookkeeping	
and Accounting	3
ART 110 Basic Design I	3
BUS/105 Introduction to Business or	
MGT 153 Small Business Management	3
MTH 111* Mathematics for Business and	
Economics I or	
MTH 130 Business Mathematics	3
	<u>16</u>
SEMESTER II	
HLN 133 Landscape Shrubs, Vines and Ground	
Cover	2
HLN 134 Interior Plant Identification	2
HLN 140 Herbaceous and Exotic Plants	3
HLN 248 Advanced Floral Design	3
HLN 252 Flower Shop Management	3
HLN 703 Cooperative Work Experience	3
	<u>16</u>
Minimum Hours Required	32

*Indicates the preferred class in transferring to four-year institutions.

ORNAMENTAL HORTICULTURE TECHNOLOGY -- LANDSCAPE GARDENER CERTIFICATE

Richland only

(Certificate)

This program prepares the student to enter positions in landscape construction, park maintenance, home landscape and garden services, and garden center and nursery sales. Through the selection of electives and occupational experiences the student can guide his training toward specific jobs.

	CREDIT HOURS
SEMESTER I	
HLN 131 Horticulture Science	4
HLN 132 Landscape Trees	2
HLN 146 Fundamentals of Landscape Planning ..	3
BUS 105 Introduction to Business or	
MGT 153 Small Business Management	3
MTH 111* Mathematics for Business and	
Economics I or	
MTH 130 Business Mathematics	3
	<u>15</u>
SEMESTER II	
HLN 133 Landscape Shrubs, Vines and Ground	
Cover	2
HLN 134 Interior Plant Identification	2
HLN 140 Herbaceous and Exotic Plants	3
HLN 145 Landscape Development I	3
HLN 703 Cooperative Work Experience	3
Elective	3
	<u>16</u>
Minimum Hours Required	31

*Indicates the preferred class in transferring to four-year institutions.

OUTBOARD MARINE ENGINE MECHANICS

Cedar Valley only

(Certificate)

This program is designed to train students to meet entry level requirements in the field of outboard marine engine mechanics. This will include theory, diagnosis, repair, overhaul and maintenance of outboard marine engines. Included in this program is the study of outboard marine engine fuel, electrical and ignition systems, engine overhaul and tune-up, and lower units. Throughout the entire program an emphasis is placed on accepted shop techniques used throughout the outboard marine engine service industry.

Since not all courses in this program are transferable, students enrolling in this program who may plan to transfer to a four-year institution should consult with an advisor or counselor regarding transfer requirements.

CREDIT HOURS

SEMESTER I

OE 145	Outboard Engine Tune-up	4
OE 144	Outboard Engine Service Principles ...	4
OE 146	Outboard Engine Powerhead Overhaul	4
		12

SEMESTER II

OE 147	Outboard Engine Lower Unit Overhaul	4
OE 148	Outboard Engine Electrical Systems ...	4
OE 723	Cooperative Work Experience	3
		11

Minimum Hours Required 23

PATTERN DESIGN

El Centro only

(Associate Degree)

The pattern designer converts the fashion sketch or original garment into an industrial paper pattern used in the mass production of clothing. Drafting is the skill of developing a flat pattern with measurements. Draping is the skill of developing a pattern by placing cloth over a dress form. Upon completion of the program, the student enters a women's wear or children's wear manufacturing company as an assistant in the pattern department.

	CREDIT HOURS
SEMESTER I	
DES 110 Basic Color Theory and Application (1st 8 weeks)	3
DES 128 Introduction to Mass Production and Apparel	2
DES 129 Industrial Garment Construction (1st 8 weeks)	1
DES 234 History of Costume	3
PDD 151 Pattern Drafting I (2nd 8 weeks)	3
ENG 101 Composition I	3
HUM 101 Introduction to the Humanities or	
PHI 101 Introduction to Philosophy	3
	<u>18</u>
SEMESTER II	
DES 135 Textiles	3
DES 136 Fashion Sketching	3
DES 235 History of Costume	3
PDD 152 Pattern Drafting II (1st 8 weeks)	3
PDD 153 Pattern Drafting III (2nd 8 weeks)	3
SC 101 Introduction to Speech Communication	3
	<u>18</u>
SEMESTER III	
DES 229 Advanced Garment Construction	3
PDD 254 Pattern Drafting IV (1st 8 weeks)	3
PDD 255 Pattern Drafting V (2nd 8 weeks)	3
PSY 101 Introduction to Psychology or	
HD 105 Basic Processes of Interpersonal Relationships	3
MTH 130 Business Mathematics	3
	<u>15</u>
SEMESTER IV	
PDD 256 Pattern Drafting VI (1st 8 weeks)	3
PDD 257 Pattern Drafting VII (2nd 8 weeks)	3
DES 141 Grading or	(1)
PDD 702 Cooperative Work Experience or	(2)
PDD 703 Cooperative Work Experience or	(3)
PDD 704 Cooperative Work Experience	4
+ Elective	3
Elective	3
	<u>13-16</u>

+ Elective—must be selected from the following:

GVT 201	American Government	3
HUM 101	Introduction to the Humanities	3

NOTE: Students enrolling in this program who plan to transfer to a four-year institution should consult an advisor or counselor regarding transfer requirements and the transferability of these courses to the four-year institution of their choice.

Minimum Hours Required 64

PHYSICAL FITNESS TECHNOLOGY

North Lake only

(Associate)

This program prepares students for employment in the physical fitness industry. Students in this program acquire skills in conducting physical fitness and health risk assessments, prescribing exercise and lifestyle change programs, and instructing individuals and groups in physical fitness and health promotion activities. Areas studied include health risk appraisal, nutrition and weight control, smoking cessation, stress management, body composition analysis, and the development of joint flexibility, muscular strength and endurance, and aerobic capacity. The students acquire the knowledge and skills to supervise the use of physical fitness facilities and to provide exercise leadership and programming.

Upon successful completion of the program, the student will receive an Associate in Applied Sciences Degree and will be prepared to sit for national certification examinations.

	CREDIT HOURS
SEMESTER I	
ENG 101 Composition I	3
BIO 120 Introduction to Human Anatomy and Physiology	4
PEH 115 Physical Fitness	1
PFT 101 Exercise Science	3
PFT 120 Fitness and Exercise Testing I	4
PEH Activity*	1
	16
SEMESTER II	
BIO 121 Introduction to Human Anatomy and Physiology	4
Mathematics Requirement**	3
SC 101 Introduction to Speech Communication	3
PFT 140 Physical Fitness Theory and Instruction	4
PEH Activity*	1
	15
SEMESTER III	
PFT 130 Basic Nutrition	3
PFT 200 Instruction in Lifestyle Change	3
PFT 230 Prevention and Care of Exercise Injury .	3
PFT 290 Practical Application in Physical Fitness Technology I	1
+ Elective	3-4
*PEH Activity	1
	14-15

SEMESTER IV

PSY 131 Applied Psychology and Human Relations	3
PFT 212 Exercise Programming	3
PFT 240 Practical Aspects of the Fitness Industry	3
PFT 291 Practical Application in Physical Fitness Technology II	1
PFT 703 Cooperative Work Experience or	
PFT 704 Cooperative Work Experience	3-4
+ + Elective	3-4
	16-18

Minimum Hours Required 61

+ Elective—must be selected from the following:

PEH 226 Advanced Life Saving	1
PEH 257 Advanced First Aid and Emergency Care	3
PFT 220 Fitness and Exercise Testing II	4
PFT 250 Psychosocial Aspects of Sport and Exercise	3
PFT 281 Selected Topics in Physical Fitness Technology ...	1
PFT 283 Selected Topics in Physical Fitness Technology ...	3

+ + Elective—must be selected from the following:

ACC 201 Principles of Accounting I	3
BUS 105 Introduction to Business	3
CHM 101 General Chemistry	4
CIS 103 Introduction to Computer Information Systems ...	3
ET 200 Special Applications of Electronics	4
HD 105 Basic Processes of Interpersonal Relationships ...	3
JN 102 News Gathering and Writing	3
MGT 136 Principles of Management	3
MKT 230 Salesmanship	3
PHY 111 Introductory General Physics	4
VFT 106 Video Production I	4

*PEH Activity - One physical education activity is chosen in consultation with program advisor from each of the following three clusters: Aerobic Activities, Strength Activities, and Recreational/Sport Activities.

**Mathematics Requirement - Any 100 level Mathematics course.

NOTE: Students enrolling in this program who plan to transfer to a four-year institution should consult an advisor or counselor regarding transfer requirements and the transferability of these courses to the four-year institution of their choice.

PHYSICAL FITNESS TECHNOLOGY

North Lake only

(Certificate)

This certificate program in physical fitness technology prepares students to make physical fitness assessments, prescribe exercise programs, and instruct individuals and groups in physical fitness activities. This one-year program is particularly appropriate for those who want to expand or upgrade their skills, e.g. those who already have a degree and/or are employed in a physical fitness or related field. Students completing the certificate program have the option to continue their study toward the completion of the Associate Degree.

	CREDIT HOURS
SEMESTER I	
BIO 120 Introduction to Human Anatomy and Physiology	4
PEH 115 Physical Fitness	1
PEH 257 Advanced First Aid and Emergency Care	3
PFT 101 Exercise Science	3
PFT 120 Fitness and Exercise Testing I	4
	15
SEMESTER II	
BIO 121 Introduction to Human Anatomy and Physiology	4
PFT 130 Basic Nutrition	3
PFT 140 Physical Fitness Theory and Instruction	4
+ Elective	3-4
PEH Activity*	1
	15-16
Minimum Hours Required	30

+ Elective--must be selected from any PFT course except PFT 290 and PFT 703/704.

*PEH Activity - One physical education activity is chosen in consultation with program advisor from each of the following three clusters: Aerobic Activities, Strength Activities, and Recreational/Sport Activities.

RADIOLOGIC SCIENCES

El Centro only

(Associate Degree)

The Radiologic Sciences freshman student is provided a core curriculum of study related to the delivery of health care. The basic health core, along with the general education courses, enables the student to enter a specialized track of either Radiographic Technology or Diagnostic Medical Sonography. Each program track offers didactic and clinical education designed to meet the essentials for certification as specified by each accrediting agency. Upon completion, an Associate in Applied Sciences Degree is awarded.

Admission requirements include an orientation session, satisfactory scores on a pre-entrance examination and completion of all requirements for admission as a full-time student to the college. Contact the Testing Center at El Centro College (746-2178) to sign up for the orientation and pre-entrance exam.

	CREDIT HOURS
*CORE CURRICULUM	
SEMESTER I	
RAD 104 Introduction to Radiologic Sciences I	3
BIO 120 Introduction to Human Anatomy and Physiology	4
MTH 136 Mathematics for Allied Health	3
ENG 101 Composition I	3
HD 105 Basic Processes of Interpersonal Relationships or	
PSY 101 Introduction to Psychology	3
	<u>16</u>
SEMESTER II	
RAD 106 Introduction to Radiologic Sciences II	3
BIO 121 Introduction to Human Anatomy and Physiology	4
PHY 118 Concepts in Physics	4
SC 101 Introduction to Speech Communication	3
CIS 103 Introduction to Computer Information Systems	3
	<u>17</u>
Minimum Hours Required	33

* For all first year students in Radiologic Sciences.

Upon successful completion of the academic requirements of the Core Curriculum, the student will begin the selected speciality track.

NOTE: Students enrolling in this program who plan to transfer to a four-year institution should consult an advisor or counselor regarding transfer requirements and the transferability of these courses to the four-year institution of their choice.

RADIOLOGIC SCIENCES -- DIAGNOSTIC MEDICAL SONOGRAPHY

El Centro only.

(Associate Degree)

The Diagnostic Medical Sonography program prepares the student to function as a Diagnostic Medical Sonographer.

The diagnostic medical sonographer performs sonography examinations using high frequency sound waves to visualize soft tissue structures, including the gall bladder, kidneys, pregnant uterus and other organs as requested by the physician.

This program is accredited by the Committee on Allied Health Education and Accreditation (CAHEA) in cooperation with the Joint Review Committee on Educational Programs in Diagnostic Medical Sonography (JRCEPDMS).

Admission requirements include an orientation session, satisfactory scores on a pre-entrance examination and completion of all requirements for admission as a full-time student to the college. Contact the Testing Center at El Centro College (746-2178) to sign up for the orientation and pre-entrance exam.

	CREDIT HOURS
SEMESTERS I AND II	
Core Curriculum	33
	<u>33</u>
FALL SESSION III	
DMS 208 Cross Sectional Anatomy	3
DMS 210 Acoustical Physics	3
DMS 211 Clinical Education I	5
DMS 216 Ultrasound Science I	2
DMS 218 Clinical Medicine I	4
	<u>17</u>
SPRING SEMESTER IV	
DMS 222 Pathophysiology	3
DMS 225 Clinical Medicine II	4
DMS 227 Instrumentation/Standardization	2
DMS 228 Clinical Education II	6
	<u>15</u>
SUMMER SESSION III	
DMS 237 Clinical Medicine III	1
DMS 250 Clinical Education III	3
	<u>4</u>
SUMMER SESSION IV	
DMS 242 Clinical Medicine IV	1
DMS 251 Clinical Education IV	3
	<u>4</u>
Minimum Hours Required	73

RADIOLOGIC SCIENCES -- DIAGNOSTIC MEDICAL SONOGRAPHY

El Centro only

(Certificate Only)

The Diagnostic Medical Sonography Certificate Option is for students having at least a previous Associate Degree in a designated Allied Health field or a B.S. degree with a major in a science discipline. Potential students will be considered on an individual basis to determine if they have an adequate background in Anatomy and Physiology, Math and Physics. Upon completion, a Certificate will be awarded.

This program is accredited by the Committee on Allied Health Education and Accreditation (CAHEA) in cooperation with the Joint Review Committee on Educational Programs in Diagnostic Medical Sonography (JRCEPDMS).

Admission requirements include an orientation session, satisfactory scores on a pre-entrance examination and completion of all requirements for admission as a full-time student to the college. Contact the Testing Center at El Centro College (746-2178) to sign up for the orientation and pre-entrance exam.

CREDIT HOURS

FALL SEMESTER III

DMS 208	Cross Sectional Anatomy	3
DMS 210	Acoustical Physics	3
DMS 211	Clinical Education I	5
DMS 216	Ultrasound Science I	2
DMS 218	Clinical Medicine I	4
		17

SPRING SEMESTER IV

DMS 222	Pathophysiology	3
DMS 225	Clinical Medicine II	4
DMS 227	Instrumentation/Standardization	2
DMS 228	Clinical Education II	6
		15

SUMMER SESSION III

DMS 237	Clinical Medicine III	1
DMS 250	Clinical Education III	3
		4

SUMMER SESSION IV

DMS 242	Clinical Medicine IV	1
DMS 251	Clinical Education IV	3
		4

Minimum Hours Required 40

RADIOLOGIC SCIENCES -- RADIOGRAPHY TECHNOLOGY

El Centro only

(Associate Degree)

The Radiography Technology program prepares the student for a career as a medical radiographer (X-ray technologist).

The medical radiographer assists the radiologist and other physicians in the use of radiographs to examine patients for broken bones, ulcers, tumors, disease or malfunctioning of various body organs. The radiographer positions the patient and operates radiographic equipment.

This program is accredited by the Committee on Allied Health Education and Accreditation (CAHEA) in cooperation with the Joint Review Committee on Education in Radiologic Technology (JRCERT).

	CREDIT HOURS
SEMESTERS I AND II	
Core Curriculum	33
	<u>33</u>
SUMMER SESSION I	
RAD 103 Radiographic Positioning and Osteology I	2
RAD 105 Principles of Radiographic Exposure I	1
RAD 107 Applied Physics I	1
RAD 108 Clinical Education Orientation I	1
	<u>5</u>
SUMMER SESSION II	
RAD 111 Radiographic Positioning and Osteology II	2
RAD 113 Principles of Radiographic Exposure II	1
RAD 115 Applied Physics II	1
RAD 116 Clinical Education Orientation II	1
	<u>5</u>
SEMESTER III	
RAD 206 Radiographic Positioning and Osteology III	3
RAD 227 Clinical Education I	4
RAD 228 Principles of Radiologic Exposure III	3
	<u>10</u>
SEMESTER IV	
RAD 209 Radiographic Pathology	2
RAD 244 Clinical Education II	6
RAD 251 Radiation Protection and Radiation Biology	2
	<u>10</u>

SUMMER SESSION III	
RAD 245 Clinical Education III (Externship)	2
	<u>2</u>

SUMMER SESSION IV	
RAD 246 Clinical Education IV (Externship)	2
	<u>2</u>

Minimum Hours Required 67

NOTE: Students enrolling in this program who plan to transfer to a four-year institution should consult an advisor or counselor regarding transfer requirements and the transferability of these courses to the four-year institution of their choice.

REAL ESTATE

Cedar Valley, North Lake and Richland only

(Associate Degree)

The program in real estate is designed to develop the fundamental skills, attitudes and experiences which enable the student to function in decision-making positions in the real estate profession. Successful completion of the program leads to the Associate in Applied Sciences Degree and may be applied toward licensing requirements as determined by the Texas Real Estate Commission.

CREDIT HOURS

SEMESTER I

RE 130	Real Estate Principles	3
RE 131	Real Estate Finance	3
BUS 105	Introduction to Business	3
ENG 101	Composition I	3
MTH 130	Business Mathematics or	
MTH 111	Mathematics for Business and	
	Economics I	3
		15

SEMESTER II

RE 133	Real Estate Marketing	3
RE 135	Real Estate Appraisal-Residential or	
RE 134	Real Estate Appraisal-Commercial	3
RE 136	Real Estate Law	3
SC 101	Introduction to Speech	
	Communication	3
+ Elective	.....	3
		15

SEMESTER III

RE 138	Real Estate Law Contracts	3
ECO 201	Principles of Economics I or	
ECO 105	Economics of Contemporary Social	
	Issues	3
RE 704	Cooperative Work Experience I	4
CIS 103	Introduction to Computer Information	
	Systems	3
+ + Elective	.....	3
		16

SEMESTER IV

ACC 201	Principles of Accounting I	3
GVT 201	American Government	3
+ + Elective	.....	9
		15

Minimum Hours Required: 61

+ Elective--must be selected from the following:

HD 105	Basic Processes of Interpersonal Relationships	3
HD 107	Developing Leadership Behavior	3
PSY 101	Introduction to Psychology	3
PSY 131	Applied Psychology and Human Relations	3
SPA 101	Beginning Spanish	4

+ + Recommended Electives:

ACC 202	Principles of Accounting II	3
ECO 202	Principles of Economics II	3
MKT 230	Salesmanship	3
RE 230	Real Estate Office Management Brokerage	3
RE 233	Commercial and Investment Real Estate	3
RE 235	Property Management	3
RE 237	Real Estate Construction	3
RE 240	Special Problems in Real Estate	1
RE 241	Special Problems in Real Estate	3
RE 714	Cooperative Work Experience II	4

NOTE: Students enrolling in this program who plan to transfer to a four-year institution should consult an advisor or counselor regarding transfer requirements and the transferability of these courses to the four-year institution of their choice.

RESPIRATORY CARE PROGRAM -- LEVEL I

El Centro only

(Certificate)

The Respiratory Care Program - Level I prepares individuals with entry-level skills for care of patients with pulmonary diseases. Diagnostic, technical and therapeutic procedures are taught to prepare students for entry into the field of Respiratory Care.

A Certificate of Completion is awarded for successful completion of the courses outlined below. This Certificate enables the graduate to apply for the Entry-Level Credential Examination of the National Board for Respiratory Care (NBRC). In order to be eligible to write this examination, a student must comply with the minimum standards for testing as required by the NBRC.

Upon successful completion of this program, the student is eligible to enroll in the Respiratory Care Program - Level II.

The Respiratory Care Program - Level I is accredited by the Committee on Allied Health Education and Accreditation (CAHEA) in cooperation with the Joint Review Committee for Respiratory Therapy Education (JRCRTE).

Admission requirements include an orientation session, satisfactory scores on a pre-entrance examination and completion of all requirements for admission as a full-time student to the college. Contact the Testing Center at El Centro College (746-2178) to sign up for the orientation and pre-entrance exam.

CREDIT HOURS

PREREQUISITES TO PROGRAM ADMISSION:

MTH 136	Mathematics for Allied Health or	
MTH 101	College Algebra	3
CHM 115	Chemical Sciences or	
CHM 101	General Chemistry	4
BIO 120	Human Anatomy and Physiology or	
BIO 221	Anatomy and Physiology I	4
		<u>11</u>

SEMESTER I

RES 155	Technology I	4
RES 159	Structure and Function of the	
	Cardiopulmonary System	3
RES 166	Pharmacology I	3
BIO 121	Human Anatomy and Physiology or	
BIO 222	Anatomy and Physiology	4
		<u>14</u>

SEMESTER II

RES 157	Technology II	7
RES 165	Pathology I	3
ENG 101	Composition I	3
		<u>13</u>

SUMMER I (SEMESTER III) (5 WEEKS)

RES 169	Technology III	3
		<u>3</u>

SUMMER II (SEMESTER IV) (5 WEEKS)

RES 170	Technology IV	3
		<u>3</u>

Minimum Hours Required 44

RESPIRATORY CARE PROGRAM -- LEVEL II

El Centro only

(Associate Degree)

The Respiratory Care Program - Level II prepares students to become respiratory therapists and perform complex patient care procedures in specialized patient care units and diagnostic laboratories.

The Associate in Applied Sciences degree is awarded for successful completion of the program outlined below. A Certificate of Completion is also awarded to enable the graduate to apply for the Advanced Practitioner Examination of the National Board for Respiratory Care (NBRC).

In order to be eligible to write the Advanced Practitioner Examination, a student must comply with the minimum standards for testing as required by the National Board for Respiratory Care (NBRC).

The Respiratory Care Program - Level II is accredited by the Committee on Allied Health Education and Accreditation (CAHEA) in cooperation with the Joint Review Committee for Respiratory Therapy Education (JRCRTE).

Admission requirements include an orientation session, satisfactory scores on a pre-entrance examination and completion of all requirements for admission as a full-time student to the college. Contact the Testing Center at El Centro College (746-2178) to sign up for the orientation and pre-entrance exam.

PREREQUISITES FOR PROGRAM ADMISSION:

Successful completion of all course requirements of the Respiratory Care Program - Level I:

Respiratory Care - Level I Program Prerequisites	11
Respiratory Care - Level I	33
	44

or

Certification as a Respiratory Therapy Technician (CRTT) by the National Board for Respiratory Care (NBRC) and successful completion of the following prerequisite courses:

MTH 136	Mathematics for Allied Health or	
MTH 101	College Algebra	3
CHM 115	Chemical Sciences or	
CHM 101	General Chemistry	4
BIO 120	Human Anatomy and Physiology or	
BIO 221	Anatomy and Physiology I	4
BIO 121	Human Anatomy and Physiology or	
BIO 222	Anatomy and Physiology II	4
ENG 101	Composition I	3
		18

CREDIT HOURS

SEMESTER III

BIO 216	General Microbiology	4
RES 274	Technology V	6
RES 275	Advanced Pathology/Pharmacology	3
		13

SEMESTER IV

SC 101	Introduction to Speech Communication	3
RES 276	Technology VI	6
RES 277	Pathology II	3
HD 105	Basic Processes of Interpersonal Relationships or	
PSY 101	Introduction to Psychology	3
		15

Minimum Hours Required 72

NOTE: Students enrolling in this program who plan to transfer to a four-year institution should consult an advisor or counselor regarding transfer requirements and the transferability of these courses to the four-year institution of their choice.

SMALL ENGINE MECHANICS

Cedar Valley only

(Certificate)

This program is designed to train students to meet entry level requirements in the field of small engine mechanics. This will include theory, diagnosis, repair, overhaul and maintenance of small engines used on lawn mowers, garden tractors, and other small equipment. Included in this program is the study of small engine carburetion and electrical systems, engine overhaul and tune-up, and belt, chain, and direct drive power systems. Throughout the entire program an emphasis is placed on accepted shop techniques used throughout the small engine powered equipment industry.

	CREDIT HOURS
SEMESTER I	
SE 155 Small Engine Tune-Up	4
SE 154 Small Engine Service Principles	4
SE 156 Small Engine Two-Stroke Overhaul	4
	12
SEMESTER II	
SE 157 Small Engine Four-Stroke Overhaul ...	4
SE 158 Small Engine Electrical Systems	4
SE 733 Cooperative Work Experience	3
	11
Minimum Hours Required	23

SOCIAL WORK ASSOCIATE -- GENERALIST

Eastfield only

(Associate Degree)

The Social Work Associate Program is designed to prepare individuals interested in working with people to obtain entry-level employment in public and private social service agencies. The social service worker is equipped with skills, knowledge, values, and sensitivity to effectively serve human needs in a variety of community settings. Students have the options to select courses that will prepare them to work in general social services or specialized social services for chemical abuse or the aging.

CREDIT HOURS

SEMESTER I

SW 101	Orientation to Social Services	3
SW 105	Basic Interviewing and Counseling Skills	3
SW 107	Abnormal Behavior	3
ENG 101	Composition I or	
COM 131	Applied Communications	3
HD 105	Basic Processes of Interpersonal Relationships or	
HD 106	Personal and Social Growth or	
HD 107	Developing Leadership Behavior	3
		<u>15</u>

SEMESTER II

SW 201	Introduction to Social Work	3
+ Social Work Elective		3
PSY 101	Introduction to Psychology	3
SC 101	Introduction to Speech Communication	3
SOC 101	Introduction to Sociology	3
		<u>15</u>

SEMESTER III

SW 219	Social Work Methods and Procedures	3
SW 229	Group Work Intervention	3
+ Social Work Elective		3
SW 703	Cooperative Work Experience or	
SW 704	Cooperative Work Experience	3-4
MTH 101	College Algebra or	
MTH 115	College Mathematics or	
MTH 130	Business Mathematics or	
MTH 202	Introductory Statistics	3
		<u>15-16</u>

SEMESTER IV

SW 232	Human Behavior and Social Environment	3
+ Social Work Elective		3
SW 713	Cooperative Work Experience or	
SA 714	Cooperative Work Experience	3-4
CIS 103	Introduction to Computer Information Systems or	
CIS 108	PC Software Applications	3-4
SPA 101	Beginning Spanish or	
+ + Approved Humanities Elective		3
		<u>16-17</u>

Minimum Hours Required 61

+ Social Work Electives--must be selected from the following:

SA 109	Physiology of Addiction	3
SA 113	Alcoholism Counseling	3
SA 203	Alcoholism Treatment Models	3
SA 207	Prevention of Substance Abuse	3
SA 211	Family Intervention in Substance Abuse and Dependency	3
SA 215	Issues in Substance Abuse and Dependency	3
SW 111	Aging in America	3
SW 115	Adolescent Life Cycle	3
SW 205	Social Policies and Programs for the Aging	3
SW 209	Life Cycle of the Aged	3
SW 213	Health Status of the Aged	3
SW 217	Special Problems of Youth	3
SW 226	Nursing Home Activity Director Training	3

+ + Approved Humanities Elective--must be selected from the following:

HUM 101	Introduction to the Humanities	3
PHI 101	Introduction to Philosophy	3
PHI 103	Critical Thinking	3
PHI 105	Logic	3
PHI 202	Introduction to Social and Political Philosophy	3
PHI 203	Ethics	3

NOTE: Students enrolling in this program who plan to transfer to a four-year institution should consult an advisor or counselor regarding transfer requirements and the transferability of these courses to the four-year institution of their choice.

SOCIAL WORK -- HUMAN SERVICES

Eastfield only

(Certificate)

This certificate program provides training in three areas: child development, social work, and interpreter training. Students will attain interdisciplinary competencies and select one area in which to do their cooperative work experience. Students completing this certificate may choose to obtain entry level jobs in the human services field or continue their associate degree work in one of the three areas.

CREDIT HOURS

SEMESTER I

SW 101	Orientation to Social Services	3
SW 105	Basic Interviewing and Counseling Skills	3
SW 107	Abnormal Behavior	3
CD 140	Early Childhood Development, 0-3 Years or	
CD 141	Early Childhood Development, 3-5 Years or	
ITP 140	Introduction to Deafness	3
CD 150	Nutrition, Health and Safety of the Young Child or	
ITP 141	American Sign Language I	3-4
ENG 101	Composition I	3
		18-19

SEMESTER II

SW 232	Human Behavior and Social Environment	3
SW 703	Cooperative Work Experience	3
CD 203	Parents and the Childgiver/Teacher or	
ITP 144	Psychosocial Aspects of Deafness	3
CD 239	Studies in Child Guidance or	
ITP 248	Rehabilitation of the Multiply Handicapped Deaf	3
CD 253	Abuse Within The Family or	(2)
ITP 143	American Sign Language II	3-4
SC 101	Introduction to Speech Communication	3
		18-19

Minimum Hours Required 36

SUBSTANCE ABUSE COUNSELING

Eastfield only

(Associate Degree)

The Substance Abuse Counseling Program is designed to prepare qualified and competent graduates to enter the field of human services and to provide specialized services to individuals and their families who are experiencing the affects of substance abuse. Completers of the program will have the necessary educational requirements to become eligible for testing and certification as Certified Alcoholism and Drug Abuse Counselors (C.A.D.A.C.). Students will gain required work experience as Counselors-in-Training (C.I.T.) upon completion of the required hours of classroom instruction. A special section of cooperative work experience will provide a structured supervised practicum in off-campus approved laboratory training sites.

CREDIT
HOURS

SEMESTER I

SW 101	Orientation to Social Services	3
SW 105	Basic Interviewing and Counseling Skills	3
SA 109	Physiology of Addiction	3
ENG 101	Composition I	3
MTH 101	College Algebra or	
MTH 115	College Mathematics or	
MTH 130	Business Mathematics or	
MTH 202	Introductory Statistics	3
		15

SEMESTER II

SA 113	Alcoholism Counseling	3
SW 219	Social Work Methods and Procedures	3
PSY 101	Introduction to Psychology	3
SC 101	Introduction to Speech Communication	3
SOC 101	Introduction to Sociology	3
		15

SEMESTER III

SA 207	Prevention of Substance Abuse or	
SW 115	Adolescent Life Cycle	3
SA 211	Family Intervention in Substance Abuse and Dependency or	
SW 217	Special Problems of Youth	3
SW 229	Group Work Intervention	3
SW 703	Cooperative Work Experience or	
SW 704	Cooperative Work Experience	3-4
HD 105	Basic Processes of Interpersonal Relationships or	
HD 106	Personal and Social Growth or	
HD 107	Developing Leadership Behavior	3
		15-16

SEMESTER IV

SA 203	Alcoholism Treatment Models or	
+ Elective		3
SA 215	Issues in Substance Abuse and Dependency or	
+ + Elective		3
SA 714	Cooperative Work Experience	4
CIS 103	Introduction to Computer Information Systems or	
CIS 108	PC Software Applications	3-4
SPA 101	Beginning Spanish or	
+ + + Approved Humanities Elective		3
		16-17

Minimum Hours Required 62

+ Social Work Electives—must be selected from the following:

SW 107	Abnormal Behavior	3
SW 111	Aging in America	3
SW 201	Introduction to Social Work	3
SW 209	Life Cycle of the Aged	3
SW 228	Special Topics in Social Services	3
SW 232	Human Behavior and Social Environment	3

+ + Electives—must be selected from the following:

CD 127	Early Childhood Development, 5-12	3
CD 253	Abuse Within the Family	3
PSY 103	Human Sexuality	3
PSY 201	Developmental Psychology	3
PSY 205	Psychology of Personality	3
SOC 103	Human Sexuality	3
SOC 203	Marriage and Family	3
SOC 204	American Minorities	3
SOC 210	Field Studies in American Minorities	3

+ + + Approved Humanities Elective—must be selected from the following:

HUM 101	Introduction to the Humanities	3
PHI 101	Introduction to Philosophy	3
PHI 103	Critical Thinking	3
PHI 105	Logic	3
PHI 202	Introduction to Social and Political Philosophy	3
PHI 203	Ethics	3

NOTE: Students enrolling in this program who plan to transfer to a four-year institution should consult an advisor or counselor regarding transfer requirements and the transferability of these courses to the four-year institution of their choice.

SUBSTANCE ABUSE COUNSELING

Eastfield only

(Certificate)

The Substance Abuse Counseling certificate is designed to provide cross-training for helping professionals in other disciplines, i.e. bachelor and master level social workers, counselors, psychologists, nurses, criminal justices, etc. It is also trains students for employment as therapy technicians with the Counselor-In-Training certification. After completing two years' work experience in an organization that serves the substance dependent individual, students may qualify for testing and Certified Alcoholism and Drug Abuse Certification (C.A.D.A.C.).

CREDIT HOURS

SEMESTER I

SW 101	Orientation to Social Services	3
SW 105	Basic Interviewing and Counseling Skills	3
SA 109	Physiology of Addiction	3
SA 203	Alcoholism Treatment Models	3
SA 207	Prevention of Substance Abuse	3
ENG 101	Composition I	3
		18

SEMESTER II

SA 113	Alcoholism Counseling	3
SA 211	Family Intervention In Substance Abuse and Dependency or	
+ Elective	.....	3
SA 215	Issues in Substance Abuse and Dependency or	
SA 714	Cooperative Work Experience	3-4
SW 219	Social Work Methods and Procedures	3
SW 229	Group Work Intervention	3
		15-16

Minimum Hours Required 34

+ Electives—must be selected from the following:

SW 107	Abnormal Behavior	3
SW 115	Adolescent Life Cycle	3
SW 209	Life Cycle of the Aged	3
SW 217	Special Problems of Youth	3
SW 228	Special Topics in Social Services	3
SW 232	Human Behavior and Social Environment	3
CD 253	Abuse Within the Family	3
PSY 201	Developmental Psychology	3
PSY 205	Psychology of Personality	3
SOC 203	Marriage and Family	3
SOC 204	American Minorities	3
SOC 210	Field Studies in American Minorities	3

SURGICAL TECHNOLOGY

El Centro only

(Certificate)

The one year certificate program in Surgical Technology teaches the student to provide services in the operating room under the supervision of the operating room director. The technologist, as part of the operating team, aids in providing for the safety, cleanliness and efficiency necessary for good patient care in the operating room. The technologist prepares the materials for use at the operating room table and assists in the use of these materials during surgical procedures.

The Surgical Technology program is accredited by the Committee on Allied Health Education and Accreditation (CAHEA) in cooperation with the Accreditation Review Committee for Educational Programs in Surgical Technology.

Admission requirements include an orientation session, satisfactory scores on a pre-entrance examination and completion of all requirements for admission as a full-time student to the college. Contact the Testing Center at El Centro College (746-2178) to sign up for the orientation and pre-entrance exam.

CREDIT HOURS

SEMESTER I

ENG 101	Composition I	3
BIO 123	Applied Anatomy and Physiology or	
BIO 120	Introduction to Human Anatomy and Physiology	4
SGT 140	Medical Terminology	2
SGT 141	Surgical Techniques	8
SGT 155	Surgical Pharmacology	2

19

SEMESTER II

BIO 121	Introduction to Human Anatomy and Physiology*	4
HD 105	Basic Processes of Interpersonal Relationships or	
HD 106	Personal and Social Growth	3
SGT 152	Surgical Procedures	8

15

SUMMER I (9 weeks)

SGT 156	Clinical Procedures	6
SGT 157	Seminar	1

7

Minimum Hours Required 42

*BIO 120 is taken in the Fall. BIO 121 must be taken in the Spring semester.

A "C" grade is required in all courses.

SURGICAL TECHNOLOGY OPTION FOR GRADUATE REGISTERED NURSES

El Centro only

(Certificate)

The one year Surgical Option for Registered Nurses teaches the R.N. principles of surgical asepsis, patient care and use of surgical supplies. Ethical-Legal aspects and perioperative role responsibilities are emphasized. A certificate is awarded upon completion of the program.

Nurses enrolled in this option must hold a current license from the Board of Nurse Examiners for the State of Texas.

CREDIT HOURS

SEMESTER I

SGT 140	Medical Terminology	2
SGT 141	Surgical Techniques	8

10

SEMESTER II

HD 105	Basic Processes of Interpersonal Relationships	3
SGT 160	Surgical Procedures for Registered Nurses	8

11

Minimum Hours Required 21

VETERINARY TECHNOLOGY

Cedar Valley only

(Associate Degree)

This program is designed to help meet the need for graduate veterinary technicians as indicated by the Texas Veterinary Medical Association. The graduate serves primarily as an assistant to veterinarians in private practice, functions in biological research or serves to meet the needs of allied health industries.

The Veterinary Technology curriculum is designed to provide the graduate with information, experience and skills needed to perform all technical duties in a practice, excluding diagnosis, prescribing and surgery. The Veterinary Technology program is accredited by the Committee on Animal Technician Activities and Training of the American Veterinary Medical Association and graduates are qualified to take the Texas Veterinary Medical Association Examination to become a Registered Veterinary Technician (RVT).

Admission to the Veterinary Technology program is limited and applicants should be assessed and advised prior to enrolling in the program. Students are encouraged to have a good academic background in English, mathematics, and the biological sciences.

	CREDIT HOURS
SEMESTER I	
VT 113 Medical Terminology	1
VT 114 Introduction to Veterinary Technology	4
BIO 101 General Biology	4
ENG 101 Composition I	3
MTH 139 Applied Mathematics	3
	15
SEMESTER II	
VT 120 Animal Care and Sanitation I	1
VT 121 Veterinary Anatomy and Physiology I	4
VT 122 Animal Behavior	2
CIS 103 Introduction to Computer Information Systems	3
SC 101 Introduction to Speech Communication	3
	13
SUMMER SESSION	
VT 131 Veterinary Anatomy and Physiology II	4
VT 132 Pharmacology	3
VT 134 Animal Care and Sanitation II	1
VT 135 Clinical Pathology I	5
	13

SEMESTER III

VT 211	Anesthetics and Surgical Assistance	4
VT 212	Large Animal Assisting Techniques	4
VT 213	Clinical Pathology II	5
VT 214	Animal Care and Sanitation III	1
		14

SEMESTER IV

VT 220	Animal Care and Sanitation IV	1
VT 221	Radiographic Principles and Practices	3
VT 222	Veterinary Nursing	4
VT 223	Laboratory Animal Medicine	3
VT 703	Cooperative Work Experience	3
+ Elective	.....	3
		17

Minimum Hours Required 72

Electives—must be selected from the following:

VT 115	Introduction to Applied Biology and Biochemistry	4
VT 136	Equine Reproduction and Management	3
VT 215	Special Topics in Veterinary Technology	3
VT 216	Clinical Seminar	2
VT 224	Exotic and Zoo Animal Medicine	2
VT 225	Avian and Reptile Medicine	2
VT 704	Cooperative Work Experience	4

NOTE: Students enrolling in this program who plan to transfer to a four-year institution should consult an advisor or counselor regarding transfer requirements and the transferability of these courses to the four-year institution of their choice.

VIDEO TECHNOLOGY

North Lake only

(Associate Degree)

The Video Technology program is designed to prepare students for entry level or advanced employment in the video industry. Opportunities in medicine, entertainment, advertising, industry, broadcast, cable, education, military, government, and business are among the career options. Students will develop skills and knowledge necessary to plan, budget, produce, and perform post production of various video projects.

Students wishing to earn an Associate in Applied Sciences Degree with a major in Video Technology must complete the following courses:

	CREDIT HOURS
SEMESTER I	
VFT 101 Introduction to Video Technology	3
VFT 103 Television Lighting	3
VFT 106 Video Production I	4
ENG 101 Composition I	3
MTH 101 College Algebra or	
MTH 195 Technical Mathematics I	3
	16
SEMESTER II	
VFT 110 Video Production II	4
VFT 112 Video Editing and Post Production I	4
VFT 115 Audio Production	3
SC 101 Introduction to Speech	
Communication	3
	14
SEMESTER III	
VFT 203 Video Production III	4
VFT 205 Broadcast Engineering I	3
PHY 131 Applied Physics	4
HUM 101 Introduction to the Humanities or	
ART 104 Art Appreciation or	
MUS 104 Music Appreciation	3
	14
SEMESTER IV	
VFT 213 Video Editing and Post	
Production II	4
VFT 214 Business Aspects of Video	
Management	3
VFT 703 Cooperative Work Experience or (3)	
VFT 704 Cooperative Work Experience	4
CIS 103 Introduction to Computer	
Information Systems	3
+ Elective	3
	16-17

Minimum Hours Required: 60

+ Electives--Must be selected from the following:

VFT 215	Broadcast Engineering II	3
VFT 210	Video Production IV	4
VFT 218	Scriptwriting and Property Management	3
VFT 220	Computer Applications to Video Production	3
VFT 226	Music Video Production	3
VFT 232	Broadcast, Cable, and Satellite Technology	3
VFT 713	Cooperative Work Experience or (3)	
VFT 714	Cooperative Work Experience	4

NOTE: Students enrolling in this program who plan to transfer to a four-year institution should consult an advisor or counselor regarding transfer requirements and the transferability of these courses to the four-year institution of their choice.

VISUAL COMMUNICATIONS

Brookhaven only

(Associate Degree)

This program will provide entry level skills for careers in the field of visual communications, including graphic design, illustration, art direction, advertising art, and computer graphics. Courses in the program provide for the development of creative, technical, interpersonal, and communication skills necessary to function effectively in a freelance or staff artist position with a design studio or agency.

CREDIT
HOURS

SEMESTER I

ART 110	Design I or	
VC 115	Applied Design	3
ART 114	Drawing I	3
ENG 101	Composition I or	
COM 131	Applied Communications	3
VC 110	Introduction to Visual Communications	3
VC 111	History of Visual Communications	3
		<u>15</u>

SEMESTER II

ART 115	Drawing II	3
SC 101	Introduction to Speech Communication	3
VC 122	Copywriting and Business Communications	3
VC 123	Graphic Design and Typography	3
VC 124	Beginning Illustration	3
VC 125	Portfolio Review	2
		<u>17</u>

SEMESTER III

MTH 116	College Mathematics II or	
MTH 130	Business Mathematics or	
MTH 111	Mathematics for Business and Economics*	3
+ Elective		3
		<u>6</u>

SEMESTER IV

VC 206	Advanced Graphic Design	3
VC 207	Reprographics	3
VC 213	Beginning Computer Graphics	4
VC 290	Design Studio Practicum I or	3
VC 703	Cooperative Work Experience or	3
VC 704	Cooperative Work Experience or	(4)
+ + Elective		(3)
		<u>16-17</u>

SEMESTER V

VC 205	Professional Practices	3
VC 208	Advanced Illustration	3
VC 209	Advanced Presentations	3
VC 214	Beginning Computer Animation or	
VC 215	Desktop Graphics or	4
VC 219	Special Problems in Computer Graphics	(3)
VC 291	Design Studio Practicum or	3
VC 713	Cooperative Work Experience or	3
VC 714	Cooperative Work Experience or	(4)
+ + + Elective		3-4
		<u>15-17</u>

Minimum Hours Required 69

+ Elective--must be selected from the following:

ACC 131	Bookkeeping I	3
ACC 201	Principles of Accounting I	3
BUS 105	Introduction to Business	3
CIS 103	Introduction to Computer Information Systems	3
MGT 153	Small Business Management	3
MKT 206	Principles of Marketing	3

+ + Elective--must be selected from the following:

HD 105	Basic Processes of Interpersonal Relationships	3
HD 106	Personal and Social Growth	3
HUM 101	Introduction to the Humanities	3
MUS 104	Music Appreciation	3
PHI 102	Introduction to Philosophy	3
PSY 131	Applied Psychology and Human Relations	3

+ + + Elective--must be selected from the following:

ART 111	Design II	3
ART 118	Creative Photography for the Artist	3
ART 201	Drawing III	3
ART 220	Printmaking I	3
PHO 123	Commercial Photography II	3
VC 199	Contemporary Topics in Visual Communications	1
VC 219	Special Problems in Computer Graphics	3
VC 299	Studio Applications in Visual Communications	2

*Students should consult an advisor prior to enrolling in any Mathematics class; prerequisites and assessment test scores are required.

NOTE: Students enrolling in this program who plan to transfer to a four-year institution should consult an advisor or counselor regarding transfer requirements and the transferability of these courses to the four-year institution of their choice.

VISUAL COMMUNICATIONS -- COMPUTER GRAPHICS

Brookhaven Only

(Certificate)

This program is intended for those students having at least an associate degree or bachelor of arts in Visual Communications or Advertising Art and/or prior or current experience in the visual communications design fields who wish to update their skills.

	CREDIT HOURS
SEMESTER I	
VC 207 Reprographics or	3
VC 209 Advanced Presentations or	(3)
VC 299 Studio Applications in Visual Communications	(2)
VC 213 Beginning Computer Graphics	4
+ Elective	3-4
	<u>9-11</u>
SEMESTER II	
VC 214 Beginning Computer Animation or	
VC 215 Desktop Graphics	4
VC 219 Special Problems in Computer Graphics	3
VC 299 Studio Applications in Visual Communications or	2
+ + Elective	(3)
	<u>9-10</u>

Minimum Hours Required 18

+ Elective--must be selected from the following:

VC 111	History of Visual Communications	3
VC 122	Copywriting and Business Communications	3
VC 199	Contemporary Topics in Visual Communications	1
VC 207	Reprographics	3
VC 208	Advanced Illustration	3
VC 209	Advanced Presentations	3
VC 219	Special Problems in Computer Graphics	3
VC 299	Studio Applications in Visual Communications	2

+ + Elective must be selected from the following:

ART 118	Creative Photography for the Artist	3
ART 201	Drawing III	3
ART 202	Drawing IV	3
ART 220	Printmaking I	3
PHO 123	Commercial Photography II	3

VISUAL COMMUNICATIONS -- LAYOUT AND PRODUCTION

Brookhaven Only

(Certificate)

This program is designed to prepare the student for employment as an entry level layout artist in the graphic arts industry. It will also prepare the student for entry into an apprentice or trainee program for a variety of pre-press positions. A certificate is awarded upon successful completion of the program. All courses required for the certificate are applicable to the Visual Communications associate degree program should the student wish to continue their education.

	CREDIT HOURS
SEMESTER I	
ART 114 Drawing I	3
ENG 101 Composition I	3
VC 110 Introduction to Visual Communications	3
VC 115 Applied Design	3
+ Elective	3
	<u>15</u>
SEMESTER II	
VC 123 Graphic Design and Typography	3
VC 207 Reprographics	3
VC 213 Beginning Computer Graphics	4
VC 703 Cooperative Work Experience or	3
VC 714 Cooperative Work Experience	4
	<u>13-14</u>

Minimum Hours Required 28

+ Elective--must be selected from the following:

HD 105	Basic Processes of Interpersonal Relationships	3
HD 106	Personal and Social Growth	3
PSY 131	Applied Psychology and Human Relations	3
VC 111	History of Visual Communications	3

VOCATIONAL NURSING

El Centro only

(Certificate)

The Vocational Nursing program is a twelve month program that prepares students to give direct patient care under the supervision of a registered nurse or a physician. The program is accredited by the Board of Vocational Nurse Examiners for the State of Texas. Upon completion of the program, the student is awarded a certificate and may write the Licensing Examination for Vocational Nurses (NCLEX-PN) in order to become a Licensed Vocational Nurse (LVN) in Texas. The program includes classroom and laboratory work on campus as well as clinical experience at various area hospitals.

Admission requirements include an orientation session, satisfactory scores on a pre-entrance examination and completion of all requirements for admission as a full-time student to the college. Contact the Testing Center at El Centro College (746-2178) to sign up for the orientation and pre-entrance exam.

FALL ADMISSION		CREDIT HOURS
SEMESTER I - Prerequisite to Program Admission		
BIO 120	Introduction to Human Anatomy and Physiology	4
MTH 139	Applied Mathematics	3
		<u>7</u>
SEMESTER II		
BIO 121	Introduction to the Human Anatomy and Physiology	4
HD 100	Study Skills*	1
VN 144	Health Maintenance through the Life Cycle	3
VN 145	Nursing Process I	3
VN 152	Nursing Practice I	6
		<u>17</u>
SEMESTER II		
VN 156	Nursing Process II	10
VN 157	Nursing Practice II	7
		<u>17</u>
SEMESTER III (Summer 12 Weeks)		
VN 153	Maternal Child Health	8
VN 158	Maternal Child Health Clinical	4
		<u>12</u>

Minimum Hours Required 53

*HD 100 and BIO 121 may be completed prior to entering the program.

A grade of "C" or better is required in all courses.

SPRING ADMISSION		CREDIT HOURS
SEMESTER I - Prerequisite to Program Admission		
BIO 120	Introduction to Human Anatomy and Physiology	4
MTH 139	Applied Mathematics	3
		<u>7</u>
SEMESTER II		
BIO 121	Introduction to the Human Anatomy	4
HD 100	Study Skills*	1
VN 144	Health Maintenance through the Life Cycle	3
VN 145	Nursing Process I	3
VN 152	Nursing Practice I	6
		<u>17</u>
SEMESTER II (Summer 12 Weeks)		
VN 153	Maternal Child Health	8
VN 158	Maternal Child Health Clinical	4
		<u>12</u>
SEMESTER III		
VN 156	Nursing Process II	10
VN 157	Nursing Practice II	7
		<u>17</u>

Minimum Hours Required 53

*HD 100 and BIO 121 may be completed prior to entering the program.

A grade of "C" or better is required in all courses.

WELDING TECHNOLOGY

Mountain View only

(Associate Degree)

The Welding Technology Program is designed to prepare the student in the basic processes of oxyacetylene and arc welding plus many specialized welding applications as options to fit the specific needs of the student. In addition, instruction is offered in related support areas such as metallurgy, tooling, drafting, pattern layout and characteristics of materials. Thus, the program offers preparation for both entry level jobs as well as welding inspectors.

The student will be required to purchase a basic set of tools which will be used in class and later on the job. Tool lists will be given out by the instructor during the first week of classes.

	CREDIT HOURS
SEMESTER I	
WE 111 Oxyfuel I	2
WE 112 Oxyfuel II	2
WE 113 Shielded Metal Arc Welding I	2
WE 114 Shielded Metal Arc Welding II	2
CAD 182 Technician Drafting	2
MTH 195 Technical Mathematics I	3
COM 131 Applied Communications or	
ENG 101 Composition I	3
	<u>16</u>
SEMESTER II	
WE 115 Shielded Metal Arc Welding II	4
WE 117 General Metal Layout	3
WE 118 Welding Inspection and Quality	
Control	4
PSY 131 Applied Psychology and	
Human Relations	3
WE 704 Cooperative Work Experience or	(4)
+ Elective	3
SC 101 Introduction to Speech	
Communication	3
	<u>17-18</u>
SEMESTER III	
WE 211 Gas Tungsten Arc Welding I	2
WE 212 Gas Tungsten Arc Welding II	2
WE 214 Gas Metal Arc Welding I	2
WE 215 Gas Metal Arc Welding II	2
WE 217 Basic Welding Metallurgy	3
PHY 131 Applied Physics	4
	<u>15</u>
SEMESTER IV	
WE 116 Shielded Metal Arch Welding IV	4
WE 213 Gas Tungsten Arc Welding III	4
WE 216 Gas Metal Arc Welding III	4
WE 219 Welding Design	3
+ + Elective	3
	<u>18</u>

Minimum Hours Required: 65

+ Electives—must be selected from the following:

WE 218	Applied Welding Metallurgy	3
WE 221	Special Welding Applications	1
WE 222	Special Welding Applications	2
WE 223	Special Welding Applications	3
MTH 111	Mathematics for Business and Economics I	3

+ + Electives—must be selected from the following:

ACC 131	Bookkeeping I	3
BUS 105	Introduction to Business	3
CIS 103	Introduction to Computer Information Systems	3
GVT 201	American Government	3
HST 101	History of the United States	3
HD 105	Basic Processes of Interpersonal Relationships	3
HD 106	Personal and Social Growth	3
HUM 101	Introduction to the Humanities	3
MGT 136	Principles of Management	3
MGT 153	Small Business Management	3

NOTE: Students enrolling in this program who plan to transfer to a four-year institution should consult an advisor or counselor regarding transfer requirements and the transferability of these courses to the four-year institution of their choice.

WELDING TECHNOLOGY

Mountain View only

(Certificate)

	CREDIT HOURS
SEMESTER I	
WE 111 Oxyfuel I	2
WE 112 Oxyfuel II	2
WE 113 Shielded Metal Arc Welding I	2
WE 114 Shielded Metal Arc Welding II	2
WE 211 Gas Tungsten Arc Welding I	2
WE 212 Gas Tungsten Arc Welding II	2
WE 214 Gas Metal Arc Welding I	2
WE 215 Gas Metal Arc Welding II	2
	<u>16</u>
SEMESTER II	
WE 115 Shielded Metal Arc Welding III	4
WE 116 Shielded Metal Arc Welding IV	4
WE 117 General Metal Layout	3
WE 213 Gas Tungsten Arc Welding III*	4
WE 216 Gas Metal Arc Welding III*	4
	<u>19</u>

Minimum Hours Required: 35

* WE 704 Cooperative Work Experience may be substituted for WE 213 or WE 216.

How To Read Course Descriptions

- All courses listed in the District catalog are not available at every college. The District catalog contains descriptions of all courses offered collectively by the seven colleges of the Dallas County Community College District. The listing is alphabetical by course subject title.
- Each campus within the District publishes a catalog which reflects courses and programs that are offered on that campus.
- All courses listed in this catalog may not be offered during the current year. It is suggested that students plan their schedules with the help of a college counselor or advisor well in advance of registration.

Understanding The Course Descriptions

Abbreviation of the general program area name (in this case, "Biology").

Prerequisite -
A course or specific experience which must be successfully completed prior to enrolling in this course. Course prerequisite may only be waived by the appropriate division chairperson.

Common Course Number - This same number is utilized by many Texas colleges and universities to identify similar courses on their campuses. In 1994-95, this number will become the official DCCCD name and number of this specific course.

Course Number

Name of the Course

Credit Hours - When you complete a course, you are awarded a certain number of credit hours. If you are in a degree program, a specified number of credit hours is required for graduation. Counselors are available to help you determine your course and credit hour requirements.

BIO 222 Anatomy And Physiology II (4)
(Common Course Number BIOL 2402)

Prerequisite: Biology 221 or demonstrated competence approved by the instructor. This is the second course of a two course sequence. Structure and function as related to the human circulatory, respiratory, urinary, digestive, reproductive, and endocrine systems are studied. Emphasis is placed on the inter relationships of these systems. Laboratory fee. (3 Lec., 3 Lab.)

A brief paragraph describing the course.

Laboratory Fee - A charge for equipment or services in addition to tuition.

Lecture/Lab - The number of hours that you will spend in a classroom (Lecture) and/or Laboratory each week during the semester. In this example, you would spend three hours in the classroom and three hours in the lab each week. Some course descriptions show the total number of "contact hours" for the entire semester. *Contact hours* are the number of hours you are in contact with the instructor or on-the-job supervisor during the entire semester.

In the following course descriptions, the number of credit hours for each course is indicated in parenthesis opposite the course number and the title. Courses numbered 100 (except Music 199, Art 199, Theater 199, CLS 100, DC 120, HD 100, HD 110 and LS 101) or above may be applied to requirements for associate degrees. Courses numbered 099 and below are developmental in nature and may not be applied to degree requirements. Students are urged to consult their counselor or advisor for specific information about transferability of courses to four-year institutions.

ACCOUNTING

ACC 131 Bookkeeping I (3)

The fundamental principles of double-entry bookkeeping are presented and applied to practical business situations. Emphasis is on financial statements, trial balances, work sheets, special journals, and adjusting and closing entries. A practice set covering the entire business cycle is completed. (3 Lec.)

ACC 132 Bookkeeping II (3)

Prerequisite: Accounting 131. This course covers accruals, bad debts, taxes, depreciation, controlling accounts, and business vouchers. Bookkeeping for partnerships and corporations is introduced. (3 Lec.)

ACC 201 Principles Of Accounting I (3)

(Common Course Number ACCT 2301)

This course covers the theory and practice of measuring and interpreting financial data for business units. Basic concepts, principles, and procedures are applied to the following topics: operating cycle, accruals and deferrals, financial statements, internal controls, receivables, inventory, fixed assets, and liabilities. (3 Lec.)

ACC 202 Principles Of Accounting II (3)

(Common Course Number ACCT 2302)

Prerequisite: Accounting 201. This course is a continuation of Accounting 201. This course covers the theory and practice of measuring and interpreting financial data for business units, with emphasis on corporations and managerial applications. Basic concepts, principles, and procedures are applied to the following topics; preparation and analysis of financial statements, budgeting, cash flow, cost systems, responsibility accounting, and cost-volume-profit analysis. (3 Lec.)

ACC 203 Intermediate Accounting I (3)

Prerequisite: Accounting 202. This course is an intensive study of the concepts, principles, and practice of modern financial accounting. Included are the purposes and procedures underlying financial statements. (3 Lec.)

ACC 204 Managerial Accounting (3)

Prerequisite: Accounting 202. This course is a study of accounting practices and procedures used to provide information for business management. Emphasis is on the preparation and internal use of financial statements and budgets. Systems, information, and procedures used in management planning and control are also covered. (3 Lec.)

ACC 205 Business Finance (3)

Prerequisites: Economics 201 or 202 and Accounting 201. This course focuses on the financial structure in the free enterprise system. Topics include interest rates, value analysis, the financing of business firms and government, and security markets. Financial requirements for decision-making and capital formation are analyzed. (3 Lec.)

ACC 207 Intermediate Accounting II (3)

This course continues Accounting 203. Principles and problems in fixed liabilities and capital stock are examined. Equities, business combinations, and the analysis and interpretation of supplementary statements are also included. (3 Lec.)

ACC 238 Cost Accounting (3)

Prerequisite: Accounting 202. The theory and practice of accounting for a manufacturing concern are presented. The measurement and control of material, labor, and factory overhead are studied. Budgets, variance analysis, standard costs, and joint and by-product costing are also included. (3 Lec.)

ACC 239 Income Tax Accounting (3)

Prerequisite: Accounting 202 or demonstrated competence approved by the instructor. This course examines basic income tax laws which apply to individuals and sole proprietorships. Topics include personal exemptions, gross income, business expenses, non-business deductions, capital gains and losses. Emphasis is on common problems. (3 Lec.)

ACC 250 Microcomputer-Based Accounting Applications (3)

Prerequisites: Accounting 202 and Computer Information Systems 103 or 108 or demonstrated competence approved by the instructor. This course is designed to provide students with an overview of microcomputer-based accounting systems for small businesses. Actual "hands-on" experience will be provided utilizing an integrated general ledger accounting package, including accounts receivable and accounts payable. In addition, various electronic spreadsheet applications and other topics will be covered. Laboratory fee. (2 Lec., 2 Lab.)

ACC 703 Cooperative Work Experience (3)

Prerequisites: Completion of Accounting 201 and 202 or instructor approval. This course combines work experience with academic study. The student, employer and instructor will develop a written competency-based learning plan with varied learning objectives and work experiences. Each student must complete three objectives and work a minimum of 15 hours per week for a total of three credit hours. Seminar topics include an orientation session, setting and writing job objectives, career planning, interpersonal skills, and an exit session. (1 Lec., 15 Lab.)

ACC 704 Cooperative Work Experience (4)

Prerequisites: Completion of Accounting 201 and 202 or instructor approval. This course combines work experience with academic study. The student, employer and instructor will develop a written competency-based learning plan with varied learning objectives and work experiences. Each student must complete four objectives and work a minimum of 20 hours per week for a total of four credit hours. Seminar topics include an orientation session, setting and writing job objectives, career planning, interpersonal skills, and an exit session. (1 Lec., 20 Lab.)

(ACC) 713 Cooperative Work Experience (3)

Prerequisite: Completion of Accounting 703 or 704. This course combines work experience with academic study. The student, employer and instructor will develop a written competency-based learning plan with varied learning objectives and work experiences. Each student must complete three new objectives and work a minimum of 15 hours per week for a total of three credit hours. Seminar topics include an orientation session, setting and writing job objectives, and additional independent study of business topics. The independent study topics in this course must be different from those included in the previous cooperative education course. (1 Lec., 15 Lab.)

(ACC) 714 Cooperative Work Experience (4)

Prerequisite: Completion of Accounting 703 or 704. This course combines work experience with academic study. The student, employer and instructor will develop a written competency-based learning plan with varied learning objectives and work experiences. Each student must complete four new objectives and work a minimum of 20 hours per week for a total of four credit hours. Seminar topics include an orientation session, setting and writing job objectives, and additional independent study of business topics. The independent study topics in this course must be different from those included in the previous cooperative education course. (1 Lec., 20 Lab.)

ADVERTISING ART

(See VISUAL COMMUNICATIONS)

AGRICULTURE

AGR 100 The Agricultural Industry (2)

(Common Course Number AGRI 1231)

This course is a survey of the trends and opportunities in the agricultural industry. It introduces the student to various types of professional and technical jobs in the industry and the types of agricultural businesses, commodity and trade organizations, and governmental agencies where these jobs may be found. Basic methods of utilizing educational resources such as the Learning Resource Center and agricultural resources within the area will be presented. (2 Lec.)

AGR 103 Agronomy (4)

(Common Course Number AGRI 1407)

This course introduces the student to the scientific principles and modern practices used in the production of field and forage crops. Topics include crop classification, variety selection and performance, soil testing, fertilizers, soil types and conditions, environmental factors, production practices, and crop usage. Laboratory fee. (3 Lec., 3 Lab.)

AGR 105 General Animal Science (4)

(Common Course Number AGRI 1419)

This course is an introduction to modern animal agriculture. Market classification, selection, basic reproduction and nutrition principles, and general management of cattle, swine, sheep, goats, and horses will be presented. Laboratory fee. (3 Lec., 3 Lab.)

AGR 107 General Horticulture (4)

(Common Course Number AGRI 1415)

This course is an introduction to the practical and scientific methods used in modern horticulture. Basic principles in plant propagation, landscape, greenhouse operation, plant identification, vegetable and fruit production will be included. Laboratory fee. (3 Lec., 3 Lab.)

AGR 111 Introduction To Agricultural Economics (3)

(Common Course Number AGRI 2317)

This course is an introduction to economic principles and concepts in agriculture as they relate to the local farm and at the national level. The course will make the student aware of economic principles that affect procedures, processing, and the distribution of farm products. Agricultural economics is an introductory level course providing students with a basis for evaluation of economic factors related to agricultural marketing and the general farm operation. (3 Lec.)

AGR 124 Poultry Science (3)

(Common Course Number AGRI 1327)

This is a basic course designed to introduce the student to the scientific components of the poultry industry. It will include study of the principles of breeding, incubation, feeding, housing, marketing, and disease control of poultry. Laboratory fee. (2 Lec., 2 Lab.)

AGR 202 Agricultural Power Units (3)

(Common Course Number AGRI 2301)

This course is an introduction to the principles of operating, servicing, and adjusting internal combustion engines used in agricultural enterprises. A comparison of gasoline, LP gas, and diesel engines as well as the function and maintenance of the electrical, ignition, fuel, lubrication, and cooling systems will be included. Laboratory fee. (2 Lec., 2 Lab.)

AGR 203 Agricultural Construction (3)

(Common Course Number AGRI 2303)

This is an introduction to construction principles used in agricultural enterprises. Layout and design of agricultural facilities, material selection, specification writing and interpretation, ordinance and environmental compliance, construction estimating, and safe use of selected tools and equipment will be included. Laboratory fee. (2 Lec., 2 Lab.)

AGR 204 Dairying (3)

(Common Course Number AGRI 1311)

This course surveys the dairying industry, dairy breeds, standards for selection and culling, herd replacement, feeding, management, and health maintenance. The food value of milk for the dairy industry, tests for composition and quality utilization and processing of market milk and dairy products will be reviewed. Laboratory fee. (2 Lec., 2 Lab.)

AGR 205 Introduction To Food Science (3)

(Common Course Number AGRI 1329)

This is an introduction to the basic scientific and technological principles of modern food supply systems. Students will receive instruction in the areas of food classification, modern processing, and quality control methods. Laboratory Fee. (2 Lec., 2 Lab.)

AGR 211 Computer Applications In Agriculture (3)

(Common Course Number AGRI 1309)

Prerequisite: Developmental Mathematics 093 or equivalent. This is an introduction to the use of computers in agricultural operations and management. Software and hardware selection, word processing, spreadsheet, database, and BASIC programming applications will be included. Laboratory Fee. (2 Lec., 2 Lab.)

AGR 250 Agricultural Entomology (4)

(Common Course Number AGRI 1413)

This course is a survey of general and economic entomology as it relates to agriculture. Topics include insect morphology, physiology, identification of the principal orders, economic significance, control of entomological pests of plants, man, animals, and household. Laboratory fee. (3 Lec., 3 Lab.)

AIR CONDITIONING AND REFRIGERATION

ACR 109 Contemporary Topics I (2)

Topics studied in this course will vary based on areas of special interest and recent developments in the air conditioning and refrigeration service industry. Topics covered in this course will be annotated in the class schedule. This course may be repeated for credit when topics vary. Laboratory fee. (1 Lec., 2 Lab.)

ACR 110 Contemporary Topics II (3)

Topics studied in this course will vary based on areas of special interest and recent developments in the air conditioning and refrigeration service industry. Topics covered in this course will be annotated in the class schedule. This course may be repeated for credit when topics vary. Laboratory fee. (2 Lec., 2 Lab.)

ACR 120 Principles Of Refrigeration (6)

This course is a comprehensive course that includes Air Conditioning 121 and 122. Students may register in the comprehensive course or the inclusive courses. The physical principles applying to refrigeration systems are studied including thermodynamics, gas laws, heat transfer, refrigerants, pressure-enthalpy diagrams, vapor compression systems, safety procedures and the proper safe use of handtools. Laboratory fee. (4 Lec., 5 Lab.)

ACR 121 Principles Of Refrigeration I (3)

The physical principles applying to refrigeration systems including thermodynamics, gas laws and heat transfer are covered by this course. The proper use of handtools and safety procedures followed in the industry are presented. Laboratory fee. (2 Lec., 2 Lab.)

ACR 122 Principles Of Refrigeration II (3)

Prerequisite: Air Conditioning and Refrigeration 121. This course is a continued study of the physical principles related to refrigeration systems including basic properties of refrigerants and the construction of pressure-enthalpy diagrams. The operation of vapor compression systems are studied in detail. (2 Lec., 3 Lab.)

ACR 125 Principles Of Electricity (6)

This course is a comprehensive course that includes Air Conditioning 126 and 127. Students may register in the comprehensive course or the inclusive courses. The electrical principles applied to the air conditioning and refrigeration systems are studied including simple circuits, circuits, basic electrical units, test instruments, construction and diagnosis of complex electrical circuits, alternating current motors and electrical safety procedures. Laboratory fee. (4 Lec., 5 Lab.)

ACR 126 Principles Of Electricity I (3)

This course is a study of the principles of electricity as applied in the air conditioning and refrigeration service field. Simple circuits, circuit components, basic electrical units and test instruments are covered. Laboratory fee. (2 Lec., 3 Lab.)

ACR 127 Principles Of Electricity II (3)

Prerequisite: Air Conditioning and Refrigeration 126. This course continues the study of electricity applied to air conditioning and refrigeration. Emphasis is placed on the construction and diagnosis of complex electrical circuits and alternating current motors used in the air conditioning and refrigeration service industry. Laboratory fee. (2 Lec., 2 Lab.)

ACR 130 Residential Cooling Systems (6)

Prerequisites: Air Conditioning and Refrigeration 120 and 125. This course is a comprehensive course that includes Air Conditioning 131 and 132. Students may register in the comprehensive course or the inclusive courses. This course covers compressors, condensers, evaporators, metering devices, pipe sizing, piping practices, seasonal maintenance, electrical systems, system trouble-shooting and system installation. Laboratory fee. (4 Lec., 5 Lab.)

ACR 131 Residential Cooling Systems I (3)

Prerequisites: Air Conditioning and Refrigeration 122 and 127. The principles of refrigeration and electricity are applied to residential cooling systems. Emphasis is placed on compressors, condensers, evaporators, metering devices and electrical components function and relationship. Laboratory fee. (2 Lec., 2 Lab.)

ACR 132 Residential Cooling Systems II (3)

Prerequisite: Air Conditioning and Refrigeration 131. This course includes pipe sizing, piping practices, seasonal maintenance, system trouble-shooting and system installation. Laboratory fee. (2 Lec., 3 Lab.)

ACR 137 Contemporary Topics III (1)

Topics studied in this course will vary based on areas of special interest and recent developments in the air conditioning and refrigeration service industry. Topics covered in this course will be annotated in the class schedule. This course may be repeated for credit when topics vary. (1 Lec.)

ACR 138 Contemporary Topics IV (2)

Topics studied in this course will vary based on areas of special interest and recent developments in the air conditioning and refrigeration service industry. Topics covered in this course will be annotated in the class schedule. This course may be repeated for credit when topics vary. (2 Lec.)

ACR 139 Contemporary Topics V (3)

Topics studied in this course will vary based on areas of special interest and recent developments in the air conditioning and refrigeration service industry. Topics covered in this course will be annotated in the class schedule. This course may be repeated for credit when topics vary. (3 Lec.)

ACR 140 Residential Heating Systems (6)

Prerequisites: Air Conditioning and Refrigeration 120 and 125. This course is a comprehensive course that includes Air Conditioning 141 and 142. Students may register in the comprehensive course or the inclusive courses. The servicing of residential heating systems is studied. Topics include gas-fired furnaces, electric furnaces, heat pumps, control circuits and other related topics. Laboratory fee. (4 Lec., 5 Lab.)

ACR 141 Residential Heating Systems I (3)

Prerequisites: Air Conditioning and Refrigeration 122 and 127. This course is a study of the procedures and principles used in servicing residential heating systems including gas-fired and electric furnaces. Laboratory fee. (2 Lec., 3 Lab.)

ACR 142 Residential Heating Systems II (3)

Prerequisite: Air Conditioning and Refrigeration 141. Heat pumps, heating system control circuits and other topics related to residential heating systems are covered in this course. Laboratory fee. (2 Lec., 2 Lab.)

ACR 200 Contractor Estimating (6)

This course is a comprehensive course that includes Air Conditioning 209 and 210. Students may register in the comprehensive course or the inclusive courses. The study of load calculations, air duct design, building plans, construction codes, state and local licenses, job estimating and job scheduling are covered in this course. Laboratory fee. (4 Lec., 5 Lab.)

ACR 209 Contractor Estimating I (3)

This course is a study of load calculations, air duct design and building plans used in the industry by service contractors. Laboratory fee. (2 Lec., 3 Lab.)

ACR 210 Contractor Estimating II (3)

Prerequisite: Air Conditioning and Refrigeration 209. This course continues the study of contractor estimating including construction codes, state and local licenses, job estimating elements, and job scheduling. Laboratory fee. (2 Lec., 2 Lab.)

ACR 212 System Servicing (6)

Prerequisites: Air Conditioning and Refrigeration 130 and 140. This course is a comprehensive course that includes Air Conditioning 213 and 214. Students may register in the comprehensive course or the inclusive courses. This course includes psychrometric air properties, system balancing, the service of humidifiers and electronic air cleaners, advanced system trouble-shooting, and system installation. Laboratory fee. (4 Lec., 5 Lab.)

ACR 213 System Servicing I (3)

Prerequisites: Air Conditioning and Refrigeration 132 and 142. The topics of psychrometric air properties, system balancing, the service of humidifiers and electronic air cleaners are covered in this course. Laboratory fee. (2 Lec., 2 Lab.)

ACR 214 System Servicing II (3)

Prerequisite: Air Conditioning and Refrigeration 213. This course is a continuation of system servicing with emphasis on advanced system trouble-shooting and system installation. Laboratory fee. (2 Lec., 3 Lab.)

ACR 221 Refrigeration Loads (3)

Prerequisites: Air Conditioning and Refrigeration 130 and 140. This course focuses on the analysis and estimation of refrigeration loads for medium and low temperature systems. Product storage data and procedures for calculating loads with a variety of products and refrigeration equipment are included. Laboratory fee. (2 Lec., 2 Lab.)

ACR 222 Advanced Systems (3)

Prerequisite: Air Conditioning and Refrigeration 221. Large commercial and industrial air conditioning systems are introduced. Basic system designs, equipment and control systems are the main topics. Instruction on air handling units, air volume boxes, centrifugal chillers, absorption systems, cooling towers, water treatment, and chilled water systems is included. Laboratory fee. (2 Lec., 3 Lab.)

ACR 223 Medium Temperature Refrigeration Systems (3)

Prerequisite: Credit or enrollment in Air Conditioning and Refrigeration 221. Service and installation procedures for medium temperature equipment as found in food stores, warehouses, distribution centers, and processing plants are presented. Particular attention is given to electrical and mechanical features and to defrost subsystems. Laboratory fee. (2 Lec., 3 Lab.)

ACR 224 System Testing And Balancing (3)

Prerequisite: Credit or enrollment in Air Conditioning and Refrigeration 222. Concepts and procedures for determining the effectiveness and efficiency of an air conditioning system are studied. System balance, capacity, load requirements and energy consumption are considered. Also included are the performance data and the use of test instruments for measurement of air flow, water flow, energy consumption, and recording of temperature. Laboratory fee. (2 Lec., 2 Lab.)

ACR 227 Low Temperature Refrigeration Systems (3)

Prerequisite: Credit or enrollment in Air Conditioning and Refrigeration 221. Service and installation procedures for low temperature equipment as found in food stores, warehouses, distribution centers, and industrial plants are presented. Particular attention is given to electrical and mechanical characteristics and to defrost system requirements. Laboratory fee. (2 Lec., 3 Lab.)

ACR 228 Air Conditioning System Equipment Selection (3)

Prerequisite: Credit or enrollment in Air Conditioning and Refrigeration 222. Methods of equipment selection are covered for air conditioning load requirements. Consideration is given to system layout, utility service, control schemes, duct sizing, and installation practices. Laboratory fee. (2 Lec., 3 Lab.)

ACR 229 Refrigeration Equipment Selection (3)

Prerequisite: Credit or enrollment in Air Conditioning and Refrigeration 223 or 227. This course presents a procedure for selecting equipment and estimating the capacity of commercial refrigeration systems. Consideration is given to component compatibility, system continuity control, balancing, and efficiency. Laboratory fee. (2 Lec., 2 Lab.)

ACR 230 Energy Conservation (3)

Prerequisite: Credit or enrollment in Air Conditioning and Refrigeration 229. The flow of energy in an air conditioning or refrigeration system is examined in depth. Emphasis is on cost effectiveness and energy savings. Practical situations are examined where industry offers a range of equipment or construction designs using various sources of energy with different degrees of efficiency. Laboratory fee. (2 Lec., 2 Lab.)

ACR 703 Cooperative Work Experience (3)

Prerequisites: Completion of two courses in the Air Conditioning/Refrigeration program or instructor approval. This course combines productive work experience with academic study. The student, employer and instructor will develop a written competency-based learning plan with varied learning objectives and work experiences. Students must develop new learning objectives each semester. The seminar consists of topics which include job interview and job application techniques, job site interpersonal relations, and employer expectations of employees. (1 Lec., 15 Lab.)

ACR 704 Cooperative Work Experience (4)

Prerequisites: Completion of two courses in the Air Conditioning/Refrigeration program or instructor approval. This course combines productive work experience with academic study. The student, employer and instructor will develop a written competency-based learning plan with varied learning objectives and work experiences. Students must develop new learning objectives each semester. The seminar consists of topics which include job interview and job application techniques, job site interpersonal relations, and employer expectations of employees. (1 Lec., 20 Lab.)

ACR 713 Cooperative Work Experience (3)

Prerequisites: Completion of two courses in the Air Conditioning program or instructor approval. This course combines productive work experience with academic study. The student, employer and instructor will develop a written competency-based learning plan with varied learning objectives and work experiences. Students must develop new learning objectives each semester. The seminar consists of topics which include preparation of resumes, changing jobs, supervising subordinates, and building self-esteem. (1 Lec., 15 Lab.)

ACR 714 Cooperative Work Experience (4)

Prerequisites: Completion of two courses in the Air Conditioning program or instructor approval. This course combines productive work experience with academic study. The student, employer and instructor will develop a written competency-based learning plan with varied learning objectives and work experiences. Students must develop new learning objectives each semester. The seminar consists of topics which include preparation of resumes, changing jobs, supervising subordinates, and building self-esteem. (1 Lec., 20 Lab.)

ANTHROPOLOGY

ANT 100 Introduction To Anthropology (3)

(Common Course Number ANTH 2346)

This course surveys the origin of mankind involving the processes of physical and cultural evolution, ancient man, and preliterate man. Attention is centered on fossil evidence, physiology and family/group roles and status. (3 Lec.)

ANT 101 Cultural Anthropology (3)

Cultures of the world are surveyed, and emphasis is given to those of North America. Included are the concepts of culture, social and political organization, language, religion and magic, and elementary anthropological theory. (3 Lec.)

ANT 104 American Indian Culture (3)

Native Americans are studied from three perspectives: Native American history and prehistory; traditional Indian cultures; and native Americans today. The latter theme stresses current topics such as discrimination, poverty, employment; reservations, The Bureau of Indian Affairs, self-determination, health care, etc. (3 Lec.)

ANT 110 The Heritage Of Mexico (3)

This course (cross-listed as History 110) is taught in two parts each semester. The first part of the course deals with the archeology of Mexico beginning with the first humans to enter the North American continent and culminating with the arrival of the Spanish in 1519 A.D. Emphasis is on archaic cultures, the Maya, the Toltec, and Aztec empires. The second part of the course deals with Mexican history and modern relations between the United States and Mexico. The student may register for either History 110 or Anthropology 110 but may receive credit for only one of the two. (3 Lec.)

ANT 231 Introduction To Archeology (3)

(Common Course Number ANTH 2302)

This course is an anthropological approach to archeology. Topics include an introduction to the study of humanity's past. How archeologists retrieve, process, analyze and interpret surviving prehistoric materials is covered, as well as a survey of world prehistory through neolithic times. (3 Lec.)

APPAREL DESIGN

APP 232 Design Development I (3)

Prerequisites: Sophomore standing and concurrent enrollment in Apparel Design 237 or demonstrated competence approved by the instructor. The principles of good design for mass produced apparel are studied, especially as they apply to structural and decorative design. Careful attention is given to fabric selection and trimming that are appropriate for current styles. Laboratory fee. (2 Lec., 4 Lab.)

APP 233 Design Development II (3)

Prerequisites: Sophomore standing and concurrent enrollment in Apparel Design 238 or demonstrated competence approved by the instructor. This is a continuation of developing design principles. The garment cost and construction techniques are emphasized along with selection of fabric and trimming. Laboratory fee. (2 Lec., 4 Lab.)

APP 237 Style Trends And Research I (2)

Prerequisites: Sophomore standing and concurrent enrollment in Apparel Design 232 or demonstrated competence approved by the instructor. This course is a study of current trends in the apparel industry. The student develops workroom sketches of designs for children, junior petite, junior, active sportswear, misses, and suits. (2 Lec.)

APP 238 Style Trends And Research II (2)

Prerequisites: Sophomore standing and concurrent enrollment in Apparel Design 233 or demonstrated competence approved by the instructor. This course is a continuation of the current trends in the apparel industry. The student develops sketches of designs for half sizes, dressy dresses, and lingerie. The student selects one size range for a complete research report. (2 Lec.)

ARCHITECTURE

ARC 130 Architectural Graphics I (3)

Orthographic projection, isometric and oblique drawing, shade and shadow are studied. Line work and lettering in pencil and ink are emphasized. Laboratory fee. (2 Lec., 4 Lab.)

ARC 133 Architectural Graphics II (3)

Perspective drawing, shade and shadow are presented. Emphasis is on the theory of drawing, line work and lettering in pencil and ink. Laboratory fee. (2 Lec., 4 Lab.)

ARC 134 Freehand Drawing I (3)

This course covers pencil drawing with emphasis on eye-to-hand coordination. Principles of light, shade, scale, proportion, line, and tonal quality using both pencil and conte crayon are included. Exercises use book references, human models, and indoor-outdoor sketching. Laboratory fee. (2 Lec., 4 Lab.)

ARC 151 Materials And Methods Of Construction (3)

An introduction to the nature of materials used in construction including their application in various building systems. Structural systems, building codes, and construction specifications are introduced, along with basic mechanical equipment requirements. (3 Lec.)

ARC 153 Construction Drawings-Wood Frame (3)

Prerequisite: Architecture 130 or demonstrated competence approved by the instructor. Construction drawings are introduced. Wood frame construction is studied. The relationship with design and specifications is included. Emphasis is on the total concept of construction documents and detailing. Laboratory fee. (2 Lec., 4 Lab.)

ARC 161 Architectural Design I (3)

Basic concepts of design are explored via two-dimensional and three-dimensional abstract design exercises. Emphasis is on architectonic explorations of geometric forms, with projects investigating rhythm, balance, harmony, proportion, and other principles of design. Laboratory fee. (2 Lec., 4 Lab.)

ARC 162 Architectural Design II (3)

Prerequisites: Architecture 130, 161, and concurrent enrollment in Architecture 133. The application of design principles studied in Architecture 161 is explored. Analysis, schematic study, and the development of spatial problems relating to human occupancy and needs are studied. Emphasis is placed on the development of integration of skills needed to formulate and communicate design concepts. Laboratory fee. (2 Lec., 4 Lab.)

ARC 230 History Of Modern Architecture (3)

Prerequisite: Sophomore standing. The influences and architectural expressions of man are examined. The time period spans the Industrial Revolution to the present day. (3 Lec.)

ARC 232 Basic Architectural Photography (3)

Prerequisites: Architecture 162, Photography 110, and sophomore standing. Emphasis is on successful presentation of interior, exterior, and detailed architectural areas and using photography as the visual medium. Equipment and techniques necessary to become proficient in these areas are studied. Laboratory fee. (2 Lec., 4 Lab.)

ARC 233 History Of Architecture Survey To 1850 (3)

This course surveys architecture and influences upon its development to the time of the Industrial Revolution. (3 Lec.)

ARC 237 Freehand Drawing III (3)

Prerequisite: Architecture 133 or demonstrated competence approved by the instructor. This course includes an introduction to and the development of rapid graphic skills needed to formulate and communicate design concepts, including the study and practice of visualization and freehand perspective drawing of design elements. (2 Lec., 4 Lab.)

ARC 240 Media Skills I (3)

This course introduces various media used in presentations. Pencil, water color, pen and ink, colored pencil, and felt tip markers are used on assorted materials in a variety of techniques. Laboratory fee. (2 Lec., 4 Lab.)

ARC 241 Media Skills II (3)

Additional media techniques are presented. Pastel, carbon pencil, tempera, and transparent and opaque water color are included. Laboratory fee. (2 Lec., 4 Lab.)

ARC 251 Building Technology II-Heavy Construction (3)

Prerequisite: Architecture 151. This course includes the study of construction materials, systems, and techniques used in heavy construction, with emphasis on steel and concrete. A general overview of mechanical and electrical systems and their requirements is provided. Laboratory fee. (2 Lec., 4 Lab.)

ARC 252 Building Technology III-Specifications and Office Practice (3)

Prerequisites: Architecture 151, and Architecture 153 or demonstrated competence approved by the instructor. Introduction and practice are provided in specification writing and construction estimating. Exploration is made of the organization of the construction process including the organization of an architect's office, administration of construction contracts, and governmental requirements. Laboratory fee. (2 Lec., 4 Lab.)

ARC 254 Construction Drawings II-Steel Frame (3)

Prerequisites: Architecture 151 and Architecture 153 or demonstrated competence approved by the instructor. Steel frame construction is studied. Introduction to commercial construction drawings is provided, including plans, elevations, sections, structural drawings, details, and schedules for steel frame buildings. Laboratory fee. (2 Lec., 4 Lab.)

ARC 256 Construction Drawings IV-Detailing (3)

Prerequisite: Architecture 153. Study is made of the concept of detailing, viewed as a means of controlling the total building process. Detailing subjects include structural, stairs, door and window, interior finish, roof-to-wall, and cabinets. Emphasis is placed upon technique, accuracy, and the ability to solve architectural detail problems. Laboratory fee. (2 Lec., 4 Lab.)

ARC 257 Computer Graphics (3)

Prerequisite: Architecture 153 or demonstrated competence approved in writing by the program coordinator prior to enrollment in the course. Schematic, presentation, and construction drawings are produced using Computer Assisted Design/Drafting (CADD) equipment. Emphasis is on the development of professional level drawings. Laboratory fee. (2 Lec., 4 Lab.)

ARC 261 Architectural Design III (3)

Prerequisites: Architecture 133, Architecture 151, Architecture 153, and Architecture 162. The principles studied in Architecture 162 are expanded in developing solutions to architectural problems. Emphasis is on functional and aesthetic values through three-dimensional problem solving studies. Laboratory fee. (2 Lec., 4 Lab.)

ARC 262 Architectural Design IV (3)

Prerequisites: Architecture 240, Architecture 261, and Architecture 271. The principles studied in Architecture 261 are expanded involving ever more complex architectural problems. Laboratory fee. (2 Lec., 4 Lab.)

ARC 271 Basic Structural Design (3)

Prerequisites: Mathematics 195 or Mathematics 116 and Architecture 151. Elementary structural analysis is investigated, including basic statics and applied mechanics. Characteristics of structural properties of common building materials is explored. (3 Lec.)

ARC 272 Building Equipment (3)

Prerequisite: Architecture 130. Elementary analysis of building equipment systems is investigated, including plumbing, electrical, and mechanical equipment. (3 Lec.)

ART**ART 104 Art Appreciation (3)**

(Common Course Number ARTS 1301)

Films, lectures, slides, and discussions focus on the theoretical, cultural, and historical aspects of the visual arts. Emphasis is on the development of visual and aesthetic awareness. (3 Lec.)

ART 105 Survey Of Art History (3)

(Common Course Number ARTS 1303)

This course covers the history of art from prehistoric time through the Renaissance. It explores the cultural, geophysical, and personal influences on art styles. (3 Lec.)

ART 106 Survey Of Art History (3)

(Common Course Number ARTS 1304)

This course covers the history of art from the Baroque period through the present. It explores the cultural, geophysical, and personal influences on art styles. (3 Lec.)

ART 110 Design I (3)

(Common Course Number ARTS 1311)

Basic concepts of design with two-dimensional materials are explored. The use of line, color, illusion of space or mass, texture, value, shape, and size in composition is considered. (2 Lec., 4 Lab.)

ART 111 Design II (3)

(Common Course Number ARTS 1312)

Basic concepts of design with three-dimensional materials are explored. The use of mass, space, movement, and texture is considered. Laboratory fee. (2 Lec., 4 Lab.)

ART 114 Drawing I (3)

(Common Course Number ARTS 1316)

This beginning course investigates various media, techniques, and subjects. It explores perceptual and descriptive possibilities and considers drawing as a developmental process as well as an end in itself. (2 Lec., 4 Lab.)

ART 115 Drawing II (3)

(Common Course Number ARTS 1317)

Prerequisite: Art 114. This course is an expansion of Art 114. It stresses the expressive and conceptual aspects of drawing, including advanced compositional arrangements, a range of wet and dry media, and the development of an individual approach to theme and content. Laboratory fee. (2 Lec., 4 Lab.)

ART 116 Jewelry Design And Construction (3)

(Common Course Number ARTS 2341)

This course explores the uses of metal in design, basic fabrication techniques in metal, bezel setting of stones, and simple casting. Emphasis is on original design. Laboratory fee. (2 Lec., 4 Lab.)

ART 117 Advanced Jewelry Design And Construction (3)

(Common Course Number ARTS 2342)

Prerequisite: Art 116. This course continues Art 116. Advanced fabrication, lost wax casting, setting of faceted stones, and forging and shaping of metal, including repousse and chasing are presented. Emphasis is on original design. Laboratory fee. (2 Lec., 4 Lab.)

ART 118 Creative Photography For The Artist I (3)

Prerequisites: Art 110, Art 114, or demonstrated competence approved by the instructor. Creative use of the camera is studied. Photosensitive materials are examined as a means of making expressive graphic images. Emphasis is on black and white processing and printing techniques. Laboratory fee. (2 Lec., 4 Lab.)

ART 119 Creative Photography For The Artist II (3)

Prerequisite: Art 118 or demonstrated competence approved by the instructor. This course is a continuation of Art 118. Emphasis is on individual expression. Laboratory fee. (2 Lec., 4 Lab.)

ART 165 Fundamental Design Studio I (4)

(Common Course Number ARCH 1403)

Prerequisites: Interior Design program major. Basic concepts of design limited to black and white values are studied including form, scale, space, proportion, rhythm, theme, variety, accent, unity, texture, and pattern as applied to two-dimensional and three-dimensional abstract projects. This course is intended for students enrolled in applied arts programs. Laboratory fee. (2 Lec., 5 Lab.)

ART 199 Problems In Contemporary Art (1)

(Common Course Number ARTS 2143)

Area artists, critics, and art educators speak with students about the work exhibited in the gallery and discuss current art styles and movements. They also discuss specific aspects of being artists in contemporary society. This course may be repeated for credit. (1 Lec.)

ART 201 Drawing III (3)

(Common Course Number ARTS 2323)

Prerequisites: Art 110, Art 111, Art 115, sophomore standing, or demonstrated competence approved by the instructor. This course covers the analytic and expressive drawing of the human figure. Movement and volume are stressed. Laboratory fee. (2 Lec., 4 Lab.)

ART 202 Drawing IV (3)

(Common Course Number ARTS 2324)

Prerequisites: Art 201, sophomore standing, or demonstrated competence approved by the instructor. This course continues Art 201. Emphasis is on individual expression. Laboratory fee. (2 Lec., 4 Lab.)

ART 203 Art History (3)

Prerequisites: Art 105 and Art 106. The development of the art of western culture during the Renaissance Period is presented. Emphasis is on the development of Renaissance art in Northern and Southern Europe. (3 Lec.)

ART 204 Art History (3)

Prerequisites: Art 105 and Art 106. The development of the art of western culture from the late 19th century through today is presented. Emphasis is on the development of modern art in Europe and America. (3 Lec.)

ART 205 Painting I (3)

Prerequisites: Art 110, Art 111, Art 115, or demonstrated competence approved by the instructor. This studio course stresses fundamental concepts of painting with acrylics and oils. Emphasis is on painting from still life, models, and the imagination. (2 Lec., 4 Lab.)

ART 206 Painting II (3)

Prerequisite: Art 205. This course continues Art 205. Emphasis is on individual expression. (2 Lec., 4 Lab.)

ART 208 Sculpture I (3)

(Common Course Number ARTS 2326)

Prerequisites: Art 110, Art 111, Art 115, or demonstrated competence approved by the instructor. Various sculptural approaches are explored. Different media and techniques are used. Laboratory fee. (2 Lec., 4 Lab.)

ART 209 Sculpture II (3)

(Common Course Number ARTS 2327)

Prerequisite: Art 208. This course continues Art 208. Emphasis is on individual expression. Laboratory fee. (2 Lec., 4 Lab.)

ART 210 Commercial Art I (3)

Prerequisites: Art 110, Art 111, Art 115 or demonstrated competence approved by the instructor. The working world of commercial art is introduced. Typical commercial assignments are used to develop professional attitudes and basic studio skills. Laboratory fee. (2 Lec., 4 Lab.)

ART 215 Ceramics I (3)

(Common Course Number ARTS 2346)

Prerequisites: Art 110, Art 111, Art 115 or demonstrated competence approved by the instructor. This course focuses on the building of pottery forms by coil, slab, and use of the wheel. Glazing and firing are also included. Laboratory fee. (2 Lec., 4 Lab.)

ART 216 Ceramics II (3)

(Common Course Number ARTS 2347)

Prerequisite: Art 215 or demonstrated competence approved by the instructor. Glaze technology is studied. Advanced problems in the creation of artistic and practical ceramic ware. Laboratory fee. (2 Lec., 4 Lab.)

ART 217 Watercolor I (3)

(Common Course Number ARTS 2366)

Prerequisites: Art 110, Art 111, and Art 115 or demonstrated competence approved by the instructor. This course explores studio techniques in water base media. Emphasis is placed on exploration of a variety of modes and techniques as a means to original expression. (2 Lec., 4 Lab.)

ART 218 Watercolor II (3)

(Common Course Number ARTS 2367)

Prerequisite: Art 217. This course continues the development of skills in water base media. (2 Lec., 4 Lab.)

ART 220 Printmaking I (3)

(Common Course Number ARTS 2333)

Prerequisites: Art 110, Art 111, Art 115, or demonstrated competence approved by the instructor. Basic printmaking processes are introduced. Included are planographic, intaglio, stencil and relief processes. Laboratory fee. (2 Lec., 4 Lab.)

ART 222 Printmaking II (3)

(Common Course Number ARTS 2334)

Prerequisite: Art 220. This course is a continuation of Printmaking I. Laboratory fee. (2 Lec., 4 Lab.)

ART 227 Design III (3)

(Common Course Number ARTS 2311)

Prerequisites: Art 110, 111, 114, and 115. This course is a development of two- and three-dimensional projects in a variety of materials. Emphasis is on individual expression. Laboratory fee. (2 Lec., 4 Lab.)

ART 229 Design IV (3)

(Common Course Number ARTS 2312)

Prerequisite: Art 227. This course is a continued investigation into the problems of two- and three-dimensional concepts. Emphasis is on individual expression. Laboratory fee. (2 Lec., 4 Lab.)

ART 232 Fibers I (3)

(Common Course Number ARTS 2336)

Prerequisites: Art 110, 111, 114, and 115. This course explores the problems of design, construction, and form utilizing basic fiber techniques. (2 Lec., 4 Lab.)

ART 233 Fibers II (3)

(Common Course Number ARTS 2337)

Prerequisite: Art 232. This course is a continuation of Art 232. It further explores fiber techniques and processes. (2 Lec., 4 Lab.)

ASTRONOMY

AST 101 Descriptive Astronomy (3)

(Common Course Number PHYS 1311)

This course surveys the fundamentals of astronomy. Emphasis is on the solar system. Included is the study of the celestial sphere, the earth's motions, the moon, planets, asteroids, comets, meteors, and meteorites. (3 Lec.)

AST 102 General Astronomy (3)

(Common Course Number PHYS 1312)

Stellar astronomy is emphasized. Topics include a study of the sun, the properties of stars, star clusters, nebulae, interstellar gas and dust, the Milky Way Galaxy, and external galaxies. (3 Lec.)

AST 103 Astronomy Laboratory I (1)

(Common Course Number PHYS 1111)

Prerequisite: Credit or concurrent enrollment in Astronomy 101. The student uses simple equipment to make elementary astronomical observations of the motions of celestial objects. Also covered are elementary navigational techniques, graphical techniques of calculating the position of a planet or comet, and construction of simple observing equipment. This laboratory includes night observations. Laboratory fee. (3 Lab.)

AST 104 Astronomy Laboratory II (1)

(Common Course Number PHYS 1112)

Prerequisite: Credit or concurrent enrollment in Astronomy 102. The student makes and uses elementary astronomical observations. Topics include timekeeping, the various uses of spectra, and the motions of stars and galaxies. This laboratory includes night observations. Laboratory fee. (3 Lab.)

AST 111 Fundamentals Of Astronomy (4)

(Common Course Number PHYS 1411)

This course concerns fundamental aspects of the solar system and the historical development of astronomical ideas. Included are studies of the celestial sphere and motions of the earth, the moon, planets, and other minor bodies. The origin and evolution of the solar system are also covered. The laboratory includes outdoor viewing sessions and study of celestial motions, elementary navigation, constellation identification, and telescope construction. Laboratory fee. (3 Lec., 3 Lab.)

AST 112 General Introductory Astronomy (4)

(Common Course Number PHYS 1412)

This course concerns fundamental properties of stars, stellar systems, star clusters, nebulae, interstellar gas and dust, and galaxies. Included is the study of the sun, Milky Way Galaxy, stellar evolution, black holes, and current cosmological ideas. The laboratory includes outdoor viewing sessions and the study of timekeeping, use of spectra, and motions of stars and galaxies. Laboratory fee. (3 Lec., 3 Lab.)

AUTO BODY

AB 111 Basic Metal Principles (3)

Prerequisite: Concurrent enrollment in Auto Body 112. The use of hand and air tools is covered. Filling of plastic is included. Preparing the metal, sanding, masking, and priming surfaces on minor damages are emphasized. Laboratory fee. (90 Contact Hours)

AB 112 Applied Basic Metal Principles (2)

Prerequisite: Concurrent enrollment in Auto Body 111. This course emphasizes hands-on use of hand and air tools used in metal repair. Techniques covered in Auto Body 111 will be applied to minor repair. Laboratory fee. (60 Contact Hours)

AB 113 Minor Metal Repair (3)

Prerequisite: Concurrent enrollment in Auto Body 114. Body construction and sheet metal alignment are studied. Emphasis is on the various techniques of applying plastic to minor damages. Laboratory fee. (90 Contact Hours)

AB 114 Applied Minor Metal Repair (2)

Prerequisite: Concurrent enrollment in Auto Body 113. This course emphasizes the hands-on techniques used in sheet metal alignment and damage correction. Procedures and tools included in Auto Body 113 will be covered. Laboratory fee. (60 Contact Hours)

AB 121 Basic Paint Principles (3)

Prerequisite: Concurrent enrollment in Auto Body 122. This course presents the use of sanders and other equipment. Sanding and applying primer and paint are stressed. The use and operation of the spray gun are covered. Laboratory fee. (90 Contact Hours)

AB 122 Applied Basic Paint Principles (2)

Prerequisite: Concurrent enrollment in Auto Body 121. This course will cover hands-on techniques in the use of power and hand sanding as well as use of the spray gun. The techniques included in Auto Body 121 will be covered. Laboratory fee. (60 Contact Hours)

AB 123 Paint Blending And Spot Repair Techniques (3)

Prerequisite: Concurrent enrollment in Auto Body 124. The use of manufacturers' codes, mass and tint tone methods, and color selection are examined. Initial color matching, correction, and color tinting are covered. Spray gun maintenance, operation, patterns and corrective adjustments receive particular attention. Polishing, touch-up, and detailing procedures are studied. Topics include the use of rubbing compounds, polishes, and buffing techniques. Minor surface repairs are also included. Laboratory fee. (90 Contact Hours)

AB 124 Applied Blending And Spot Repair Techniques (2)

Prerequisite: Concurrent enrollment in Auto Body 123. This course examines potential problems that occur in the application of the finish on today's automobile. Recognition, prevention, and correction of problems are stressed. Laboratory fee. (60 Contact Hours)

AB 139 Body Shop Operations (3)

The basic business principles of managing an automobile service shop are studied. Emphasis is on management functions, financial analysis, and governmental regulations. (48 Contact Hours)

AB 211 Major Panel Replacement (3)

Prerequisite: Concurrent enrollment in Auto Body 212. The use of power tools and cutting tools is presented. Emphasis is on the repair and replacement of panels. Laboratory fee. (90 Contact Hours)

AB 212 Applied Major Panel Replacement (2)

Prerequisite: Concurrent enrollment in Auto Body 211. This course emphasizes repair and replacement of panels on in-service automobiles. The adjustment, repair and replacement of equipment and minor electrical apparatus are also covered. Laboratory fee. (60 Contact Hours)

AB 213 Major Collision And Frame Repair (3)

Students learn to use power frame alignment equipment through lecture, demonstration, and actual job repairs. Laboratory fee. (90 Contact Hours)

AB 221 Advanced Paint Techniques (3)

This course focuses on the development of painting skills. Emphasis is on mixing colors, matching colors, and texture. Special decorative effects are also covered, such as simulated wood and vinyl application. Transfer repair, renewal, removal, film application, painting and taping techniques are included. Laboratory fee. (90 Contact Hours)

AB 222 Applied Advanced Paint Techniques (2)

This course further develops painting skills with hands-on training, emphasizing mixing colors and matching color and texture of paint on in-service automobiles. Laboratory fee. (60 Contact Hours)

AB 225 Special Auto Body Applications (1)

This is a development course designed to allow students to program their own specialized objectives under instructional supervision. This will permit the student to upgrade existing skills or develop a new skill. This course may be repeated for credit as topics vary for a maximum of three credit hours. Laboratory fee. (30 Contact Hours)

AB 235 Estimating (3)

The procedures for estimating damage on automobiles are presented. (3 Lec.)

AB 245 Welding For Auto Body (3)

This course covers the basics of oxyacetylene welding, spot welding (electric), and electric arc welding. Laboratory fee. (90 Contact Hours)

AB 703 Cooperative Work Experience (3)

Prerequisites: Completion of two courses in the Auto Body Technology program or instructor approval. This introductory course combines productive work experience with academic study. The student, employer and instructor will develop a written competency-based learning plan with varied learning objectives and work experiences. Students must develop new learning objectives each semester. The seminars consist of introduction to co-op, writing objectives of co-op, painting seminar, and frame repair seminar. (1 Lec., 15 Lab.)

AB 714 Cooperative Work Experience (4)

Prerequisites: Completion of two courses in the Auto Body Technology program or instructor approval. This advanced course combines productive work experience with academic study. The student, employer and instructor will develop a written competency-based learning plan with varied learning objectives and work experiences. Students must develop new learning objectives each semester. The seminars consists of human relations, adjustment on the job, vertical and horizontal working relationships and fundamentals of good working relationships. (1 Lec., 20 Lab.)

AUTOMOTIVE CAREER TECHNICIAN

ACT 110 Fundamentals (3)

This course introduces general auto maintenance procedures. Topics include shop safety, hand tools, shop equipment, manuals and schematic diagrams. (3 Lec.)

ACT 111 Basic Electrical Systems (3)

The theory and principles of electrical systems are presented. Batteries, starters, charging systems, and ignition systems are studied. Testing and basic service procedures are also included. (3 Lec.)

ACT 112 Parts And Service Department Management (3)

This course examines automotive parts and service department management. Topics include organizational structure, operation, marketing, promotional methods, management and financial controls. (3 Lec.)

ACT 113 Advanced Electrical Systems (3)

Prerequisite: Automotive Career Training 111. Advanced electrical systems are presented. Topics include chassis electrical systems, microcomputer controlled systems, instrument panel controls, wiring systems, and accessory panel controls. Emphasis is on interpretation of diagrams and schematics. Systematic trouble-shooting procedures are also stressed. Upon completion of this course, the technician is prepared for A.S.E. Electrical Systems Examination. (3 Lec.)

ACT 114 Basic Engine Repair (3)

The study and repair of engines are the focus of this course. Four-cycle, two-cycle, rotary, and diesel engines are included. Cooling and lubrication systems, valves and valve trains, cylinder head reconditioning, and the diagnosis of engine problems are studied. (3 Lec.)

ACT 115 Engine Overhaul Procedures (3)

Prerequisite: Automotive Career Technician 114 or concurrent enrollment. Procedures to disassemble, rebuild, and assemble the engine are covered. Emphasis is on precision measuring techniques. Also included are tune-up and road testing. Upon completion of this course, the technician is prepared for the A.S.E. Engine Repair Examination. (3 Lec.)

ACT 220 Air Conditioning And Heating Systems (3)

This course covers basic thermodynamics principles of heating and air conditioning systems. Topics include systems, components, systems testing, diagnosis, and servicing. Also included are control systems. Upon completion of this course, the technician is prepared for the A.S.E. Heating and Air Conditioning Systems Examination. (3 Lec.)

ACT 221 Suspension, Steering And Brake Systems (3)

Suspension, steering and brake systems are covered. Disc and drum brakes, front and rear suspension systems, and manual and power steering systems are included. Tires, wheels, and alignment are also studied. Emphasis is on inspection, diagnosis, and service techniques. Upon successful completion of this course, the technician is prepared for the A.S.E. Front End and Brake Systems Examinations. (3 Lec.)

ACT 222 Engine Tune-Up Procedures (3)

Tune-up procedures are presented. The fuel system, carburetor, ignition system, and emission control systems are covered. Emphasis is on precision diagnosis by the use of the engine analyzer as well as trouble-shooting procedures. Upon successful completion of this course, the technician is prepared for the A.S.E. Engine Tune-Up and Performance Examination. (3 Lec.)

ACT 223 Standard Transmissions And Power Trains (3)

This course includes the study of clutches, standard transmissions, drive line, and differentials. Gear trains, universal joints, axles, and bearings are covered. Emphasis is placed on drive line components for both conventional and transverse applications. Upon completion of this course, the technician is prepared for the A.S.E. Standard Transmission and Rear Axle Examination. (3 Lec.)

ACT 224 Automatic Transmission (3)

This course covers the operation, diagnosis, and repair procedures of automatic transmissions. Gear trains, torque converters, hydraulic systems, and control circuits are studied. Emphasis is placed on in-line and transverse applications. Upon completion of this course, the technician is prepared for the A.S.E. Automatic Transmission Examination. (3 Lec.)

ACT 225 Fuel Injection System (3)

Principles and functions of automotive fuel injectors, diagnosis and repair are covered. The course also reviews fuel pumps, gas tanks, emission control systems and their diagnosis, repair and adjustment. (3 Lec.)

ACT 704 Cooperative Work Experience (4)

Prerequisites: The student must be enrolled in the Automotive Career Technician program and working 40 hours per week in the automotive industry. This course combines work experience and preparation for Automotive Service Excellence Technical Certification. The student, employer and instructor will develop a written competency-based learning plan with specific learning objectives designed to prepare the student for selected Automotive Service Excellence Certification Tests. The student will develop a new set of learning objectives each semester. The seminars consist of topics designed to prepare the student for selected Automotive Service Excellence Certification Tests and the administration of such tests. (1 Lec., 20 Lab.)

ACT 714 Cooperative Work Experience (4)

Prerequisites: The student must be enrolled in the Automotive Career Technician program and working 40 hours per week in the automotive industry. This course combines work experience and preparation for Automotive Service Excellence Technical Certification. The student, employer and instructor will develop a written competency-based learning plan with specific learning objectives designed to prepare the student for selected Automotive Service Excellence Certification Tests. The student will develop a new set of learning objectives each semester. The seminars consist of topics designed to prepare the student for selected Automotive Service Excellence Certification Tests and the administration of such tests. (1 Lec., 20 Lab.)

ACT 804 Cooperative Work Experience (4)

Prerequisites: The student must be enrolled in the Automotive Career Technician program and working 40 hours per week in the automotive industry. This course combines work experience and preparation for Automotive Service Excellence Technical Certification. The student, employer and instructor will develop a written competency-based learning plan with specific learning objectives designed to prepare the student for selected Automotive Service Excellence Certification Tests. The student will develop a new set of learning objectives each semester. The seminars consist of topics designed to prepare the student for selected Automotive Service Excellence Certification Tests and the administration of such tests. (1 Lec., 20 Lab.)

ACT 814 Cooperative Work Experience (4)

Prerequisites: The student must be enrolled in the Automotive Career Technician program and working 40 hours per week in the automotive industry. This course combines work experience and successful completion of the Automotive Service Excellence Certification program. The student, employer and instructor will develop a written competency-based learning plan designed to prepare the student for successful entry into the automotive technology industry as an Automotive Service Excellence Certified Master Technician. The seminars consist of topics designed to prepare the student for successful completion of the Automotive Service Excellence Certification program and employer/employee expectations. (1 Lec., 20 Lab.)

AUTOMOTIVE TECHNOLOGY**AT 109 Minor Vehicle Service (3)**

This course introduces shop operations, customer relations, flat rate manuals, service manuals, safety, organizational design, pay structure, equipment, tools and basic operational theories. Also included are service procedures for lubrication, batteries, the cooling system, wheels and tires and new car pre-delivery service. Laboratory fee. (90 Contact Hours)

AT 110 Engine Repair I (4)

The operational theory of the internal combustion engine is studied. Engine rebuilding, mechanical diagnosis and failure analysis are introduced. Emphasis is on the proper use of hand tools, measuring instruments and equipment. Laboratory fee. (120 Contact Hours)

AT 112 Engine Repair II (4)

Prerequisite: Credit or concurrent enrollment in Automotive Technology 110. This course is a continuation of Automotive Technology 110. Engine rebuilding is continued with emphasis on in-service automotive repair. Laboratory fee. (120 Contact Hours)

AT 114 Engine Analysis And Tune-Up (4)

Techniques for diagnosing the automobile engine and other areas are covered. Electronics and conventional ignition systems are stressed. Carburetion and fuel injection systems are introduced. Complete tune-up procedures, using the latest test equipment are studied to insure the proper application to the automobile. Laboratory fee. (120 Contact Hours)

AT 116 Fuel And Emission Systems (4)

This course covers the principles and functions of the automotive fuel system including the carburetor, fuel pump, gas tank and emission control systems. Diagnosis and repair and adjustment of emission control systems, repair and adjustment of the carburetor, fuel injection and their components are stressed. Laboratory fee. (120 Contact Hours)

AT 119 Electrical Systems (3)

This course covers the automobile electrical system, including batteries, wiring, lighting, alternators, generators, starters and voltage regulators. The use of electrical test equipment and schematics are covered. The proper care and use of tools is stressed. Laboratory fee. (90 Contact Hours)

AT 163 Introduction To Automotive Service (3)

This course introduces shop operations, customer relations, flat rate manuals, service manuals, safety, organizational design, pay structure, equipment, tools and basic operational theories. Also included are service procedures for lubrication, batteries, the cooling system, wheels and tires and new car pre-delivery service. Laboratory fee. (90 Contact Hours)

AT 164 Engine Systems I (3)

Prerequisite: Automotive Technology 163 or demonstrated competence approved by the instructor. This course covers the theory, operation, and diagnosis of the internal combustion engine. Cylinder head, valve train, and camshaft repair procedures are studied. Also covered are the repair and diagnosis of the lubrication and cooling systems. Laboratory fee. (90 Contact Hours)

AT 165 Engine Systems II (3)

Prerequisite: Automotive Technology 164 or demonstrated competence approved by the instructor. This course is a continuation of Automotive Technology 164. Engine removal and replacement, major engine diagnosis, and repair of the crankshaft, engine block, and rings are stressed, including accurate measurement procedures. Laboratory fee. (90 Contact Hours)

AT 166 Brake Systems (3)

Prerequisite: Automotive Technology 163 or demonstrated competence approved by the instructor. This course will cover the fundamental operation of the hydraulic brake system. Basic hydraulic principles will be reviewed. Emphasis will be given to the operation of disc, drum, power boost and anti-lock systems. Laboratory fee. (90 contact hours)

AT 167 Steering And Suspension (3)

Prerequisite: Automotive Technology 163 or demonstrated competence approved by the instructor. This course includes a thorough study of the various types of automotive front and rear suspension systems, steering systems (both standard and power assisted) and recommended service and repair procedures. Various steering geometry angles will be defined and explained. The principles and procedures of four-wheel or thrust-line alignment will be covered on most common suspension types. Tire service relating to alignment will be stressed. Laboratory fee. (90 Contact Hours)

AT 168 Standard Transmissions And Drive Trains (3)

Prerequisite: Automotive Technology 163 or demonstrated competence approved by the instructor. This course includes an in-depth study of torque and gearing as applied to standard transmissions, transaxles, differentials, final drives, drive axles and clutches. Proper methods of diagnosis, adjustment and repair of these components will be covered in both theory and practical application. Laboratory fee. (90 Contact Hours)

AT 212 Special Automotive Applications (1)

This is a skill development course designed to allow students to program their own specialized objectives under instructional supervision. This course will permit the student to upgrade existing skills or develop a new skill. This course may be repeated for credit as topics vary for a maximum of three credit hours. Laboratory fee. (30 Contact Hours)

AT 222 Heating And Air Conditioning Systems (3)

This course focuses on the principles of operation and service techniques applied to automobile and air conditioning systems. Topics include components, testing, diagnosing, charging and repair practices. Laboratory fee. (90 Contact Hours)

AT 223 Brake Systems (4)

This course covers diagnosis and repair of both drum and disc brake systems, power brake boosters, master cylinders, wheel cylinders and related component parts. Laboratory fee. (120 Contact Hours)

AT 225 Front End Systems (4)

This course will cover the proper techniques and procedures for complete front-end service, wheel alignment, replacement of worn parts, balancing wheels and related front-end and steering mechanisms. Laboratory fee. (120 Contact Hours)

AT 227 Standard Transmission And Drive Trains (4)

This course includes the operating principles, construction, and maintenance of the manual transmission and related drive-train components. Laboratory fee. (120 Contact Hours)

AT 229 Automatic Transmissions I (4)

The theory, operation and diagnosis of automatic transmissions are studied. Rebuilding of automatic transmissions is introduced. Laboratory fee. (120 Contact Hours)

AT 231 Automatic Transmissions II (4)

Prerequisite: Credit or concurrent enrollment in Automotive Technology 229. This course is a continuation of Automotive Technology 229. Transmission rebuilding is continued with emphasis on in-service automobile repair. Laboratory fee. (120 Contact Hours)

AT 240 Basic Automotive Electronics (2)

Prerequisites: Automotive Technology 163 and Physics 131 or demonstrated competence approved by the instructor. A study of solid state and microprocessor electronics as related to an automotive electrical system with emphasis on inputs (sensors), outputs (actuators), and active devices. Diagnosis and repair procedures are covered using analog and digital test equipment. Laboratory fee. (60 Contact Hours)

AT 241 Automatic Transmissions I (3)

Prerequisites: Automotive Technology 163 and Physics 131 or demonstrated competence approved by the instructor. This course will cover the theory of automatic transmissions, as well as principles of operation and diagnosis of most popularly used automatic transmissions. This course establishes a firm foundation in principles and fundamentals for advanced application in Automotive Technology 242. All minor services, adjustments, and diagnostic procedures will be demonstrated. Laboratory fee. (90 Contact Hours)

AT 242 Automatic Transmissions II (3)

Prerequisites: Automotive Technology 240 and Automotive Technology 241 or demonstrated competence approved by the instructor. This course applies the principles and fundamentals from Automatic Transmissions I in the major repair and overhaul of specific transmissions. Proper safety procedures, disassembly, repair and reassembly procedures will be emphasized in order to accomplish a professional repair. Laboratory fee. (90 Contact Hours)

AT 243 Electrical Systems (3)

Prerequisite: Automotive Technology 163 and Physics 131 or demonstrated competence approved by the instructor. This course will cover the function of the automotive (high current) electrical system. Included will be a review of basic electrical theory and current flow. Emphasis will be given to alternator operation, D.C. motor operation, and troubleshooting. Also covered will be wiring diagrams, switches, relays, fuses and light operation. Laboratory fee. (90 Contact Hours)

AT 244 Heating And Air Conditioning Systems (3)

Prerequisites: Automotive Technology 163 and Physics 131 or demonstrated competence approved by the instructor. This course will cover the fundamental operations of air conditioning and heating systems. Basic heat transfer will be reviewed. Emphasis will be given to the basic system operation as well as climate controls. Laboratory fee. (90 Contact Hours)

AT 245 Ignition And Emission Controls (3)

Prerequisites: Automotive Technology 240 or demonstrated competence approved by the instructor. Automotive Technology 245 is a course of study on the theory, operation, maintenance, diagnosis and repair of ignition systems and emission controls. This is the first of two courses on engine performance. Basic mechanical engine diagnosis will be reviewed. This course will include electronic ignition, distributorless ignition and emission control systems. Also included is fundamentals of electronic engine controls. Engine analyzers and scan tools will be introduced as a means to diagnose engine performance problems. Laboratory fee. (90 Contact Hours)

AT 246 Fuel And Emission Systems (3)

Prerequisite: Automotive Technology 245 or demonstrated competence approved by the instructor. Automotive Technology 246 is a continuation of Automotive Technology 245 and is a course of study on the theory, operation, maintenance, diagnosis and repair of fuel systems. It includes mechanical and electric fuel delivery systems. The use of engine analyzers and scan tools to diagnose engine performance problems will be emphasized. It will also include the adjustments and procedures related to computer "learn" strategies. Laboratory fee. (90 Contact Hours)

AT 247 Vehicle Driveability (3)

Automotive Technology 247 is a course of study on vehicle driveability using an holistic approach. It focuses on all vehicle systems and how their operation can affect engine performance and total vehicle driveability. Emphasis will be placed on procedures to isolate the problem to specific system(s) and to determine the root cause of the driveability complaint. Laboratory fee. (90 Contact Hours)

AT 248 Automotive Electronics (3)

Prerequisite: Automotive Technology 119 or demonstrated competency approved by the instructor. A study of solid state and microprocessor electronics used in the automotive electrical system with emphasis on diagnostic and trouble-shooting procedures and use of test equipment. Laboratory fee. (90 Contact Hours)

AT 703 Cooperative Work Experience (3)

Prerequisites: Completion of two courses in the Automotive Technology program or instructor approval. This course combines productive work experience with academic study. The student, employer and instructor will develop a written competency-based learning plan with varied learning objectives and work experience. Students must develop new learning objectives each semester. The seminars consist of topics which include introduction to co-op, orientation for developing the learning plan, workplace procedures and ethics; preparation of repair orders, warranty claims and related documentation; developing service-oriented attitudes on the job; and investigation of automotive-related careers. (1 Lec., 15 Lab.)

AT 704 Cooperative Work Experience (4)

Prerequisites: Completion of two courses in the Automotive Technology program or instructor approval. This course combines productive work experience with academic study. The student, employer and instructor will develop a written competency-based learning plan with varied learning objectives and work experience. Students must develop new learning objectives each semester. The seminars consist of topics which include introduction to co-op, orientation for developing the learning plan, workplace procedures and ethics; preparation of repair orders, warranty claims and related documentation; developing service-oriented attitudes on the job; and investigation of automotive-related careers. (1 Lec., 20 Lab.)

AT 713 Cooperative Work Experience (3)

Prerequisites: Completion of two courses in the Automotive Technology program or instructor approval. This course combines productive work experience with academic study. The student, employer and instructor will develop a written competency-based learning plan with varied learning objectives and work experience. Students must develop new learning objectives each semester. The seminars consist of topics which include job site interpersonal relations, supervising subordinates and technical updates. (1 Lec., 15 Lab.)

AT 714 Cooperative Work Experience (4)

Prerequisites: Completion of two courses in the Automotive technology program or instructor approval. This course combines productive work experience with academic study. The student, employer and instructor will develop a written competency-based learning plan with varied learning objectives and work experience. Students must develop new learning objectives each semester. The seminars consist of topics which include job site interpersonal relations, supervising subordinates and technical updates. (1 Lec., 20 Lab.)

AT 743 Cooperative Work Experience (3)

Prerequisite: Enrollment in the Dealership-Sponsored program. This course consists of sixteen hours of seminars and ten weeks of full-time, on-the-job experience. The student, employer and instructor will develop a written competency-based learning plan with varied learning objectives and work experience. Theory and instruction received in the previous courses taught with an emphasis on a particular automobile manufacturer's products are applied at work in the sponsoring dealership. Seminars consist of topics which include technical application updates to particular automotive manufacturer's products and preparing the student for selected Automotive Service Excellence certification tests and their administration. (216 Contact Hours)

AT 753 Cooperative Work Experience (3)

Prerequisite: Enrollment in the Dealership-Sponsored program. This course consists of sixteen hours of seminars and ten weeks of full-time, on-the-job experience. The student, employer and instructor will develop a written competency-based learning plan with varied learning objectives and work experience. Theory and instruction received in the previous automotive courses taught immediately prior to each cooperative experience are applied at work in the sponsoring dealership. (216 Contact Hours)

AT 843 Cooperative Work Experience (3)

Prerequisite: Enrollment in the Dealership-Sponsored program. This course consists of sixteen hours of seminars and ten weeks of full-time, on-the-job experience. The student, employer and instructor will develop a written competency-based learning plan with varied learning objectives and work experience. Theory and instruction received in the previous automotive courses taught immediately prior to each cooperative experience are applied at work in the sponsoring dealership. (216 Contact Hours)

AT 853 Cooperative Work Experience (3)

Prerequisite: Enrollment in the Dealership-Sponsored program. This course consists of sixteen hours of seminars and ten weeks of full-time, on-the-job experience. The student, employer and instructor will develop a written competency-based learning plan with varied learning objectives and work experience. Theory and instruction received in the previous automotive courses taught immediately prior to each cooperative experience are applied at work in the sponsoring dealership. (216 Contact Hours)

AVIATION TECHNOLOGY**AVT 110 Introduction To Aviation (3)**

This course introduces various aspects of the aviation industry. It covers the history, development, and advances in aircraft from balloon flight to the supersonic transport. The industry's economic and sociological effects on people and communities are also included. Special emphasis is on the origin and growth of airlines and the aviation industry. (3 Lec.)

AVT 121 Ground School Private (3)

This course includes the study of Federal Aviation Regulations, flight dynamics, meteorology, navigation, use of the radio, and general service of aircraft. This course is designed to fulfill the Ground School Requirements for the FAA Private Pilot Certificate. (3 Lec.)

AVT 122 Aviation Law (3)

Prerequisite: Aviation Technology 110 or concurrent enrollment in Air Transportation. Procedural laws and regulations are studied. Local, national, and international procedures are included as well as those relating both to public and private sectors of air commerce. Topics include the development of aviation law, regulatory agencies, and quasi-official study and advisory groups. Special emphasis is on flight procedures (flight plans), ports of entry, customs, clearances, contraband, quarantines, aviation hazards, and liabilities. The present legal structure and possible future changes are covered, including reciprocity agreements. (3 Lec.)

AVT 123 Ground School Commercial (3)

Prerequisite: Private Pilot (Airplane) Certificate with Instrument Rating or completion of Aviation Technology 121 and completion of or concurrent enrollment in Aviation Technology 224. This course is an in-depth analysis of all topics covered in the Commercial Pilot written examination. Emphasis is on problem development and solutions. Advanced exercises are included in the areas of aircraft operation, meteorology, navigation, communications, theory and hazards of attitude instrument flight, flight physiology, and emergency procedures. This course and the prerequisites fulfill the Ground School Requirements of FAR Part 141 for the Commercial Pilot Certificate. (3 Lec.)

AVT 128 Aero Engines And Systems (3)

Prerequisite: Credit or concurrent enrollment in Aviation Technology 110. Electronics Technology 235, or the equivalent. Basic power plant types and principles of operation are presented. Reciprocating, rotary, jet, and rocket engines are included. Also covered are configurations, such as in-line, radial, vee and horizontally opposed, turbo-prop, turbo-jet, fan-jet, and ramjet. Also included are numerous systems, such as the fuel ignition, electrical, environmental, lubrication, hydraulics, pneumatics, fire detection and extinguishing, cooling, tachometer, monitoring, manual control, and power boosted systems. (3 Lec.)

AVT 135 Flight Basic (2)

This course provides 25 hours of flight instruction (15 hours dual, 10 hours solo flight). Two hours in the synthetic flight trainer are required. A current Second-Class Medical Certificate is required. Flight and laboratory fee. (9 Lab., 25 Flight)

AVT 137 Flight Private Pilot (1)

This course provides 20 hours of flight instruction (10 hours dual and 10 hours solo flight). Preflight instruction and briefing are included. Students receive credit for the course upon completion of the flight prerequisite for the Private Pilot Flight Examination. One hour in the synthetic flight trainer is required. Flight and simulator fee. (24 Contact Hours)

AVT 210 Federal Aviation Regulations, Airspace And Air Traffic Control (3)

It is recommended that this course be taken concurrently with one of the ground school courses. This course is an in-depth study of Federal Aviation Regulations, Air Traffic Control Procedures, the National Airspace System, and NTSB Regulations. Rated pilots may take this course to prepare for the 24-month flight review. (3 Lec.)

AVT 212 Airport Management (3)

Prerequisites: Required core courses and Management 136. The major functions of airport management are presented. Topics include the adequacy of facilities and services, organization, personnel, maintenance, planning and zoning, operations, revenues and expenses, public relations, ecology, and safety. A study of the socio-economic effect of airports on the communities they serve is also covered. (3 Lec.)

AVT 220 Aero Dynamics (3)

Prerequisite: Credit or concurrent enrollment in Mathematics 196. The aeronautical applications of physical laws are studied. Areas considered include gravitational laws, forces and stresses, Bernoulli's principle, gyroscopic principles, and velocity-sonic relationships. The dynamics of airfoils, high efficiency lift devices, energy conversion to reactive forces related to aerobatics, and precision flight are also covered. (3 Lec.)

AVT 221 Advanced Navigation (3)

Prerequisite: Credit or concurrent enrollment in Aviation Technology 226 or demonstrated competence approved by the instructor. This course covers flight planning. Consideration is given to adverse atmospheric conditions, navigational capabilities, and safety. The course also includes the analysis of atmospheric maps, charts, and weather radar. The interpretation and use of all operational data are also presented. (3 Lec.)

AVT 223 Airline Management (3)

Prerequisites: Required core courses and Management 136. This course covers the organization, operation, and management of an airline. Topics include planning, facility requirements, financing, aircraft selection criteria, route feasibility studies, market and passenger trends, and population trends affecting load factors. Problems unique to airline operations are explored. (3 Lec.)

AVT 224 Ground School Instrument (3)

Prerequisite: Private or Commercial Pilot Certificate. This course presents aircraft attitude control, flight procedures, and maneuvering by reference solely to cockpit instruments. Completion of this course will qualify the student to take the FAA Instrument Rating Written Examination. (3 Lec.)

AVT 225 Aviation Marketing (3)

Prerequisites: Required core courses. The significance and functions of marketing are stressed from the airline viewpoint. Topics include market research, sales, advertising and promotion concepts, traffic, demand analysis, and price determination theory. (3 Lec.)

AVT 226 Meteorology (3)

Basic concepts of meteorology are studied. Weather data and measuring devices are covered. Topics include weather maps and symbols, U.S. Weather Bureau documents, structure and general circulation of the atmosphere, theories of air mass, fronts, pressure areas, temperature gradients and inversions, violent atmospheric activities, and ecological considerations. (3 Lec.)

AVT 249 Air Transportation, Traffic And Cargo (3)

Prerequisites: Required core courses and credit or concurrent enrollment in Management 136. Transportation methods of passengers and cargo are examined. The need, nature and structure of the air transportation segment of the aviation industry are studied. Emphasis is on the diagnosis and solution of problems at terminals. Topics include air cargo, air mail, air express, air freight, air taxi, air carrier, commuter, business and pleasure. (3 Lec.)

AVT 250 Flight Instructor Ground School (2)

Prerequisite: Commercial Pilot Certificate or Private Pilot Certificate with 200 hours logged flight time. Principles of flight and ground school instruction are presented. Instructional techniques, analysis of maneuvers, and Federal Aviation Regulations are included. Completion of this course should qualify the student to pass the Flight Instructor Written Examination. (2 Lec.)

AVT 251 Flight Instructor Airplane/Single Or Multi-Engine (2)

Prerequisite: Commercial Pilot Certificate or Private Pilot Certificate with 200 hours logged flight time. This course focuses on the science of flight instruction. Evaluation of student performance and maneuver analysis are included. The required instructional flight disciplines are covered in order to qualify students for the FAA Flight Instructor Rating. Simulator fee. (40 Contact Hours)

AVT 252 Instrument Flight Instructor Ground School (3)

Prerequisites: Instrument Rating and Commercial Pilot Certificate; pass written examination on airspace and regulations or concurrent enrollment in Aviation Technology 210. Instructional techniques of the synthetic flight trainer are presented. Included are instrument flight rules, instrument charts, instrument procedures, and the use of aircraft instruments for instrument flight. Emphasis is on developing instructional techniques and materials. The course is designed to prepare students for the FAA Instrument Flight Instructor Flight Test and Written Test. Students will be required to conduct instruction in Synthetic Ground Trainers. (48 Contact Hours)

AVT 253 Flight Instructor-Airplane Instrument (1)

Prerequisite: Certified Flight Instructor Rating. This course including evaluation of student performance and maneuver analysis. The required flight disciplines that qualify the student for the FAA Flight Instructor-Airplane Instrument Rating are covered. Flight fee. (20 Contact Hours)

AVT 254 Flight Advanced I (1)

Prerequisite: A Private Pilot Certificate or a Commercial Pilot Certificate. This course includes 10 hours of flight instruction. All flying is in modern twin-engine aircraft and is designed to give the advanced pilot a greater depth of aircraft experience. The course includes preflight instruction and briefing. It leads to the FAA Multi-Engine Pilot Rating. Flight fee. (16 Contact Hours)

AVT 255 Type Rating Turbo Jet Ground School (3)

Prerequisites: Commercial Pilot Certificate and Instrument Rating. This course will provide an analysis of normal, abnormal and emergency operation of the flight control, engine, fuel, electrical, pneumatic, navigation and auxiliary systems and use of the manufacturer's performance data for a specific make and model (type) of small, multi-engine, turbo-jet powered airplane. A review of procedures related to preflight, takeoffs, enroute flight, landings, engine-out procedures, no-flap landings, collision avoidance and wake turbulence avoidance will also be included. (48 Contact Hours)

AVT 256 Flight Advanced II-Jet Type Rating (1)

Prerequisites: Commercial Pilot Certificate and Instrument Rating. This course includes ten hours of flight instruction, and ten hours of pre- and post-flight instruction. All flying is in a small multi-engine, turbo-jet powered airplane. It leads to the FAA Multi-Engine Jet airplane type rating. Flight fee. (13 Contact Hours)

AVT 261 Aircraft Dispatcher I (3)

This course includes a survey of FAA regulations and duties of an aircraft dispatcher plus basic flight planning for transport category aircraft. (48 Contact Hours)

AVT 262 Practical Dispatching (3)

Prerequisite: Aviation Technology 261. The content of this course is described in the current FAA Aircraft Dispatcher Circular. The content is designed to prepare the student for the FAA written exam for aircraft dispatcher. Simulator fee. (48 Contact Hours)

AVT 263 Flight Engineer Ground School (3)

Prerequisites: Aviation Technology 261 and Aviation Technology 262 or the equivalent experience and/or credentials. This course includes FAA regulations, flight theory and aerodynamics, basic meteorology with respect to engine operations, center of gravity computations, airplane systems and equipment, and normal and emergency operating procedures. This information prepares the student for the flight engineer's written tests. Specific emphasis is placed on the Boeing 727 and Boeing 707 as aircraft which are used for flight engineer training by civil United States air carriers. (48 Contact Hours)

AVT 264 Air Transport Pilot Ground School (3)

Prerequisites: Aviation Technology 261 and Aviation Technology 262 or the equivalent experience and/or credentials. This course is designed to prepare the student for the Air Transport Pilot Written Test and includes operations of air carrier aircraft, navigation by instruments, the general system and material relative to weather information collection and dissemination, meteorology, weather conditions, air navigation facilities, airplane weather observations and influence of terrain on meteorological conditions, radio communications, and basic principles of loading and weight distribution. (48 Contact Hours)

AVT 265 Flight Commercial I (2)

Prerequisite: Private Pilot Certificate. This course provides 30 hours of flight instruction (10 hours dual and 20 hours solo flight) to apply toward the Commercial Pilot Certificate. Pre-flight instruction and briefing are included. A current Second-Class Medical Certificate is required. Flight and laboratory fee. (8 Lab., 30 Flight)

AVT 266 Flight Commercial II (3)

Prerequisites: Aviation Technology 265 and concurrent enrollment in Aviation Technology 123. This course provides 46 hours of flight instruction (10 hours dual instrument instruction and 36 hours of solo flight) to apply toward the Commercial Pilot Certificate. Preflight instruction and briefing are included, as are 5 hours of night flight. Flight and laboratory fee. (8 Lab., 46 Flight)

AVT 267 Flight Commercial III - Instrument (3)

Prerequisites: Private Pilot Certificate, Aviation Technology 266 and completion of or concurrent enrollment in Aviation Technology 224. This course provides 45 hours of instrument flight instruction. Preflight instruction and briefing are included. Flight fee. (46 Flight)

AVT 268 Flight Commercial IV (3)

Prerequisites: Aviation Technology 123 and 267. This course provides 46 hours flight instruction (6 hours dual flight, 30 hours solo flight, and 10 hours dual and practice flight in a more sophisticated aircraft) to fulfill flight law requirements for the Commercial Pilot Certificate. Preflight instruction and briefing are included. Students receive course credit upon completion of the flight prerequisites to the Commercial Pilot Flight Examination. Flight fee and laboratory fee. (4 Lab., 46 Flight)

AVT 270 Orientation To Air Traffic Control (5)

This course is designed to acquaint new employees with the FAA organization, the options within the air traffic service, and the emergency readiness requirements. It provides a basic orientation to the history, structure, and functions of the FAA with emphasis on air traffic service. National, local, and individual policies and obligations are also presented. (80 Contact Hours)

AVT 272 Aircraft Types And Characteristics/Air Traffic Control Communications (2)

This course is designed to introduce developmental controllers to the information necessary to identify the types of aircraft by name or model by their physical characteristics and to state the normal range of operating speeds, altitudes, the weight class and category, as well as developing the ability to identify the procedures, phraseology, and discipline pertaining to radio communications in accordance with FCC regulations. Emergency communications and visual communications used by air traffic control facilities are also presented. (32 Contact Hours)

AVT 274 Air Traffic Computer Operations (3)

This course is designed to train the student to operate the components of the central computer complex in an en route air traffic control center and includes computer operations, input and output devices and their operating characteristics and message format, content, and computer responses. (48 Contact Hours)

AVT 704 Cooperative Work Experience (4)

Prerequisite: 15 Credit Hours. This course combines productive work experience with academic study. The student, employer and instructor will develop a written competency-based learning plan with varied learning objectives and work experiences. Students must develop new learning objectives each semester. The seminar consists of topics which include job interview and job application techniques, job site interpersonal relations, and employer expectations of employees. (1 Lec., 20 Lab.)

AVT 714 Cooperative Work Experience (4)

Prerequisite: 15 Credit Hours. This course combines productive work experience with academic study. The student, employer and instructor will develop a written competency-based learning plan with varied learning objectives and work experiences. Students must develop new learning objectives each semester. The seminar consists of topics which include dressing for success, how to advance in the job through off-duty education, and utilizing role models to achieve goals. (1 Lec., 20 Lab.)

AVT 804 Cooperative Work Experience (4)

Prerequisite: 15 Credit Hours. This course combines productive work experience with academic study. The student, employer and instructor will develop a written competency-based learning plan with varied learning objectives and work experiences. Students must develop new learning objectives each semester. The seminar consists of topics which include preparation of resumes, changing jobs, supervising subordinates, and building self-esteem. (1 Lec., 20 Lab.)

AVIONICS TECHNOLOGY

AV 129 Introduction To Aircraft Electronic Systems (3)

This course relates aircraft electronic systems to aircraft flight and navigation. Emphasis is on the operation and function of the electronic systems. The laboratory requirements include demonstrations of the operation of the systems and the use of some ramp test equipment. Laboratory fee. (2 Lec., 2 Lab.)

AV 132 Aircraft Electrical And Electronic Systems Installation (4)

Prerequisite: Avionics Technology 129. Suggested prerequisites: Electronics Technology 191 or Electronics Technology 135. This is a course of study and practical experience in the installing of avionic systems in aircraft, mounting of electronic equipment, construction and installation of electrical wiring and cables, proper use of tools, selection of materials, and accepted methods and procedures to insure aircraft safety, mechanical integrity, electrical reliability, and compliance with applicable FAA regulations. Laboratory fee. (3 Lec., 3 Lab.)

AV 235 Operational Testing Of Aircraft Electronic Systems (4)

Prerequisite: Avionics Technology 129. Suggested prerequisites: Electronics Technology 191 or Electronics Technology 135. This course integrates technical drawing interpretation, wiring interface checkout and the application of ramp test equipment in common usage. In the laboratory, the student will perform functional checks of aircraft electrical and electronic systems using appropriate procedures for determining the operating condition of the equipment and techniques for correcting equipment malfunctions. The students will gain practical experience in avionics equipment in aircraft and on the bench. Laboratory fee. (3 Lec., 3 Lab.)

BIOLOGY

BIO 101 General Biology (4)

(Common Course Number BIOL 1406)

This course is the first of a two semester sequence designed for students majoring or minoring in biology and related disciplines. Topics include but are not limited to the scientific method, general and biological chemistry, cell structure and function, cell reproduction, and molecular genetics. Laboratory fee. (3 Lec., 3 Lab.)

BIO 102 General Biology (4)

(Common Course Number BIOL 1407)

This course is a continuation of Biology 101 and is intended for students majoring or minoring in biology and related disciplines. Topics include but are not limited to development, evolution, ecology, population genetics, and a review of the diversity of life. Laboratory fee. (3 Lec., 3 Lab.)

BIO 110 Introductory Botany (4)

(Common Course Number BIOL 1411)

This course introduces plant form and function. Topics ranging from the cell through organs are included. Emphasis is on the vascular plants, including the taxonomy and life cycles of major plant divisions. Laboratory fee. (3 Lec., 3 Lab.)

BIO 115 Biological Science (4)

(Common Course Number BIOL 1408)

This course is designed for all majors except science. Selected topics in biological science are presented to students not majoring in the sciences to promote their understanding of biological concepts and to enable them to use these concepts in their daily lives. Topics include chemistry and biochemistry, the cell, respiration, photosynthesis, cell reproduction, genetics, and reproduction and development. Laboratory fee. (3 Lec., 3 Lab.)

BIO 116 Biological Science (4)

(Common Course Number BIOL 1409)

This course is designed for all majors except science. Selected topics in biological science are presented to students not majoring in the sciences to promote their understanding of biological concepts and to enable them to use these concepts in their daily lives. Topics include plant and animal systems, diversity of life and population dynamics, taxonomy, evolution, and ecology. Laboratory fee. (3 Lec., 3 Lab.)

BIO 120 Introduction To Human Anatomy And Physiology (4)

Prerequisite: Prior enrollment in Biology 115 is recommended for those with no previous high school biology. Major topics include cell structure and function, tissues, organization of the human body, and the following organ systems: skeletal, muscular, nervous, and endocrine. This course is a foundation course for specialization in Associate Degree Nursing and allied health disciplines. Other students interested in the study of structure and function of the human body should consult a counselor. Emphasis is on homeostasis. Laboratory fee. (3 Lec., 3 Lab.)

BIO 121 Introduction To Human Anatomy And Physiology (4)

Prerequisite: Biology 120. This course is a continuation of Biology 120. Major topics include the following organ systems: digestive, circulatory, respiratory, urinary, and reproductive. Emphasis is on homeostasis. Laboratory fee. (3 Lec., 3 Lab.)

BIO 123 Applied Anatomy And Physiology (4)

This course surveys human anatomy and physiology. The various body systems are studied and examined. This course is suggested for students of the health occupations in accordance with their program requirements. It is open to other students. This course will apply toward meeting the science requirement for non-science majors. No previous science background is presumed. Laboratory fee. (3 Lec., 2 Lab.)

BIO 203 Intermediate Botany (4)

Prerequisites: Biology 101 and 102. The major plant groups are surveyed. Emphasis is on morphology, physiology, classification, and life cycles. Evolutionary relationships of plants to each other and their economic importance to humans are also covered. (3 Lec., 3 Lab.)

BIO 211 Invertebrate Zoology (4)

(Common Course Number BIOL 2418)

Prerequisite: Eight hours of biological science. This course surveys the major groups of animals below the level of chordates. Consideration is given to phylogeny, taxonomy, morphology, physiology, and biology of the various groups. Relationships and importance to higher animals and humans are stressed. Laboratory fee. (3 Lec., 3 Lab.)

BIO 216 General Microbiology (4)

(Common Course Number BIOL 2420)

Prerequisite: Biology 102 or 121 or demonstrated competence approved by the instructor. Topics include growth, reproduction, nutrition, genetics, and ecology of micro-organisms, as well as aspects of microbial disease, immunology and chemotherapy. Laboratory activities constitute a major part of the course. Laboratory fee. (3 Lec., 4 Lab.)

BIO 218 Field Biology (3)

Local plant and animal life are surveyed in relationship to the environment. Aquatic and terrestrial communities are studied with reference to basic ecological principles and techniques. Emphasis is upon classification, identification, and collection of specimens in the field. This course may be repeated for credit. (2 Lec., 4 Lab.)

BIO 221 Anatomy And Physiology I (4)

(Common Course Number BIOL 2401)

Prerequisite: Biology 102 or demonstrated competence approved by the instructor. This course examines cell structure and function, tissues, and the skeletal, muscular, and nervous systems. Emphasis is on structure, function, and the interrelationships of the human systems. Laboratory fee. (3 Lec., 3 Lab.)

BIO 222 Anatomy And Physiology II (4)

(Common Course Number BIOL 2402)

Prerequisite: Biology 221 or demonstrated competence approved by the instructor. This is the second course of a two course sequence. Structure and function as related to the human circulatory, respiratory, urinary, digestive, reproductive, and endocrine systems are studied. Emphasis is placed on the inter relationships of these systems. Laboratory fee. (3 Lec., 3 Lab.)

BIO 223 Environmental Biology (3)

(Common Course Number BIOL 2306)

The principles of aquatic and terrestrial communities are presented. Emphasis is on the relationship of these principles to the problems facing people in a modern technological society. Laboratory fee. (3 Lec., 3 Lab.)

BIO 226 Genetics (4)

(Common Course Number BIOL 2416)

This course focuses on genetics. Topics include Mendelian inheritance, recombinant genetics, the biochemical theory of genetic material, and mutation theory. Plant and animal materials are used to study population genetics, linkage, gene structure and function, and other concepts of heredity. Laboratory fee. (3 Lec., 3 Lab.)

BIO 230 Mammalian Physiology (4)

(Common Course Number BIOL 2403)

Prerequisite: Twelve hours of biology, eight hours of inorganic chemistry or concurrent registration in organic chemistry and demonstrated competence approved by the instructor. This course is a study of the function of various mammalian systems. Emphasis is on interrelationships. Instruments are used to measure various physiological features. Laboratory fee. (3 Lec., 3 Lab.)

BIO 235 Comparative Anatomy Of The Vertebrates (4)

Prerequisites: Biology 101 and 102. For science majors and pre-medical and pre-dental students. Major groups of vertebrates are studied. Emphasis is on morphology and evolutionary relationships. Laboratory fee. (3 Lec., 4 Lab.)

BLUEPRINT READING**BPR 177 Blueprint Reading (2)**

Engineering drawings are described and explained. Topics include multi view projection, sections, auxiliaries, bill of materials, symbols, notes, conventions, and standards. The skills of visualization, dimensioning, and sketching of machine parts are covered. (1 Lec., 3 Lab.)

BPR 178 Blueprint Reading (2)

Prerequisite: Blueprint Reading 177. The different types of prints are read. More complex prints are included. Types of prints include machine, piping, architectural, civil, structural, electrical, electronic, numerical control documents, and aircraft. Calculations required in blueprint reading are emphasized. (1 Lec., 3 Lab.)

BUSINESS**BUS 105 Introduction To Business (3)**

(Common Course Number BUSI 1301)

This course provides an introduction to business operations. Topics include: the business system, legal forms of business, organization and management, business functions (production, marketing, finance, risk management, information systems, accounting) and the environments affecting business (the economy, labor, government regulation, social responsibility, law, international business, and technology). (3 Lec.)

BUS 143 Personal Finance (3)

(Common Course Number BUSI 1307)

Personal financial issues are explored. Topics include financial planning, insurance, budgeting, credit use, home ownership, savings, investment, and tax problems. (3 Lec.)

BUS 234 Business Law (3)

(Common Course Number BUSI 2301)

This course presents the legal principles affecting business decisions. The law of contracts, agency, sales, negotiable instruments, and secured transactions are specifically covered. (3 Lec.)

CHEMISTRY**CHM 101 General Chemistry (4)**

(Common Course Number CHEM 1411)

Prerequisites: Developmental Mathematics 093 or equivalent and any one of the following: high school chemistry, Chemistry 115, or the equivalent. This course is for science and science-related majors. Fundamental concepts of chemistry are presented including states and properties of matter, the periodic table, chemical reaction types and energy relationships, chemical bonding, atomic and molecular structure, stoichiometry, gas laws and solutions. Laboratory fee. (3 Lec., 3 Lab.)

CHM 102 General Chemistry (4)

(Common Course Number CHEM 1412)

Prerequisite: Chemistry 101. This course is for science and science-related majors. It is a continuation of Chemistry 101. Previously learned and new concepts are applied. Topics include reaction kinetics and chemical equilibrium, acids, bases, salts and buffers, thermodynamics, colligative properties of solutions, electrochemistry, transition-metal chemistry, nuclear chemistry, qualitative inorganic analysis and an introduction to organic chemistry. Laboratory fee. (3 Lec., 3 Lab.)

CHM 115 Chemical Science (4)

(Common Course Number CHEM 1413)

Prerequisite: Developmental Mathematics 091 or the equivalent. This course is for non-science majors. Fundamental concepts are presented in lecture and laboratory including the periodic table, atomic structure, chemical bonding, reactions, stoichiometry, states of matter, properties of metals, nonmetals and compounds, acid-base theory, oxidation-reduction, solutions and nuclear chemistry. Descriptive chemistry is emphasized. Laboratory fee. (3 Lec., 3 Lab.)

CHM 116 Chemical Science (4)

(Common Course Number CHEM 1414)

Prerequisite: Chemistry 115 or demonstrated competence approved by the instructor. This course is for non-science majors. It surveys organic chemistry and biochemistry. The reactions, syntheses, nomenclature, uses, purposes and properties of the important classes of organic and biochemical compounds are studied. Laboratory fee. (3 Lec., 3 Lab.)

CHM 201 Organic Chemistry I (4)

(Common Course Number CHEM 2423)

Prerequisite: Chemistry 102. This course is for science and science-related majors. It introduces the fundamental classes of organic (carbon) compounds and studies aliphatic and aromatic hydrocarbons in detail. It includes occurrence, structure, stereochemistry, nomenclature, and reactions and mechanisms of synthesis. Lab includes: synthesis, purification by distillation, recrystallization, extraction and chromatography, and identification by spectroscopic, physical and chemical methods. Laboratory fee. (3 Lec., 4 Lab.)

CHM 202 Organic Chemistry II (4)

(Common Course Number CHEM 2425)

Prerequisite: Chemistry 201. This course is for science and science-related majors. It is a continuation of Chemistry 201. Topics studied include properties and syntheses of aliphatic and aromatic systems of aldehydes, ketones, carboxylic acids, esters, ethers, amines, alcohols and amides. Further topics include polyfunctional and heterocyclic compounds, amino acids, proteins, lipids and carbohydrates. Laboratory includes qualitative organic analysis. Laboratory fee. (3 Lec., 4 Lab.)

CHM 203 Quantitative Analysis (4)

(Common Course Number CHEM 2401)

Prerequisite: Chemistry 102, Mathematics 101. A survey of methods used in analytical chemistry: gravimetric and volumetric methods based on equilibria, oxidation-reduction, and acid-base theory, spectrophotometry, chromatography and electroanalytical chemistry. (2 Lec., 6 Lab.)

CHM 205 Chemical Calculations (2)

(Common Course Number CHEM 1207)

Prerequisite: Chemistry 102. Chemical calculations are reviewed. Emphasis is on stoichiometry and chemical equilibrium. (2 Lec.)

CHM 234 Instrumental Analysis (4)

(Common Course Number CHEM 2402)

Prerequisite: Chemistry 203 or demonstrated competence approved by the instructor. The role of modern electronic instrumentation in analysis is explored. Topics include infrared and ultraviolet spectroscopy, gas chromatography, potentiometric titration, electrochemistry, continuous flow analysis, scintillation counting, electrophoresis, flame photometry, and atomic absorption spectrophotometry as analytical tools. Laboratory fee. (2 Lec., 6 Lab.)

CHILD DEVELOPMENT

CD 100 Directed Participation Of Early Childhood Programs (1)

This course provides in-depth observation and participation experiences and activities with young children at the Parent/Child Study Center and other appropriate child-care facilities. It is repeated four times concurrently with required Child Development core or elective courses. (30 Contact Hours)

CD 125 Infant And Toddler Learning Environments Activities And Materials (4)

This course is a study of appropriate learning experiences for infants and toddlers in child-care facilities. Emphasis is on quality environments, learning activities, materials and effective teaching techniques. The laboratory experience includes observing and participating in the Parent/Child Study Center and community child-care facilities. Laboratory fee. (3 Lec., 2 Lab.)

CD 127 Early Childhood Development, 5-12 Years (3)

This course covers the principles of normal child growth and development from five through twelve years of age. Emphasis is on physical, intellectual, emotional, and social growth. Special attention is given to before- and after-school care. (3 Lec.)

CD 128 Cultural Diversity In The Classroom (3)

This course is a study of diverse cultures. Emphasis is on research, community organizations, teaching techniques and appropriate early childhood classroom activities. (3 Lec.)

CD 135 Introduction To Early Childhood Programs And Services (4)

This course is a study of historical and current early childhood development programs and services, as well as individuals influencing these programs. Laws and standards regulating these child-care facilities are covered. The laboratory experience includes observation of and participation with pre-schools and child-care centers in the community. Laboratory fee. (3 Lec., 2 Lab.)

CD 137 Early Childhood Learning Environments, Activities And Materials (4)

This course is a study of appropriate learning experiences for young children in child-care facilities. Emphasis is on quality environments, learning activities, materials and effective teaching techniques. The laboratory experience includes observation and participation in the Parent/Child Study Center and community child-care facilities. Laboratory fee. (3 Lec., 2 Lab.)

CD 140 Early Childhood Development, 0-3 Years (3)

This course covers the principles of normal child growth and development from conception through three years. Emphasis is on physical, intellectual, emotional, and social growth. (3 Lec.)

CD 141 Early Childhood Development, 3-5 Years (3)

This course covers the principles of normal child growth and development from three through five years of age. Emphasis is on physical, intellectual, emotional, and social growth. (3 Lec.)

CD 150 Nutrition, Health And Safety Of The Young Child (3)

Practical experience and information on the nutritional, health, and safety needs of the young child are provided. A survey of community services for parents and teachers is included. Students earn a first aid certificate during this course. Laboratory fee. (2 Lec., 2 Lab.)

CD 200 Application Of Learning Theories (1)

This course provides application of child development learning theories with young children at the Parent/Child learning Study Center and other appropriate child-care facilities. It is repeated four times concurrently with required Child Development core or elective courses. (30 Contact Hours)

CD 203 Parents And The Child Caregiver/Teacher (3)

Relationships between caregivers, teachers and parents of young children are studied. Emphasis is on ways to develop parental involvement in child-care facilities. The course includes observation and participation with teachers, parents, and young children in group settings. (3 Lec.)

CD 209 Early Childhood Development Special Projects (3)

Registration for this course must be preceded by an interview with a child development instructor. A particular dimension of child-care is explored in depth by the student in an individual project. Participation in a designated child-care center or facility directly related to the student's special project is included. This course is repeatable for credit as topics vary. (3 Lec.)

CD 233 Directed Participation Of Early Childhood Programs (4)

This course provides in-depth observation and participation experiences and activities with young children at the Parent/Child Study Center and other appropriate child-care facilities. Laboratory fee. (2 Lec., 5 Lab.)

CD 236 The Special Child: Growth And Development (3)

Children with special needs are studied with emphasis on physical, mental, and emotional/behavioral problems. This course provides a broad overview of these problem areas and serves as an introduction to the study of exceptional children. (3 Lec.)

CD 239 Studies In Child Guidance (3)

This course is a study of appropriate ways of guiding and teaching young children. Emphasis is on guidance principles that develop a positive self-concept in early childhood while recognizing individual differences and varied family situations. The course includes observation of and participation with young children in child-care facilities and interpretation of anecdotal records and case studies of young children. Laboratory fee. (2 Lec., 2 Lab.)

CD 244 Application Of Child Development Learning Theories (4)

This course provides application of child development learning theories with young children at the Parent/Child Study Center and other appropriate child-care facilities. Laboratory fee. (2 Lec., 5 Lab.)

CD 250 Supportive Services For Exceptional Children (3)

The focus of this course is on identifying local, state, and 10 national resources for exceptional children and their families. Referral and resource information for special children is gathered through field studies, community involvement, and independent activities. (3 Lec.)

CD 251 Learning Programs For Children with Special Needs (4)

This course focuses on successful model programs for encouraging maximum learning from young children with special needs. Materials, activities, and methods of working with children are examined. Laboratory fee. (2 Lec., 5 Lab.)

CD 253 Abuse Within The Family (3)

The symptoms and causes of abusive behaviors within the family are the focus of this course. Emphasis is on developing skills and competencies in working with these families to help them lessen and alleviate abusive behaviors and experiences. Laboratory fee. (2 Lec., 2 Lab.)

CD 254 Introduction To Administration Of Child Care Programs (3)

The management of preschool/day care centers is studied. Topics include budgeting, record-keeping, food, health and referral services, and personnel practices. Laboratory fee. (2 Lec., 2 Lab.)

CD 256 Advanced Administrative Practices For Child Care Facilities (3)

Prerequisite: Child Development 254. This course is a study of advanced administrative procedures for child-care programs. Topics include planning, financial management, personnel policies, evaluation, leadership styles, and facility design. Laboratory fee. (2 Lec., 2 Lab.)

CD 702 Cooperative Work Experience (2)

Prerequisites: Completion of two courses in the Child Development program or instructor approval. This course combines productive work experience with academic study. The student, employer and instructor will develop a written competency-based learning plan with varied learning objectives and work experiences. Instructor and employer will evaluate the student's job performance. The seminars consist of introduction to co-op, orientation to job learning objectives, writing learning plan and developing college degree plan. (1 Lec., 10 Lab.)

CD 713 Cooperative Work Experience (3)

Prerequisites: Completion of two courses in the Child Development program or instructor approval. This course combines productive work experience with academic study. The student, employer and instructor will develop a written competency-based learning plan with varied learning objectives and work experiences. Instructor and employer will evaluate the student's job performance. The seminars consist of exploring education, planning for work, exploring personal and social growth, clarifying career goals and developing individual potential. (1 Lec., 15 Lab.)

CD 804 Cooperative Work Experience (4)

Prerequisites: Completion of two courses in the Child Development program or instructor approval. This course combines productive work experience with academic study. The student, employer and instructor will develop a written competency-based learning plan with varied learning objectives and work experience. Instructor and employer will evaluate the student's job performance. The seminars consist of discussing life's transitions (professional and personal), developing communication skills, appraising self and career performance and exploring stress management techniques. (1 Lec., 20 Lab.)

CHINESE

CHI 101 Beginning Chinese I (4)

(Common Course Number CHIN 1411)

This course is a beginning course in Chinese. Oral practice, elementary reading, and grammar will be stressed. Laboratory fee. (3 Lec., 2 Lab.)

CHI 102 Beginning Chinese II (4)

(Common Course Number CHIN 1412)

Prerequisite: Chinese 101 or the equivalent. This course continues the oral practice, elementary reading, and grammar studies begun in Chinese 101. Laboratory fee. (3 Lec., 2 Lab.)

CHI 201 Intermediate Chinese I (3)

(Common Course Number CHIN 2311)

Prerequisite: Chinese 102 or the equivalent. Reading, cultural background, conversation, and composition are stressed in this course. (3 Lec.)

CHI 202 Intermediate Chinese II (3)

(Common Course Number CHIN 2312)

Prerequisite: Chinese 201 or the equivalent. This course is a continuation of Chinese 201, with stress on reading, cultural background, conversation, and composition. (3 Lec.)

COLLEGE LEARNING SKILLS

CLS 100 College Learning Skills (1)

This course is for students who wish to extend their learning skills for academic or career programs. Individualized study and practice are provided in reading, study skills, and composition. This course may be repeated for a maximum of three credits. TASP remediation and/or preparation may be included. Students may enroll in up to three different sections of CLS during one semester. (1 Lec.)

COMMUNICATIONS

COM 131 Applied Communications (3)

(Common Course Number ENGL 2311)

Prerequisite: An appropriate assessment test score (ACT, DCCCD, or SAT). This course focuses on student writing. It emphasizes reading and analytical thinking skills and introduces research skills. Students practice writing for a variety of audiences and purposes, primarily job-related. (3 Lec.)

COMPUTER AIDED DESIGN & DRAFTING

CAD 101 CAD Operations (2)

This course provides instruction in hardware selection, setup and use of a CAD station. Emphasis is placed on control of the operating system, file management and keyboarding. Other topics include software installation, hardware installation and configuration, such as mouse, tablet, printers, plotters, graphics adapters and other configurable items such as communication ports, and serial ports. An introduction to word processing and spread sheets is included. Laboratory fee. (1 Lec., 2 Lab.)

CAD 135 Reproduction Processes (2)

Equipment, media and processes used to print, plot and reproduce multiple copies of technical drawings and art are studied. Topics include preparing drawings to be offset printed in multiple colors; techniques of shading and varying line weights for laser printers; sizing and inserting electronic art into files created by word processors; preparing silk screen art for panels, printed circuit boards, etc. and the use of screened prints for technical art works such as PCB and shade line drawings and other current topics in CAD. (1 Lec., 3 Lab.)

CAD 136 Civil Design (3)

Prerequisites: Computer Aided Design 183 or the equivalent and Mathematics 196. Equivalence is based on high school drafting courses or on student's work experience. Sample of drawings and/or high school transcript must be presented. This is a specialty course to prepare one to work in civil drafting. Various drawings are completed, such as relief maps, plan and profile drawings, roadways, pipelines, and petroleum and geophysical maps. Calculations are made from surveyor's notes to plot traverse and contour lines and to determine areas and volume. A set of drawings is prepared for a residential subdivision, a shopping center, or some other type of land development. The use of the computer to produce drawings is encouraged. Laboratory fee. (2 Lec., 4 Lab.)

CAD 161 Manufacturing Fundamentals (3)

Manufacturing fundamentals and production methods including NC-CNC concepts are studied. Emphasis is on automation and set up for operation of CNC machines. The student will be able to interpret and describe information required to produce a CNC program. The functions and role of CAD and its relationship to computer aided manufacturing are studied. Laboratory fee. (2 Lec., 4 Lab.)

CAD 182 Technician Drafting (2)

This course focuses on the reading and interpretation of engineering drawings. Topics include multi view drawings, pictorial drawings, dimensioning, measurement with scales, schematic diagrams, and printed circuit boards. Laboratory fee. (1 Lec., 3 Lab.)

CAD 183 Basic Drafting (4)

This course is for students who have had little or no previous experience in conventional drafting procedures or computer aided drafting. Topics include orthographic projection, dimensioning, tolerancing, sections, auxiliaries and fasteners. Emphasis will be on learning drafting conventions to produce technical sketches and drawings while the student learns the basic operations of interactive CAD systems. Experience is provided in using handbooks and other resource materials. No previous background in the use of computers is required. Laboratory fee. (2 Lec., 6 Lab.)

CAD 185 Architectural Design (4)

This course begins with architectural lettering and drafting of construction details. Emphasis is on technique and use of appropriate material symbols and conventions. Working drawings are prepared, including plans, elevations, sections, and details. Drawings for buildings using steel, concrete, and timber structural components are covered. Reference materials are used to provide skills in locating data and in using handbooks. The use of the computer to produce drawings is encouraged. Laboratory fee. (2 Lec., 6 Lab.)

CAD 230 Structural Design (3)

Prerequisites: Computer Aided Design 183. Stresses and thermal and elastic qualities of various materials are studied. Beams, columns, and other materials are included. Structural plans, details, and shop drawings of components are developed for buildings using steel, reinforced concrete, and timber structures. Emphasis is on drafting appropriate drawings for fabrication and erection of structural components. The use of the computer to produce drawings is encouraged. Laboratory fee. (2 Lec., 4 Lab.)

CAD 231 Electronic Design (3)

Prerequisite: Computer Aided Design 183. This course focuses on drawings used in the electronics industry. Topics include block and logic diagrams, schematic diagrams, interconnecting wiring diagrams, printed circuit boards, integrated circuits, component packaging, chassis design and current practices. The use of the computer to produce drawings is encouraged. Laboratory fee. (2 Lec., 4 Lab.)

CAD 232 CAD Illustration (3)

Prerequisite: Computer Aided Design 245. The rendering and creation of three-dimensional drawings and models are covered. Engineer sketches and orthographic drawings are developed into isometric, oblique and perspective drawings and models. Exploded views and cutaway drawings are created and fully indexed as required by repair and installation description or part lists. Models are shaded using current software programs. Laboratory fee. (2 Lec., 4 Lab.)

CAD 235 Facilities Management Design (3)

Prerequisite: Computer Aided Design 245. Students completing this course have the basic knowledge for the job of facilities drafter. Commercial space plans and extracting of data from these plans is covered. Details of modular furniture, free standing furnishings, reflected ceiling, plans including heating ventilating and air conditioning vents are drawn. Locating and specifying of these elements is examined in detail. After commercial spaces are drawn, and furniture, lighting and HVAC elements are located on the drawing, a computer generated listing of all items is created. The student is required to create the form for this list from commonly used software. Plans for spaces such as offices, restaurants, manufacturing areas, banks and etc. are assigned. Laboratory fee. (2 Lec., 4 Lab.)

CAD 236 Pipe Design (3)

Prerequisites: Computer Aided Design 183 and Mathematics 195 or the equivalent. This course presents the methods of piping of fluids for refineries, petrochemical plants, and industrial facilities. ASME codes are applied to the design of pressure vessels, pipe fitting, welded and seamless piping, pumps, and heat exchanges. Drawing techniques are emphasized in orthographic isometric projections. The use of the computer to produce drawings is encouraged. Laboratory fee. (2 Lec., 4 Lab.)

CAD 237 Advanced 3-D Illustration (3)

Prerequisites: Computer Aided Design 232 and 245. The creation, rendering and animation of technical art for technical publications is pursued in-depth. Slide shows, VCR output and hard copies of complex drawings and models are produced. Complex exploded views, cutaways, and external views of current industrial equipment and products are produced in black and white and color. Laboratory fee. (2 Lec., 4 Lab.)

CAD 240 Printed Circuit Design (3)

Prerequisite: Computer Aided Design 231, concurrent enrollment in Computer Aided Design 231 or the equivalent. This course develops skills in the design of double-sided and multi-layer printed circuit boards. Students design boards from schematics, parts lists, and manufacturing specifications. Some boards are designed for manual parts insertion and taped artworks. Others are designed for automatic parts insertion and taped artworks. Others are designed for automatic parts insertion and digitized inputs for artworks. The use of the computer to produce drawings is encouraged. Laboratory fee. (2 Lec., 4 Lab.)

CAD 241 Integrated Circuit Design (3)

Prerequisites: Computer Aided Design 240, Electronics Technology 190 or the equivalent. Must be taken concurrently with Electronics Technology 250. This course develops skills in the design of integrated circuits. Electronic theory and laboratory exercises in active devices are combined with drafting lectures and laboratory drafting to enable students to design simple integrated circuits from schematic diagrams and given design rules. Laboratory fee. (2 Lec., 4 Lab.)

CAD 242 Advanced Integrated Circuit Design (3)

Prerequisite: Computer Aided Design 241. This course develops skills in the design of complex integrated circuits. Students work from schematic diagrams and two sets of given rules. Work is done to meet industrial standards of current technologies. Laboratory fee. (2 Lec., 4 Lab.)

CAD 243 Advanced Printed Circuit Design (3)

Prerequisite: Computer Aided Design 240. This course includes the design of double-sided, multi-layer, surface-mounted, and flex-cable printed circuit boards. Students select various types of integrated circuit chips while applying pen swapping and gate combination techniques. Industry standards are followed in design development. The use of computers to produce drawings is encouraged. Laboratory fee. (2 Lec., 4 Lab.)

CAD 245 Computer Aided Design (3)

Prerequisite: Computer Aided Design 183 or the equivalent. Capabilities and limitations of the electronic computer as an aid to the designer are studied. Drafting procedures using an interactive system with computer graphics are practiced. Forms and uses of computer aided products are viewed in perspective with the overall design process. Laboratory fee. (2 Lec., 4 Lab.)

CAD 246 Advanced CAD-Electronic (3)

Prerequisites: Computer Aided Design 231. Advanced uses of the electronic computer as an aid to the designer are studied. Special emphasis is given to printed circuit board design. Menu and library construction will be practiced while using the interactive graphic system. Laboratory fee. (2 Lec., 4 Lab.)

CAD 247 Applied Printed Circuit Design (3)

Prerequisite: Computer Aided Design 240. Special applications of printed circuit design techniques and principles in particular systems of design are studied. Specialization may be focused by classification of the electronic circuits, of resources for design, and of processes for manufacture of the printed circuits. Laboratory fee. (2 Lec., 4 Lab.)

CAD 248 Advanced CAD-Mechanical (3)

Prerequisite: Computer Aided Design 245 or the equivalent. Advanced uses of the electronic computer as an aid to the designer are studied. Special emphasis is given to three-dimensional design, specifically mechanical. Menu and library construction will be practiced while using the interactive graphic systems. Laboratory fee. (2 Lec., 4 Lab.)

CAD 249 Advanced CAD-Architectural (3)

Prerequisites: Computer Aided Design 185 and 245 or the equivalent. Advanced uses of the electronic computer as an aid to the designer are studied. Special emphasis is given to architectural drafting as it relates to the single-family residence. Menu and library construction will be practiced while using the interactive graphic system. Laboratory fee. (2 Lec., 4 Lab.)

CAD 250 Electromechanical Packaging Design (3)

Prerequisite: Computer Aided Design 245. This course includes layout and design of electromechanical equipment from engineering notes, sketches and catalogs. Full size design layouts are created using parts drawn and saved in a parts library. Detail drawings of sheet metal parts and complete parts lists are developed from the design layout. Practical wiring diagrams are created from sketches and notes. The computer is used to produce all drawings in this course. Laboratory fee. (2 Lec., 4 Lab.)

CAD 252 Advanced CAD-Menu Customizing And LISP (3)

Prerequisite: Computer Aided Design 245. Advanced CAD software for personal computers is studied. Increasing productivity of computer drafting and design systems through task analysis and the creation of menus, macros, and programmed routines is the emphasis in this course. Extracting data from drawings containing blocks with attributes is also covered. Laboratory fee. (2 Lec., 4 Lab.)

CAD 253 Geometric Dimensioning And Tolerancing (3)

This course provides instruction in geometric dimensioning and tolerancing as described in the ANSI-Y-14.5 standard. The topics of true position, form, tolerances data and accurate tolerancing from a given point are covered in detail. Using problems developed by professional designers, students will design accurate parts to meet accepted industry standards. (2 Lec., 4 Lab.)

CAD 255 Selected Topics In Drafting (3)

Prerequisite: Demonstrated competence approved by the instructor. Special topics in advanced drafting are covered. Topics will be those with current industry applications and may be individualized for each student. Laboratory fee. (2 Lec., 4 Lab.)

CAD 704 Cooperative Work Experience (4)

Prerequisites: Completion of two courses in the Computer Aided Design and Drafting program or instructor approval. This course combines productive work experience with academic study. The student, employer and instructor will develop a written competency-based learning plan with varied learning objectives and work experiences. Students must develop new learning objectives each semester. The seminar consists of an introduction to cooperative education, orientation to learning on the job, writing the learning plan, college resources available, and college degree plans. (1 Lec., 20 Lab.)

CAD 714 Cooperative Work Experience (4)

Prerequisites: Completion of two courses in the Computer Aided Design and Drafting program or instructor approval. This course combines productive work experience with academic study. The student, employer and instructor will develop a written competency-based learning plan with varied learning objectives and work experiences. Students must develop new learning objectives each semester. The seminar consists of the world of education, work and retirement; setting goals; writing a resume; and how to look for a job. (1 Lec., 20 Lab.)

CAD 803 Cooperative Work Experience (3)

Prerequisites: Completion of two courses in the Computer Aided Design and Drafting program or instructor approval. This course combines productive work experience with academic study. The student, employer and instructor will develop a written competency-based learning plan with varied learning objectives and work experiences. Students must develop new learning objectives each semester. The seminar consists of transitions in life, communication skills, performance appraisals, and effective use of power. (1 Lec., 15 Lab.)

CAD 813 Cooperative Work Experience (3)

Prerequisites: Completion of two courses in the Computer Aided Design and Drafting program or instructor approval. This course combines productive work experience with academic study. The student, employer and instructor will develop a written competency-based learning plan with varied learning objectives and work experiences. Students must develop new learning objectives each semester. The seminar consists of human potential, motivation, what to look for in a career, and trends in drafting occupations. (1 Lec., 15 Lab.)

COMPUTER INFORMATION SYSTEMS

CIS 103 Introduction To Computer Information Systems (3)

This course presents an overview of computer information systems with an emphasis on business applications. Topics include terminology, systems and procedures, and the role of computers and their evolution in an information-oriented society. The fundamentals of computer problem solving are applied through the use of the BASIC programming language and application software packages. Laboratory fee. (This course is offered on campus and may be offered via television.) (3 Lec., 1 Lab.)

CIS 108 PC Software Applications (4)

This course surveys the use of the microcomputer in conducting professional activities and solving business problems. Topics include the study of hardware and software components of a microcomputer, the function of operating systems and the study and use of contemporary software application packages. Laboratory fee. (3 Lec., 4 Lab.)

CIS 111 Data Entry Applications And Concepts (3)

Prerequisite: Office Careers 176 or one year typing in high school or demonstrated competence approved by the instructor. This course provides hands on experience using a personal computer for data entry applications. Students will learn to use a data entry utility program to create, change, and modify data sets, as well as enter variable data. Speed and accuracy will be stressed. Laboratory fee. (2 Lec., 4 Lab.)

CIS 114 Problem Solving With The Computer (4)

Prerequisites: Business 105 or Management 136 and Computer Information Systems 103 or Computer Information Systems 108, or demonstrated proficiency approved by instructor. This course explores methods of solving business problems with the use of a microcomputer. Analysis and design methods are studied and applied to practical situations involving various business functions. Data security and privacy issues are also considered. (3 Lec., 2 Lab.)

CIS 116 Systems Management/Operations I (4)

Prerequisite: Credit or concurrent enrollment in Computer Information Systems 103 or Computer Information Systems 108 or demonstrated competence approved by the instructor. The interrelationships among computer systems, hardware, software, and personnel are covered. Topics include tasks associated with systems management and computer operations; peripheral device fundamentals; physical file concepts; using job documentation, standards, operating procedures, control language; and analyzing output and audit logs. Laboratory fee. (3 Lec., 4 Lab.)

CIS 119 Text Processing Applications (3)

Prerequisite: Computer Information Systems 103 or 108 or demonstrated competence approved by the instructor. The course covers the use of microcomputers in preparing and editing documents. Topics include entry and editing, reformatting, search and replace, cut-and-paste, file and print operations, utilities including spelling checkers, outliners, and office productivity tools. Office automation concepts including desk top publishing, facsimile and networking are covered. Students will learn to use commercially available text processors. Laboratory fee. (2 Lec., 4 Lab.)

CIS 126 Systems Management/Operations II (4)

Prerequisites: Computer Information Systems 103 or Computer Information Systems 108 and Computer Information Systems 116 or demonstrated competence approved by the instructor. Concepts and functions of an operating system in a multi-user environment using physical and logical files are presented. Topics include system and control language programming and commands; interpretation of messages and codes; maintaining system security; introduction to data communications; data base screen and report design aids, query and update methods used on mainframes, midrange, and personal computer systems. Laboratory fee. (3 Lec., 4 Lab.)

CIS 150 Computer Program Logic And Design (3)

Prerequisite: Computer Information Systems 103 or demonstrated competence approved by the instructor. This course presents basic logic needed for problem solving with the computer. Topics include structured design tools and their application to general business problems. (3 Lec.)

CIS 160 Data Communications (3)

Prerequisite: Computer Information Systems 103 or 108. This course provides an introduction to data communications vocabulary, concepts, and uses. Topics include data communications hardware, software, networks, and protocols. (3 Lec.)

CIS 162 COBOL Programming I (4)

Prerequisites: Computer Information Systems 103, credit or concurrent enrollment in Computer Information Systems 150, or demonstrated competence approved by the instructor. This course develops structured programming skills using the COBOL language. Topics include input/output, comparisons, control breaks, introductory table concepts, and report formats. Skills in problem analysis, using design tools, coding, testing, and documentation are also developed. Laboratory fee. (3 Lec., 4 Lab.)

CIS 164 COBOL Programming II (4)

Prerequisites: Computer Information Systems 150 and 162 or demonstrated competence approved by the instructor. This course continues the development of programming skills using the COBOL language. Topics include advanced table concepts, sort techniques, disk file organizations and maintenance, debugging techniques, copy techniques, and subprograms. Laboratory fee. (3 Lec., 4 Lab.)

CIS 169 4th Generation Languages (4)

Prerequisite: Three credit hours in a programming language course or demonstrated competence approved by the instructor. This course presents an introduction to 4th generation languages and their relationship to software productivity. Topics include survey and definition of available products and their uses, current functions, evaluation standards, selection and implementation. Laboratory fee. (3 Lec., 4 Lab.)

CIS 170 RPG Programming (3)

Prerequisite: Three credit hours in a programming language course or demonstrated competence approved by the instructor. This course introduces programming skills using an RPG language. Topics include basic listings with levels of totals, array processing, exception reporting, sequential and keyed file processing. Laboratory fee. (2 Lec., 2 Lab.)

CIS 172 BASIC Programming (3)

Prerequisite: Computer Information Systems 103 or Computer Information Systems 108 or demonstrated competence approved by the instructor. This course covers the fundamentals of the BASIC programming language. Topics include structured program development, Input/Output operations, interactive concepts and techniques, selection and iteration, arrays, functions, string handling, and file processing. Laboratory fee. (2 Lec., 2 Lab.)

CIS 173 Pascal Programming For Business (3)

Prerequisite: Three credit hours in a programming language course or demonstrated competence approved by the instructor. This course is an introduction to the Pascal programming language. Topics will include structured programming and problem-solving techniques as they apply to business applications. Laboratory fee. (2 Lec., 2 Lab.)

CIS 200 Fundamentals Of Networking (3)

Prerequisite: CIS 160 or demonstrated competence approved by the instructor. This course presents the fundamentals of computer networking. Topics include network planning, cost evaluation, design, and implementation. (3 Lec., 1 Lab.)

CIS 205 Control Language And Operating Environments (4)

Prerequisite: Computer Information Systems 162 or 116 or demonstrated competence approved by the instructor. This course introduces mainframe operating system concepts, terminology, job control language, and utilities. Laboratory fee. (3 Lec., 4 Lab.)

CIS 210 Assembly Language I (4)

Prerequisite: Computer Information Systems 164 or demonstrated competence approved by the instructor. This course focuses on basic concepts and instructions using a current mainframe assembler language and structured programming techniques. Topics include decimal features, fixed point operations using registers, selected macro instructions, introductory table concepts, editing printed output, and reading memory dumps. Laboratory fee. (3 Lec., 4 Lab.)

CIS 212 C Programming (4)

Prerequisite: Six credit hours in programming language courses or demonstrated competence approved by the instructor. This course covers the fundamentals of the C Programming language. Topics include structured programming and problem solving techniques. Laboratory fee. (3 Lec., 4 Lab.)

CIS 215 Micro Assembly Language (4)

Prerequisite: Six credit hours in programming language courses or demonstrated competence approved by the instructor. The basic elements of the assembler language are introduced and structured programming and top-down design techniques are applied. Topics include architecture and machine definition, data description and other assembler pseudo-ops, logic and shift, arithmetic processing, table concepts, printing, string and screen processing, macro definition, and disk processing. Laboratory fee. (3 Lec., 4 Lab.)

CIS 218 Spreadsheet Applications (4)

Prerequisites: Computer Information Systems 108 and 114 or demonstrated competence approved by the instructor. The course covers the theory and uses of electronic spreadsheets using commercially available packages. Topics include formula creation, template design, formatting features, statistical, mathematical and financial functions, file operations, report generation, graphics, and macro programming. Laboratory fee. (3 Lec., 4 Lab.)

CIS 220 Assembly Language II (4)

Prerequisite: Computer Information Systems 210 or demonstrated competence approved by the instructor. Advanced programming skills will be developed using a current mainframe assembler language. Topics include advanced fixed point operations, indexing, disk file organization and maintenance, advanced table concepts, data and bit manipulation techniques, macro writing, sub-program linkages, advanced problem analysis, debugging techniques, and introduction to floating point operations. Laboratory fee. (3 Lec., 4 Lab.)

CIS 221 PC Operating Systems And Utilities (4)

Prerequisites: Six credit hours in Computer Information Systems or demonstrated competence approved by the instructor. This course covers operating system concepts and includes scheduling, data and memory management, the use of batch files, and "path techniques" to facilitate efficient use of secondary storage. Back-up techniques, operating system commands, and operating system enhancer programs and utilities will be analyzed. Laboratory fee. (3 Lec., 3 Lab.)

CIS 224 PC Hardware (3)

Prerequisite: Credit or concurrent enrollment in Computer Information Systems 221 or demonstrated competence approved by the instructor. This course presents a functional systems-level review of PC hardware and the organization of components and devices into architectural configurations. Students will learn how to prepare and evaluate system specifications, trouble-shoot minor hardware problems, modify and patch short assembler language programs. Laboratory fee. (2 Lec., 3 Lab.)

CIS 225 Systems Analysis And Design (4)

Prerequisite: Computer Information Systems 164 or demonstrated competence approved by the instructor. This course introduces and develops skills to analyze existing business systems, to design new systems using structured methodology, and to prepare documentation. Emphasis is on a case study involving all facets of systems analysis and design. (3 Lec., 4 Lab.)

CIS 228 Database Applications (4)

Prerequisites: Computer Information Systems 108 and 114 or demonstrated competence approved by the instructor. This course covers microcomputer database management concepts using commercially available software. Topics include terminology, organizing data and designing files, report and menu generation, indexing, selection/queries, browsing, file operations, and program development. Laboratory fee. (3 Lec., 4 Lab.)

CIS 254 Data Base Systems (4)

Prerequisite: Computer Information Systems 164 or demonstrated competence approved by the instructor. This course is an introduction to applications program development in a data base environment with emphasis on loading, modifying, and querying a data base. Topics include data base design, data management, and structured query language. Laboratory fee. (3 Lec., 4 Lab.)

CIS 256 Computer Center Management (3)

Prerequisites: Computer Information Systems 126 or demonstrated competence approved by the instructor. The management of a computer center is examined. Topics include management theory, production, scheduling, security, networking, basic problem determination and system tuning. Methods for computer selection and evaluation are also presented. (3 Lec.)

CIS 258 On-Line Applications (4)

Prerequisites: Computer Information Systems 160 and 164 or demonstrated competence approved by the instructor. This course introduces the concepts required to program on-line applications. Topics include on-line applications design, program coding techniques, testing methods, and file handling. Laboratory fee. (3 Lec., 4 Lab.)

CIS 260 Contemporary Topics In Computer Information Systems (1)

Prerequisite: Will vary based on topics covered and will be annotated in each semester's class schedule. Recent developments and topics of current interest are studied. May be repeated when topics vary. (1 Lec.)

CIS 262 Contemporary Topics In Computer Information Systems (3)

Prerequisite: Will vary based on topics covered and will be annotated in each semester's class schedule. Recent developments and topics of current interest are studied. May be repeated when topics vary. (3 Lec.)

CIS 263 Special Topics In Computer Information Systems (3)

Prerequisite: Will vary based on topics covered and will be annotated in each semester's class schedule. Current developments in the rapidly changing field of computer information systems are studied. May be repeated when topics vary. Laboratory fee. (2 Lec., 2 Lab.)

CIS 265 Special Topics In Computer Information Systems (4)

Prerequisite: Will vary based on topics covered and will be annotated in each semester's class schedule. Current developments in the rapidly changing field of computer information systems are studied. May be repeated as topics vary. Laboratory fee. (3 Lec., 4 Lab.)

CIS 272 Advanced BASIC Techniques (3)

Prerequisite: Computer Information Systems 172 or demonstrated competence approved by the instructor. This course continues the development of programming skills using the BASIC language and its application to typical business problems. Topics include multidimensional arrays, random access files, and graphics. Laboratory fee. (2 Lec., 2 Lab.)

CIS 275 User Documentation And Training (3)

Prerequisites: Speech Communication 101, Office Technology 231, and Computer Information Systems 119 or comparable word processing course or demonstrated competence approved by the instructor. This course covers the practical application of adult learning theory, product documentation, creating user guides and reference manuals, using tutorials, evaluating and using training materials, effective training experiences, concepts of desk top publishing, and presentation graphics. (3 Lec., 1 Lab.)

CIS 280 Applied Studies (3)

Prerequisites: Computer Information Systems 224 and twelve additional credit hours from this option or demonstrated competence approved by instructor. This course applies PC analyst skills to business situations. Topics include planning and implementing solutions to business-related problems, incorporating student knowledge of hardware, software, applications packages, training, documentation, communication skills, and problem solving skills. (3 Lec.)

CIS 701 Cooperative Work Experience (1)

Prerequisite: Completion of two courses in the Computer Information Systems program or instructor approval. This course combines productive work experience with academic study. The student, employer and instructor will develop a written competency-based learning plan with varied learning objectives and work experiences. Student must develop new learning objectives each semester. The seminar consists of topics which include job interview and application techniques, job site interpersonal relations, preparation of resumes, building self-esteem, setting and writing job objectives, time and stress management techniques, career interest/aptitude test, evaluation and planning, vendor presentation and professional development. (1 Lec., 5 Lab.)

CIS 703 Cooperative Work Experience (3)

Prerequisites: Completion of two courses in the Computer Information Systems program or instructor approval. This course combines productive work experience with academic study. The student, employer and instructor will develop a written competency-based learning plan with varied learning objectives and work experiences. Student must develop new learning objectives each semester. The seminar consists of topics which include job interview and application techniques, job site interpersonal relations, preparation of resumes, building self-esteem, setting and writing job objectives, time and stress management techniques, career interest/aptitude test, evaluation and planning, vendor presentation and professional development. (1 Lec., 15 Lab.)

CIS 704 Cooperative Work Experience (4)

Prerequisites: Completion of two courses in the Computer Information Systems program or instructor approval. This course combines productive work experience with academic study. The student, employer and instructor will develop a written competency-based learning plan with varied learning objectives and work experiences. Student must develop new learning objectives each semester. The seminar consists of topics which include job interview and application techniques, job site interpersonal relations, preparation of resumes, building self-esteem, setting and writing job objectives, time and stress management techniques, career interest/aptitude test, evaluation and planning, vendor presentation and professional development. (1 Lec., 20 Lab.)

CIS 713 Cooperative Work Experience (3)

Prerequisite: Completion of one course in Computer Information Systems 701, 703 or 704. This course combines productive work experience with academic study. The student, employer and instructor will develop a written competency-based learning plan with varied learning objectives and work experiences. Student must develop new learning objectives each semester. The seminar consists of topics which include setting and writing job objectives and directed independent studies of computer-related topics such as expert systems, new vendor products or presentation graphics. (1 Lec., 15 Lab.)

CIS 714 Cooperative Work Experience (4)

Prerequisite: Completion of one course in Computer Information Systems 701, 703 or 704. This course combines productive work experience with academic study. The student, employer and instructor will develop a written competency-based learning plan with varied learning objectives and work experiences. Student must develop new learning objectives each semester. The seminar consists of topics which include setting and writing job objectives and directed independent studies of computer-related topics such as expert systems, new vendor products or presentation graphics. (1 Lec., 20 Lab.)

COMPUTER SCIENCE

CS 111 Computing Science I (3)

(Common Course Number COSC 1315)

Prerequisite: Two years of high school algebra or Developmental Math 093 or demonstrated competence approved by the instructor. This introductory course is designed to meet the requirements for a four-year degree with a major or minor in computer science, mathematics, or a scientific field. Topics covered include computer organization and storage, number systems, and problem-solving using structured programming in Pascal. Laboratory fee. (3 Lec.)

CS 112 Computing Science II (3)

(Common Course Number COSC 2318)

Prerequisites: Computer Science 111 and Math 101 or demonstrated competence approved by the instructor. This course is a continuation of Computer Science 111 and is designed to meet the requirements for a degree in computer science or a related field. Topics covered include a continuation of Pascal programming, structured problem-solving, elementary data structures including arrays, records, files, and the use of pointer variables. Laboratory fee. (2 Lec., 2 Lab.)

CS 121 Introduction To FORTRAN Programming (3)

(Common Course Number COSC 1317)

Prerequisite: Math 102 or demonstrated competence approved by the instructor. This course is intended primarily for students pursuing a degree in an engineering, science, or related field which requires a one-semester course in FORTRAN programming. Emphasis is on the use of the FORTRAN language in technical applications. Topics include input/output, structures, and formatting. Laboratory fee. (2 Lec., 2 Lab.)

CS 122 Introduction To BASIC Programming (3)

(Common Course Number COSC 1310)

Prerequisite: Developmental Math 093 or demonstrated competence approved by the instructor. This course is an introduction to the BASIC programming language. Topics include input/output, looping, decision structures, functions, arrays, disk files, and formatting. Emphasis is placed on structured programming techniques and algorithm development. Laboratory fee. (2 Lec., 2 Lab.)

CS 123 Introduction To PL/I Programming (3)

Prerequisites: Developmental Math 093 and Computer Science 111 or Computer Information Systems 103 or demonstrated competence approved by the instructor. This course is an introduction to the PL/I programming language. Emphasis is placed upon the structured approach to program design using both mathematical and business applications. Topics include string processing, simple data structures, internal search/sort techniques, and sequential file processing. Laboratory fee. (2 Lec., 2 Lab.)

CS 211 Assembly Language (3)

(Common Course Number COSC 2325)

Prerequisite: Computer Science 112 or demonstrated competence approved by the instructor. This course is designed to meet the requirements for a degree in computer science or a related field. Topics covered include a study of assembly language programming, machine representation of data and instructions, and addressing techniques. Laboratory fee. (2 Lec., 2 Lab.)

CS 221 Introduction To Computer Organization (3)

(Common Course Number COSC 1306)

Prerequisite: Computer Science 112 or demonstrated competence approved by the instructor. This course introduces the organization and structuring of the major hardware components of computers, the mechanics of information transfer and control within a digital computer system, and the fundamentals of logic design. Laboratory fee. (2 Lec., 2 Lab.)

CS 222 Introduction To File Processing (3)

(Common Course Number COSC 2315)

Prerequisite: Computer Science 112 or demonstrated competence approved by the instructor. This course introduces the concepts and techniques of structuring data. Experience is provided in the use of secondary storage devices and applications of data structures and file processing techniques. Laboratory fee. (2 Lec., 2 Lab.)

COMPUTERIZED NUMERICAL CONTROL TECHNOLOGY

CNC 100 Introduction to C.N.C. Programming (3)

This course is designed to teach the student the basics of C.N.C. programming. By doing this, the student will understand the set up and operation of C.N.C. machining centers and turning centers to a higher degree. A series of exercises will provide the student with enough knowledge of C.N.C. programming so as to assist them in detecting errors in a C.N.C. program during the set up and first run operation of the C.N.C. equipment. (3 Lec.)

CNC 101 Introduction To Turning Center C.N.C. Programming (3)

This course is designed to teach the student the basics for C.N.C. programming of turning centers. The students will learn through various exercises using engineering drawings the machine coordinate system, machine codes, cutter path, cutter compensation, multiple repetitive cycles and how to combine all of the above with proper spindle speeds and cutter feeds to create a workable and practical C.N.C. turning program. (3 Lec.)

CNC 102 Introduction To Machining Center C.N.C. Programming (3)

This course is designed to teach the student the basics for C.N.C. programming of machining centers. The student will learn through various exercises using engineering drawings the machine coordinate system, machine codes, cutter path, cutter compensation, canned cycles and how to combine all of the above with proper spindle speeds and cutter feeds to create a workable and practical C.N.C. milling program. (3 Lec.)

CNC 103 Introduction to Computer Aided Manufacturing, (C.A.M.) (2)

Capabilities and limitations of the electronic computer as an aid to the C.N.C. programmer are studied. Computer graphics are practiced and combined with post processors to assist in producing C.N.C. machining center and turning center programs. (1 Lec., 3 Lab.)

CNC 110 Basic Turning Center (5)

This is a basic course designed to provide practical and theoretical experience on the two axis C.N.C. turning center. A series of lab exercises will provide the student with hands on experience in set up and operation of the machine. All lab exercises will be produced using engineering drawings. Precision tools will be used to measure drawing tolerances. Special emphasis will be placed on safety and good housekeeping in a machine shop environment. (1 Lec., 8 Lab.)

CNC 111 Basic Machining Center (5)

This is a basic course designed to provide practical and theoretical experience on the three axis C.N.C. machining center. A series of lab exercises will provide the student with hands on experience in set up and operation of the machine. All lab exercises will be produced using engineering drawings. Precision tools will be used to measure drawing tolerances. Special emphasis will be placed on safety and good housekeeping in a machine shop environment. (1 Lec., 8 Lab.)

CNC 201 Advanced Turning Center C.N.C. Programming (3)

Additional knowledge is developed and added to the basics for C.N.C. programming of turning centers. Previously learned skills are reinforced and speed is encouraged. (3 Lec.)

CNC 202 Advanced Machining Center C.N.C. Programming (3)

Additional knowledge is developed and added to the basics for C.N.C. programming of machining centers. Previously learned skills are reinforced and speed is encouraged. (3 Lec.)

CNC 210 Advanced Turning Center (4)

Additional skills are developed in the set up and operation of the C.N.C. turning center. Previously learned skills are reinforced and speed is encouraged. Job planning will be stressed. Safety and good housekeeping will continue to be important. There will be special emphasis placed on problem solving at the turning center. (1 Lec., 6 Lab.)

CNC 211 Advanced Machining Center (4)

Additional skills are developed in the set up and operation of the C.N.C. machining center. Previously learned skills are reinforced and speed is encouraged. Job planning will be stressed. Safety and good housekeeping will continue to be important. There will be special emphasis placed on problem solving at the machining center. (1 Lec., 6 Lab.)

CNC 723 Cooperative Work Experience (3)

This course combines productive work experience with academic study. The student, employer and instructor will develop a written competency based learning plan with varied learning objectives each semester. The seminar consists of topics which include job interview and job application techniques, job site interpersonal relations and employer expectations of employees. (1 Lec., 15 Lab.)

CONSTRUCTION MANAGEMENT AND TECHNOLOGY

CMT 121 Construction Materials, Methods And Equipment I (3)

This course introduces construction materials, methods, and equipment. The origin, nature, and normal uses of materials are investigated. The integration of materials into finished projects is also covered. Laboratory fee. (2 Lec., 3 Lab.)

CMT 122 Construction Materials, Methods And Equipment II (3)

This course continues the study of construction materials, methods, and equipment. Laboratory fee. (2 Lec., 3 Lab.)

CMT 123 Construction Graphics (4)

Construction technology and construction graphic communications are introduced. The student learns to read blueprints and understand the expressed and implied meanings of symbols, conventions, and drawing. Freehand sketching and basic drafting required of construction supervisors are also included. (2 Lec., 6 Lab.)

CMT 124 Electrical And Mechanical Equipment For Buildings (4)

The nature and use of materials and equipment in various systems are explained. Included are plumbing, heating, ventilation, air conditioning, electrical, and conveying systems. (3 Lec., 3 Lab.)

CMT 133 The Construction Industry (2)

This course will introduce one to the challenging and complex world of commercial and industrial construction. It will profile the construction industry, define its organizational structure, discuss the implications and ramifications of current market trends, provide an overview of construction management methodologies and information systems. Interrelationships between architects, engineers, contractors, agencies, organizations, and trades will be discussed. (2 Lec.)

CMT 136 Surveying And Measurements (4)

Prerequisites: Mathematics 102 or 196 and Engineering 105 or Construction Management Technology 123. This course focuses on plane surveying. Topics include surveying instruments, basic measuring procedures, vertical and horizontal control, error analysis, and computations. Traverse, triangulation, route alignments, centerings, profiles, mapping, route surveying and land surveying are included. Field work provides application of theory for students with little or no survey training. Laboratory fee. (3 Lec., 5 Lab.)

CMT 138 Construction Management I (4)

This course covers the responsibilities of a supervisor. Topics include organization, human relations, grievances, training, rating, promotion, quality and quality control, management-employee relations, scheduling of work, and job and safety instructions. Roles played by labor and management in the development of American industry are studied. Forces affecting labor supply, employment, and industrial relations in a democracy are analyzed. Emphasis is on safety and its value to economic operations and employee morale. (3 Lec., 3 Lab.)

CMT 220 Advanced Surveying And Measurement (4)

Prerequisites: Mathematics 196 and Construction Management Technology 136 or the equivalent. This course reviews the basic principles of surveying and measurements. It covers advanced principles and theories of physical measurements of spatial quantities, theory of errors and error adjustment techniques, the use of modern instruments and measurement systems, vertical and horizontal control measurements and an introduction to land surveying law, application of polynomial curves and polar equations to the vertical and horizontal alignment of route systems. Field problems put the theory into practice. Laboratory fee. (3 Lec., 5 Lab.)

CMT 230 Quality Control And Cost Control (4)

Prerequisites: Construction Management Technology 121, 122, and 234, or demonstrated competence approved by the instructor. The different procedures for scheduling construction projects are discussed then applied in lab exercises. Scheduling procedures to be explored include bar charts, precedence and arrow diagrams and the critical path method of scheduling. Methods and techniques for evaluating construction budget estimates and for locating and correcting budget overruns are discussed and then implemented in various lab exercises as a means of cost and quality control. (3 Lec., 3 Lab.)

CMT 231 Construction Contracts And Specifications (3)

Prerequisites: Construction Management and Technology 121, 122 and 123 or demonstrated competence approved by the instructor. Written construction communications are the focus of this course. Included is the study of construction contracts and specifications. Their preparation, implementation, modification, administration, and legal pitfalls are covered. Laboratory fee. (2 Lec., 3 Lab.)

CMT 232 Safety Management (3)

This course provides an in-depth study of the OSHA regulations which pertain to construction. Responsibilities and liabilities of all parties to construction contracts are addressed. Emphasis is placed on on-site safety management policies, procedures, and reports that are necessary to ensure a safe and healthy work site. Students completing this course will receive or update their CPR certification. Major historical events and developments leading to the enactment of the Occupational Safety and Health Act are also reviewed. (3 Lec., 1 Lab.)

CMT 233 Commercial Estimating (4)

Prerequisites: Construction Management Technology 123, and credit or concurrent enrollment in Construction Management and Technology 231 or demonstrated competence approved by the instructor. A study of the principles and theories of estimating including quantity take-off, labor and material units, classification of work are examined. Students learn to compute and assemble labor, material, and equipment costs. Job overhead, office overhead and profit strategies are examined. Computerized estimating procedures are introduced. Laboratory fee. (2 Lec., 6 Lab.)

CMT 235 Building Codes (3)

Using the Uniform Building Code as the textbook, this course presents the construction methods in relation to basic code and zoning requirements. The interrelationships between Federal, State, and municipal authorities and construction methodologies are examined in detail. (2 Lec., 2 Lab.)

CMT 237 Soils, Foundations And Reinforced Concrete (4)

Prerequisites: Construction Management and Technology 121 and 122; Engineering 289 desirable. Soil characteristics for a good foundation are studied. Topics include soil sampling and testing. Concrete design, placement, and testing are also covered. Some study of asphaltic pavements is included. Laboratory fee. (3 Lec., 3 Lab.)

CMT 238 Construction Management II (4)

Prerequisite: Construction Management and Technology 138. This course examines project planning and development. Topics include feasibility studies, financing, planning, programming, design, and construction. Office engineering techniques and problem-solving are covered. (3 Lec., 3 Lab.)

CMT 703 Cooperative Work Experience (3)

Prerequisite: Completion of 30 hours in Construction Management & Technology Program or coordinator approval. This course will combine formal education with practical field experience. The CMT program coordinator, employer, and student will develop a competency-based learning plan that will enhance the long-term objective of the student. The lecture portion of this course will include job interview techniques, resume preparation, interpersonal skills, and employer expectations of the employee. (1 Lec., 15 Lab.)

CMT 704 Cooperative Work Experience (4)

Prerequisite: Completion of 30 hours in the Construction Management & Technology Program or coordinator approval. This course will combine formal education with practical field experience. The CMT program coordinator, employer, and student will develop a competency-based learning plan that will enhance the long-term objective of the student. The lecture portion of this course will include job interview techniques, resume preparation, interpersonal skills, and employer expectations of the employee. (1 Lec., 4 Lab.)

CONSTRUCTION TECHNOLOGY**CT 110 Construction I-Systems And Materials (3)**

This course is a study of the different types of building systems and materials used in the design and construction of residential and commercial buildings. Different structural building systems will be studied, and wood-related products, concrete and concrete masonry, brick, stone, and steel units are included. (3 Lec.)

CT 111 Construction II-Mechanical, Electrical, And Plumbing Systems (3)

Prerequisite: Construction Technology 110 or demonstrated competence approved by the instructor. This course is a study of the mechanical and electrical systems used in modern buildings of today. Topics that will be covered include the basic understanding of how electrical, heating, air conditioning, and plumbing systems work and how they are designed for residential and light commercial buildings. (3 Lec.)

CT 115 Blueprint Reading/Specifications (3)

The course covers the theory of projection, architectural symbols, relationship of views and measurements, plan and elevation views, sections and details. Also included are terms, specifications, and abbreviations used in reading residential and light commercial building blueprints. (3 Lec.)

CT 116 Commercial Blueprints/Specifications (3)

Prerequisites: Construction Technology 110 and 115 or demonstrated competence approved by the instructor. This course covers commercial building blueprints and specifications. Topics covered include masonry wall, reinforced concrete, prestressed concrete, tilt-up, steel-frame and stairs, and elevators. (3 Lec.)

CT 117 Construction Safety (1)

This course covers safety and job site working conditions for the construction industry. Some of the topics include safety planning, safety and health standards, regulations and codes, record keeping and accident documentation, hazardous materials, safety equipment and drug usage on construction jobs. (1 Lec., 1 Lab.)

CT 118 Codes and Inspections I (3)

Prerequisite: Construction Technology 110 or demonstrated competence approved by the instructor. This course considers inspection procedures and codes. Topics covered include basic code requirements, use of standards in developing codes, model codes, role of the federal government, office and field operations, and building permits. Using the Uniform and Southern Building Codes as enforcement guides, the course reviews residential and light commercial building and minimum property standards. (3 Lec.)

CT 120 Foundations I (3)

Prerequisites: Construction Technology 115 and 117. This course is a comprehensive course that includes Construction Technology 121, 122, and 123. Students may register in the comprehensive course or the inclusive courses. This course covers the construction of foundations for residential and light commercial buildings. Topics studied are builder's level and rod, site preparation for forms on grade, footings, piers and low wall foundations, flat work, curbing and low steps. Laboratory fee. (90 Contact Hours)

CT 121 Site Preparation And Layout (1)

Prerequisites: Construction Technology 115 and 117 or demonstrated competence approved by the instructor. This is the first of three courses on residential and light commercial foundations and will center on site layout, use of builder's level and rod, locating building lines and erecting batter boards. Laboratory fee. (30 Contact Hours)

CT 122 Slabs On Grade (1)

Prerequisites: Construction Technology 115, 117 and 121 or demonstrated competence approved by the instructor. This course will cover slabs on grade for residential and light commercial buildings. Topics covered include study of soils, construction of building slabs, curb and gutter, and edge forms. Laboratory fee. (30 Contact Hours)

CT 123 Low Wall Forms (1)

Prerequisites: Construction Technology 115, 117 and 121 or demonstrated competence approved by instructor. This course will cover low wall and low step forming. Topics covered include low form wall construction, basements, low stair forms and job planning with emphasis on job safety. Laboratory fee. (30 Contact Hours)

CT 125 Building Construction I (3)

Prerequisites: Construction Technology 115 and 117 or demonstrated competence approved by the instructor. This course is a comprehensive course that includes Construction Technology 126 and 127. Students may register in the comprehensive course or the inclusive courses. This course covers the basics of rough framing for residential and light commercial buildings. Topics include safety, equipment required, job planning, floor, wall, ceiling and roof framing systems. Laboratory fee. (90 Contact Hours)

CT 126 Framing (2)

Prerequisites: Construction Technology 110, 115 and 117 or demonstrated competence approved by instructor. This course focuses on the basics of rough framing for residential and light commercial buildings. The topics covered include planning, layout and installation of rough framing members for floors, walls, partitions, and basic components of a roof system. Laboratory fee. (60 Contact Hours)

CT 127 Roof Systems (1)

Prerequisites: Construction Technology 115, 117 and 126 or demonstrated competence approved by instructor. This course covers the construction of basic gable and equal span intersecting roofs. Topics include study of roof framing principles, planning, layout, installation of roof framing members, selection of materials and use of local building codes with emphasis on job safety. Laboratory fee. (30 Contact Hours)

CT 130 Finish Systems I (3)

Prerequisites: Construction Technology 110, 115 and 117 or demonstrated competence approved by the instructor. This course is a comprehensive course that includes Construction Technology 131, 132 and 133. Students may register in the comprehensive course or the inclusive courses. This course focuses on the completion of the interior finish work performed on residential and small commercial buildings. Main topics covered include insulation and ventilation, drywall and wall finish, flooring, paneling, doors and hardware, and molding and trim work. Laboratory fee. (90 Contact Hours)

CT 131 Wall And Ceiling Finish (1)

Prerequisites: Construction Technology 110, 115 and 117 or demonstrated competence approved by the instructor. This course will focus on insulation and ventilation, wall and ceiling finish, and paneling. Laboratory fee. (30 Contact Hours)

CT 132 Doors And Hardware (1)

Prerequisites: Construction Technology 110, 115 and 117 or demonstrated competence approved by the instructor. This course will focus on doors and hardware. Topics include job planning, use of blueprints and specifications in determining types, styles and quantity required, and door and hardware installation. Laboratory fee. (30 Contact Hours)

CT 133 Trim And Millwork (1)

Prerequisites: Construction Technology 110, 115 and 117 or demonstrated competence approved by the instructor. This course covers millwork, molding and specialty trim work and floor covering. Other topics include job planning, blueprints and specifications for use in determining material requirements. Laboratory fee. (30 Contact Hours)

CT 134 Cabinetry And Millwork (3)

Prerequisites: Construction Technology 110, 115 and 117 or demonstrated competence approved by the instructor. This course covers cabinet design, construction, and detailed millwork. Topics include cabinet design and installation, built-in cabinetry and paneling, cost and drawings. Laboratory fee. (90 Contact Hours)

CT 135 Engineering Principles And Practices (3)

Prerequisites: Construction Technology 110 and Math 195 or demonstrated competence approved by the instructor. This course is a comprehensive course that includes Construction Technology 136 and 137. Students may register in the comprehensive course or the inclusive courses. This course is an overall study in the correct use of structural materials. Special emphasis is placed on the use of specification tables, technical manuals, and load tables for building systems and materials. Topics covered are structural mechanics, steel, wood, reinforced concrete, and roof trusses. Residential and both light and heavy commercial building structures will be studied. Laboratory fee. (2 Lec., 2 Lab.)

CT 136 Engineering Principles (1)

Prerequisites: Construction Technology 110 and Math 195 or demonstrated competence approved by the instructor. This course covers the basic principles of building engineering design. Topics include forces and stress, moments and reactions, shear and bending moments, and theory of bending and properties of sections. (1 Lec.)

CT 137 Engineering Practices (2)

Prerequisites: Construction Technology 110 and 136 and Math 195 or demonstrated competence approved by instructor. This course covers the basic engineering most commonly used in planning residential and light commercial buildings. Topics include soils, concrete, steel, wood, and trusses. Emphasis will be placed on using charts and tables to determine loads and sizing of various materials. Laboratory fee. (1 Lec., 2 Lab.)

CT 138 Job Site Foreman-Supervision (3)

This course introduces job site techniques which are important to good supervision. Topics covered include supervisor's role, leadership, motivation, communications, training for production, planning, and organizing. This course was developed as a comprehensive training program for job site foremen. Laboratory fee. (2 Lec., 1 Lab.)

CT 140 Estimating I (3)

Prerequisites: Construction Technology 110 and 115 or demonstrated competence approved by the instructor. This course is a comprehensive course that includes Construction Technology 141 and 142. This course is designed to train the construction worker in the preparation of cost estimates for residential and light commercial structures. Topics include mathematics, construction techniques, estimating cycle, data sources and use, checklists, and detailed and unit quantity estimating methods. The emphasis in this course will be on establishing material requirements using residential and light commercial blueprints. Laboratory fee. (3 Lec., 1 Lab.)

CT 141 Basic Estimating (2)

Prerequisites: Construction Technology 110 and 115 or demonstrated competence approved by the instructor. This course focuses on the basics of cost estimating. Topics include essential mathematics, estimating cycle, data sources, checklists, blueprints and specifications, estimating formats and bids, contracts, bonds, insurance, overhead and contingencies, labor and equipment checklists. (2 Lec.)

CT 142 Residential Estimating (2)

Prerequisites: Construction Technology 110, 115 and 141 and Math 195 or demonstrated competence approved by the instructor. This course develops a bid package for a residential and/or light commercial building using skills developed in Construction Technology 141. Topics include construction techniques, residential estimating cycle, residential data sources and use, checklists, and detailed and unit quantity estimating methods. The emphasis in this course will be on developing a bid package for a residential and/or light commercial building. Laboratory fee. (1 Lec., 1 Lab.)

CT 143 Building Design (3)

Prerequisites: Construction Technology 110 and 115 or demonstrated competence approved by the instructor. This course introduces basic design principles as applied to building construction, architectural style, land, and site planning. Topics covered include plan analysis, modular design, restrictions and legal aspects of the lot, site layout, architectural styles and basic components, technological advances in new material and methods, and choosing the most appropriate basic structure. (3 Lec.)

CT 145 Field Surveying (3)

Prerequisites: Construction Technology 110 and 115 and Math 195 or demonstrated competence approved by the instructor. This course is a comprehensive course that includes Construction Technology 146 and 147. Students may register in the comprehensive course or the inclusive courses. This course covers proper methods of measuring distances, the builder's level and rod, and building layout using the transit. Topics covered include taping, builder's level and rod, cut and fill, differential leveling, use of various types of transits and methods of building layout, turning angles, and establishing control points using construction blueprints. Laboratory fee. (2 Lec., 3 Lab.)

CT 146 Leveling And The Builder's Level (1)

Prerequisites: Construction Technology 115 and 117 or demonstrated competence approved by the instructor. This course focuses on measuring distances and the practical uses of the builder's level used in the construction of a building. Topics covered include measuring horizontal and vertical distances, errors and accuracy in measuring, leveling equipment and field set up, differential leveling, cut and fill, contours and slopes, drainage and grading, establishing grades for form work, and piers and inserts. Use of drawings and leveling equipment will be covered. Laboratory fee. (1 Lec., 1 Lab.)

CT 147 Field Layout And The Transit (2)

Prerequisites: Construction Technology 110, 115 and 146 and Math 195 or demonstrated competence approved by the instructor. This course covers the use of the transit in building layout. Topics covered include a study of various types of transits and their care and use, measuring and turning angles, using land surveys, field notes, setting line and grade, establishing control points, setting curves, and establishing building points. Laboratory fee. (1 Lec., 2 Lab.)

CT 212 Commercial Systems, Materials, And Equipment (3)

Prerequisites: Construction Technology 110, 115 and 116 or demonstrated competence as approved by the instructor. This course focuses on systems and materials used in commercial buildings. Topics covered are heavy masonry, prestressed and precast concrete, structural steel, glass curtain walls, elevators, and interior and exterior finish materials. (3 Lec.)

CT 213 Codes And Inspections II (3)

Prerequisites: Construction Technology 110, 115, 116, 118 and 212 or demonstrated competence approved by the instructor. This course continues the study of building codes and inspections centering on commercial building. Topics include local building codes, enforcement, testing labs, job site testing and inspections by private testing companies. (3 Lec.)

CT 215 Reinforced Concrete And Steel-Frame Structures (3)

Prerequisites: Construction Technology 116, 136 and 212 and Math 195 or demonstrated competence approved by the instructor. This course applies Construction Technology 136 skills in an in-depth study of reinforced concrete and steel frame construction. Topics include soils, reinforcing steel, properties of concrete and steel, limitations, design methods, codes, flexure and shear in concrete and steel beams, anchorage and connectors, and columns and piers, with the emphasis placed on commercial structures. Laboratory fee. (2 Lec., 2 Lab.)

CT 216 Building And Contracting (3)

Prerequisites: Construction Technology 110 and 115 and Business 105. This course covers the basic process of organizing and operating a building or contracting business. Topics covered include establishing goals, organization, directing, staffing, coordinating and controlling, and budgeting required to operate and make a profit in a construction business. (3 Lec.)

CT 217 Estimating II (4)

Prerequisites: Construction Technology 110, 115 and 140 or demonstrated competence approved by the instructor. This course is a comprehensive course that includes Construction Technology 218 and 219. This course covers computerized estimating principles and applications for the construction industry and focuses on a commercial estimate. Topics covered include DOS commands, spreadsheets, job tracking, commercial software packages, commercial estimating techniques and organization, cost analysis and cost control, overhead cost control, cost comparisons, and development of a bid package. Laboratory fee. (3 Lec., 3 Lab.)

CT 218 Computerized Estimating (3)

Prerequisites: Construction Technology 110, 140 and Math 195 or demonstrated competence approved by the instructor. This course covers computerized estimating principles and applications for the construction industry. Topics covered include DOS commands, applications to estimating and bid analysis, spreadsheets, job tracking, commercial software packages. A cost estimate will be developed during course to demonstrate varied concepts. Laboratory fee. (2 Lec., 2 Lab.)

CT 219 Commercial Estimating (1)

Prerequisites: Construction Technology 110, 115 and 140 or demonstrated competence approved by the instructor. This course will cover the estimating process and focus on commercial bidding. Topics included are estimating techniques, organization, completion of bid forms, cost analysis, cost control, overhead cost control, cost comparisons, and bidding using commercial blueprints. Laboratory fee. (1 Lec., 1 Lab.)

CT 220 Foundations II (3)

Prerequisites: Construction Technology 110, 115 and 117 or demonstrated competence approved by the instructor. This course is a comprehensive course that includes Construction Technology 221, 222 and 223. Students may register in the comprehensive course or the inclusive courses. This course covers commercial foundation layout and forming systems. Topics covered include scaffolding and shoring, low and high wall forms, vertical piers and columns, horizontal beam forms, suspended slabs, stair forms, tilt-up, pre-cast construction and flying forms. Laboratory fee. (90 Contact Hours)

CT 221 Walls And Columns (1)

Prerequisites: Construction Technology 110, 115 and 117 or demonstrated competence approved by the instructor. This course covers construction of form work for high walls, vertical pier and column forms and scaffolding. Laboratory fee. (30 Contact Hours)

CT 222 Suspended Slabs And Beams (1)

Prerequisites: Construction Technology 110, 115 and 117 or demonstrated competence approved by the instructor. This course covers construction of horizontal beam and suspended slab forming systems. Also included are topics on job planning, material selection and storage, and scaffolding with an emphasis on safety. Laboratory fee. (30 Contact Hours)

CT 223 Specialty Forms And Stairs (1)

Prerequisites: Construction Technology 110, 115 and 117 or demonstrated competence approved by the instructor. This course will cover tilt-up and pre-cast building, flying forms and stair forms. Other topics covered are planning, materials selection and storage, and scaffolding with an emphasis on safety. Laboratory fee. (30 Contact Hours)

CT 225 Building Construction II (3)

Prerequisites: Construction Technology 110, 115 and 117 or demonstrated competence approved by the instructor. This course is a comprehensive course that includes Construction Technology 226, 227 and 228. Students may register in the comprehensive course or the inclusive courses. This course will continue wood framing with advanced concepts in the construction of various types of roofs and exterior wall and roof finish systems. Topics include selection and installation of exterior doors and windows and trim. Exterior finish systems such as wall coverings, roofing, and cornice will be applied to the various styles of buildings and roof styles. Laboratory fee. (90 Contact Hours)

CT 226 Advanced Roof Systems (1)

Prerequisites: Construction Technology 115, 117 and 127 or demonstrated competence approved by the instructor. This course will continue the study of roof systems already begun in Construction Technology 127. Topics covered include unequal span intersecting roofs, hip roofs, dormers, skylights and structural timber framing. Emphasis will be placed on job planning and safety. Laboratory fee. (30 Contact Hours)

CT 227 Exterior Finish I (1)

Prerequisites: Construction Technology 110, 115 and 117 or demonstrated competence approved by the instructor. This course introduces completion of the exterior trim work. Topics covered include roof trim and cornice work, exterior doors and windows. Laboratory fee. (30 Contact Hours)

CT 228 Exterior Finish II (1)

Prerequisites: Construction Technology 110, 117 and 227 or demonstrated competence approved by the instructor. This course focuses on completion of the exterior wall and roof finish work. Topics covered include roof covering and methods, masonry, stucco and wood wall finish systems, and job planning. Laboratory fee. (30 Contact Hours)

CT 230 Finish Systems II (3)

Prerequisites: Construction Technology 110, 115 and 117 or demonstrated competence approved by the instructor. This course is a comprehensive course that includes Construction Technology 231, 232 and 233. Students may register in the comprehensive course or the inclusive courses. This course covers interior finish of commercial buildings. Included are store fronts, metal stud framing, wall finish systems, movable partitions, dropped and suspended ceiling systems, specialty fixtures and hardware, and stair construction. Laboratory fee. (90 Contact Hours)

CT 231 Metal Studs And Suspended Ceilings (1)

Prerequisites: Construction Technology 110, 115 and 117 or demonstrated competence approved by the instructor. This course covers metal stud framing and wall finish treatments for commercial buildings. Topics included are metal stud framing, factory built partitions, and suspended ceiling systems. Laboratory fee. (30 Contact Hours)

CT 232 Commercial Doors And Hardware (1)

Prerequisites: Construction Technology 110, 115 and 117 or demonstrated competence approved by the instructor. This course covers commercial doors, hardware and specialty fixtures. Topics include commercial doors and metal jambs, finish hardware, store fixtures, factory-built cabinets and laminates. Laboratory fee. (30 Contact Hours)

CT 233 Stair Building (1)

Prerequisites: Construction Technology 110, 115 and 117 or demonstrated competence approved by instructor. This course covers the construction and installation of interior stairs. Topics covered include stair types and parts, wood and metal stairs, layout and installation of job and factory-built stairs, building codes, and blueprints. Laboratory fee. (30 Contact Hours)

CT 235 Field Supervision I (3)

This course covers human relations and how to develop motivation on the job site. Topics include written and oral communications, leadership and motivation, problem solving and decision making. Laboratory fee. (90 Contact Hours)

CT 240 Field Supervision II (3)

This course covers areas from contract documents, planning and scheduling, along with cost awareness and production control. Topics covered include document information and construction decisions, peripheral documents, large project CPM, production control, work and cost analysis. Laboratory fee. (90 Contact Hours)

CT 245 Field Supervision III (3)

This course covers safety and loss control, project management, construction law, and productivity improvement. Topics covered include project layout start-up, OSHA, reading a construction contract, contract and construction law, and documentation of project activities. Laboratory fee. (90 Contact Hours)

CT 250 Contemporary Topics In Construction (1)

Prerequisite: Will vary based on topics covered and will be annotated in each semester's schedule. Recent developments and topics of current interest are studied. May be repeated when topics vary. (1 Lec.)

CT 251 Contemporary Topics In Construction (2)

Prerequisite: Will vary based on topics covered and will be annotated in each semester's schedule. Recent developments and topics of current interest are studied. May be repeated when topics vary. Laboratory fee. (1 Lec., 1 Lab.)

CT 252 Contemporary Topics In Construction (3)

Prerequisite: Will vary based on topics covered and will be annotated in each semester's schedule. Recent developments and topics of current interest are studied. May be repeated when topics vary. (3 Lec.)

CT 253 Special Topics In Construction Technology (3)

Prerequisite: Will vary based on topics covered and will be annotated in each semester's schedule. Current developments in the field of construction are studied. May be repeated when topics vary. Laboratory fee. (2 Lec., 2 Lab.)

CT 254 Special Topics In Construction Technology (4)

Prerequisite: Will vary based on topics covered and will be annotated in each semester's schedule. Current developments in the field of construction are studied. May be repeated when topics vary. Laboratory fee. (3 Lec., 3 Lab.)

CT 255 Special Projects In Construction Technology (1)

Prerequisite: Will vary based on projects covered and will be annotated in each semester's schedule. Current developments in the field of construction will be developed. May be repeated when topics vary. (30 Contact Hours)

CT 256 Special Projects In Construction Technology (3)

Prerequisite: Will vary based on project covered and will be annotated in each semester's schedule. Current developments in the field of construction will be developed. May be repeated when topics vary. Laboratory fee. (90 Contact Hours)

CT 703 Cooperative Work Experience (3)

Prerequisites: Completion of two courses in the Construction Technology program or instructor approval. This course combines productive work experience with academic study. The student, employer and instructor will develop a written competency-based learning plan with varied learning objectives each semester. The seminar consists of topics which include job interview and job application techniques, job site interpersonal relations, and employer expectations of employees. (1 Lec., 15 Lab.)

CT 704 Cooperative Work Experience (4)

Prerequisites: Completion of two courses in the Construction Technology program or instructor approval. This course combines productive work experience with academic study. The student, employer and instructor will develop a written competency-based learning plan with varied learning objectives each semester. The seminar consists of topics which include job interview and job application techniques, job site interpersonal relations, and employer expectations of employees. (1 Lec., 20 Lab.)

CT 713 Cooperative Work Experience (3)

Prerequisites: Completion of two courses in the Construction Technology program or instructor approval. This course combines productive work experience with academic study. The student, employer and instructor develop a written competency-based learning plan with varied learning objectives and work experiences. Students must develop new learning objectives each semester. The seminar consists of topics which include preparation of resumes, changing jobs, supervising subordinates, and building self-esteem. (1 Lec., 15 Lab.)

CT 714 Cooperative Work Experience (4)

Prerequisites: Completion of two courses in the Construction Technology program or instructor approval. This course combines productive work experience with academic study. The student, employer and instructor develop a written competency-based learning plan with varied learning objectives and work experiences. Students must develop new learning objectives each semester. The seminar consists of topics which include preparation of resumes, changing jobs, supervising subordinates, and building self-esteem. (1 Lec., 20 Lab.)

CRIMINAL JUSTICE

CJ 130 Fundamentals Of Criminal Law (3)

(Common Course Number CRIJ 1310)

A study of the nature of criminal law is presented. The philosophical and historical development of criminal law is covered. Major definitions and concepts are given. The classification of crime is covered. The elements of crimes and penalties are discussed using Texas statutes as illustrations. Criminal responsibility is defined. (3 Lec.)

CJ 132 The Courts And Criminal Justice (3)

(Common Course Number CRIJ 1306)

The judiciary in the criminal justice system is explained. The structure of the American Court System is defined. Prosecutorial right to counsel is explained. Other areas covered are pretrial release, grand juries, adjudication process, and types of rules of evidence and sentencing. (3 Lec.)

CJ 139 Crime In America (3)

(Common Course Number CRIJ 1307)

American crime problems are studied in the historical perspective. Social and public policy factors affecting crime are discussed. The impact of crime and crime trends are shown along with the social characteristics of specific crimes. The prevention of crime is emphasized. (3 Lec.)

CJ 140 Introduction To Criminal Justice (3)

(Common Course Number CRIJ 1301)

This course is a study of history and philosophy of criminal justice including ethical considerations. Topics include the definition of crime, the nature and impact of crime, an overview of the criminal justice system, law enforcement, court system, prosecution and defense, trial process, and corrections. (3 Lec.)

CJ 143 Practical Spanish For Public Service Personnel (3)

This course is primarily for police officers. It focuses on communication skills with the Spanish-speaking community. Skills in understanding, speaking, and listening to the Spanish of the local area are included. Emphasis is on a highly specialized vocabulary taught in English and Spanish. Extensive conversational drills in Spanish are included. (3 Lec.)

CJ 144 Practical Spanish For Public Service Personnel (3)

Prerequisite: Criminal Justice 143. This course is a continuation of Criminal Justice 143. Emphasis continues on the skills of understanding, speaking, and listening. Specialized vocabulary and conversational drills in English and Spanish are also continued. (3 Lec.)

CJ 148 Texas Peace Officers Law (3)

(Common Course Number CRIJ 2333)

Prerequisite: Thirty semester hours of approved academic courses to include fifteen hours of the transfer curriculum in Law Enforcement. This course is a study of laws that are directly related to police field work. Topics include traffic, intoxicated driver, Penal Code, elements of crimes, the Family Code, Alcoholic Beverage Code and civil liability. This course qualifies for four TCLEOSE training points. (3 Lec., 2 Lab.)

CJ 150 Texas Peace Officer Procedures (3)

(Common Course Number CRIJ 2334)

Prerequisite: Criminal Justice 148 or concurrent enrollment. This course is a study of the techniques and procedures used by police officers on patrol. Topics include controlled substance identification, handling abnormal persons, traffic collision investigation, note taking and report writing, vehicle operation, traffic direction, crowd control and jail operations. This course qualifies for four TCLEOSE training points. (3 Lec., 2 Lab.)

CJ 232 Texas Peace Officer Skills (3)

(Common Course Number CRIJ 2335)

Prerequisites: Criminal Justice 148 and 150 or concurrent enrollment. This course includes the demonstration and practice of the skills expected of a police officer. Topics include patrol, traffic stops, use of force, mechanics of arrest, firearms safety and emergency medical care. This course qualifies for five TCLEOSE training points. (4 Lec., 2 Lab.)

CJ 240 Criminal Investigation (3)

(Common Course Number CRIJ 2314)

Prerequisite: Criminal Justice 140. This course covers investigative theory. Topics include the collection and preservation of evidence, sources of information, and interview and interrogation. The uses of forensic sciences and case and trial preparation are also included. (3 Lec.)

CJ 242 Juvenile Procedures (3)

(Common Course Number CRIJ 2322)

Prerequisite: Criminal Justice 140. This course covers recent research and new materials in juvenile procedures. Emphasis is on the major responsibilities of police work with children and youth. (3 Lec.)

CJ 244 Traffic Planning And Administration (3)

(Common Course Number CRIJ 2331)

Prerequisite: Criminal Justice 140. The magnitude and complexities of traffic problems are presented. Topics include techniques used by various agencies to eliminate or control these problems. Emphasis is on evaluation of problems and solutions. (3 Lec.)

CJ 247 Legal Aspects of Law Enforcement (3)

(Common Course Number CRIJ 2323)

This course covers police authority, responsibilities, and constitutional constraints. Topics include laws of arrest, search and seizure, and police liability. (3 Lec.)

CJ 248 Police Systems and Practices (3)

(Common Course Number CRIJ 2328)

The police profession is studied. The organization of law enforcement systems is explained. Other topics include the police role, police discretion, ethics, and police/community interaction. Current and future issues are emphasized. (3 Lec.)

CJ 250 Correctional Systems And Practices (3)

(Common Course Number CRIJ 2313)

The relationship of corrections in the Criminal Justice system, the organization of correctional systems, and the correctional role are covered. Attention is given to institutional operations, alternatives to institutionalization, treatment and rehabilitation, and current and future issues. (3 Lec.)

CJ 251 Community Resources In Corrections (3)

(Common Course Number CRIJ 2301)

This course is an introductory study of the role of the community in corrections. Community programs for adults and juveniles and the administration of community programs are covered. Legal issues and future trends are presented. (3 Lec.)

DANCE

DAN 116 Rehearsal and Performance (1)

(Common Course Number DANC 1151)

This course supplements beginning dance technique classes. Basic concepts of approaching work on the concert stage--stage directions, stage areas, and the craft involved in rehearsing and performing are emphasized. This course may be repeated for credit. (4 Lab.)

DAN 155 Jazz I (1)

(Common Course Number DANC 1147)

The basic skills of jazz dance are introduced. Emphasis is on technique and development, rhythm awareness, jazz styles, and rhythmic combinations of movement. Laboratory fee. (3 Lab.)

DAN 156 Jazz II (1)

(Common Course Number DANC 1148)

Prerequisite: Dance 155 or demonstrated competence approved by the instructor. Work on skills and style in jazz dance is continued. Technical skills, combinations of steps and skills into dance patterns, and exploration of composition in jazz form are emphasized. Laboratory fee. (3 Lab.)

DAN 160 Introduction to Dance History (3)

(Common Course Number DANC 2303)

A history of dance forms is presented. Primitive, classical, and contemporary forms are included. (3 Lec.)

DAN 161 Beginning Ballet I (2)

(Common Course Number DANC 1241)

This course explores basic ballet techniques. Included are posture, balance, coordination, rhythm, and flow of physical energy through the art form. Theory, terminology, ballet history, and current attitudes and events in ballet are also studied. Barre exercises and centre floor combinations are given. Laboratory fee. (1 Lec., 3 Lab.)

DAN 163 Beginning Ballet II (2)

(Common Course Number DANC 1242)

Prerequisite: Dance 161. This course is a continuation of Dance 161. Emphasis is on expansion of combinations at the barre. Connecting steps learned at centre are added. Jumps and pirouettes are introduced. Laboratory fee. (1 Lec., 3 Lab.)

DAN 165 Beginning Contemporary Dance I (2)

(Common Course Number DANC 1245)

This course explores basic contemporary techniques. Emphasis is on technique development, and familiarity with contemporary meters and rhythms. An awareness of major influences on concert dance is developed. Laboratory fee. (1 Lec., 3 Lab.)

DAN 166 Beginning Contemporary Dance II (2)

(Common Course Number DANC 1246)

Prerequisite: Dance 165. This course continues and further develops an exploration of Dance 165. Laboratory fee. (1 Lec., 3 Lab.)

DAN 200 Rehearsal and Performance (1)

(Common Course Number DANC 1152)

Prerequisite: Dance 116 or demonstrated competence approved by the instructor. This course supplements intermediate dance technique classes. It is a continuation of Dance 116 with emphasis on more advanced concepts as they apply to actual rehearsals and performances. This course may be repeated for credit. (4 Lab.)

DAN 234 Introduction to Composition I (1)

(Common Course Number DANC 1101)

Prerequisite: Demonstrated competence approved by the instructor. Development of basic principles and theories involved in composition are studied. Emphasis is placed on movement principles, group and structural forms. (2 Lab.)

DAN 235 Introduction to Composition II (1)

(Common Course Number DANC 1102)

Prerequisites: Dance 234 and demonstrated competence approved by the instructor. This course is a continuation of Dance 234. (2 Lab.)

DAN 252 Coaching and Repertoire (1)

Prerequisite: Demonstrated competence approved by the instructor. Variations (male and female) and pas de deux from standard ballet repertoire are studied and notated. The dancer is given individual coaching, with special attention given to the correction of problems. This course may be repeated for credit. Laboratory fee. (2 Lab.)

DAN 253 Improvisation (1)

Prerequisite: Dance 156, or 163. This course consists of creative problem-solving utilizing basic elements of design. This course may be repeated for credit. Laboratory fee. (2 Lab.)

DAN 255 Jazz III (1)

(Common Course Number DANC 2147)

Prerequisite: Dance 156. This course consists of the development of proper performance framing. Complex jazz rhythms, turns, jumps, and intricate elements of choreography are introduced. Laboratory fee. (3 Lab.)

DAN 256 Jazz IV (1)

(Common Course Number DANC 2148)

Prerequisite: Dance 255. This course is a further exploration of Dance 255. This course may be repeated for credit. Laboratory fee. (3 Lab.)

DAN 258 Intermediate Ballet I (2)

(Common Course Number DANC 2241)

Prerequisite: Dance 163. The development of ballet techniques is continued. More complicated exercises at the barre and centre floor are included. Emphasis is on long series of movements, adagio and jumps. Precision of movement is stressed. Laboratory fee. (1 Lec., 3 Lab.)

DAN 260 Intermediate Ballet II (2)

(Common Course Number DANC 2242)

Prerequisite: Dance 258. This course begins pointe work for women. Specialized beats and tour are begun for men. Individual proficiency and technical virtuosity are developed. This course may be repeated for credit. Laboratory fee. (1 Lec., 3 Lab.)

DAN 265 Intermediate Contemporary Dance I (2)

(Common Course Number DANC 2245)

Prerequisite: Dance 166. This course consists of the development of complex falls, combinations, phrasing, and dramatic emphasis. Laboratory fee. (1 Lec., 3 Lab.)

DAN 266 Intermediate Contemporary Dance II (2)

(Common Course Number DANC 2246)

Prerequisite: Dance 265. This course is a further exploration of Dance 265. This course may be repeated for credit. Laboratory fee. (1 Lec., 3 Lab.)

DESIGN

DES 110 Basic Color Theory And Application (3)

The principles of color theory are studied using a selected color system. The effect of light on color and the psychological impact of color are explored. Color pigment is mixed in opaque media. The content of the course is applied to the student's discipline. Laboratory fee. (2 Lec., 4 Lab.)

DES 128 Introduction To Mass Production Apparel (2)

Mass production in the fashion industry is analyzed. (2 Lec.)

DES 129 Industrial Garment Construction (1)

The equipment, techniques and skills used in making mass produced apparel are studied. Laboratory fee. (3 Lab.)

DES 135 Textiles (3)

This course focuses on fibers, yarns, fabrics, and finishing processes. Included are the identification and analysis of all types of construction methods and their application in industry. The history of traditional textiles is described. Comparisons are made with contemporary developments. A guided design systems approach is used. (2 Lec., 2 Lab.)

DES 136 Fashion Sketching (3)

The structure of the fashion figure is explored. Simple methods for making quick sketches which communicate style information are emphasized. (2 Lec., 4 Lab.)

DES 140 Draping (1)

Prerequisite: Pattern Design 151. Dress designs are creatively interpreted on individual dress forms. Sketches or abstract designs are translated to muslin. Laboratory fee. (2 Lab.)

DES 141 Grading (1)

Prerequisite: Pattern Design 151. The standard production pattern is emphasized. Both large and small sizing is included. The student is introduced to computerized grading. Laboratory fee. (2 Lab.)

DES 229 Advanced Clothing Construction (3)

Prerequisite: Design 129. Advanced techniques of garment construction are studied. Total garments are completed. Laboratory fee. (2 Lec., 3 Lab.)

DES 234 History Of Costume (3)

This course traces the development of garments from the earliest times through the 18th Century. Emphasis is on the customs which affect styles. (3 Lec.)

DES 235 History Of Costume (3)

This course traces the development of garments from the 18th century to the present day. Emphasis is on the customs which affect styles. (3 Lec.)

DEVELOPMENTAL COMMUNICATIONS

DC 095 Communication Skills (3)

This course focuses on strengthening language communications. Topics include grammar, paragraph structure, reading skills, and oral communication. Emphasis is on individual testing and needs. (3 Lec.)

DC 120 Communication Skills (3)

This course is for students with significant communication problems. It is organized around skill development, and students may enroll at any time (not just at the beginning of a semester) upon the referral of an instructor. Emphasis is on individual needs and personalized programs. Special attention is given to oral language. Contacts are made with other departments to provide other ways of learning for the students. (2 Lec., 2 Lab.)

DEVELOPMENTAL LEARNING

DL 094 Learning Skills Improvement (1)

Learning skills are strengthened. Emphasis is on individual needs and personalized programs. This course may be repeated for a maximum of three credits. (2 Lab.)

DEVELOPMENTAL MATHEMATICS

Developmental Mathematics courses offer a review of mathematical skills. Developmental Mathematics 093 satisfies prerequisites for Mathematics 101, 111, 115, 116 and 117. Developmental Mathematics 091 satisfies prerequisites for Mathematics 130 and 195.

DM 060 Basic Mathematics I (1)

This course is designed to give an understanding of fundamental operations. Selected topics include whole numbers, decimals, and ratio and proportions. (1 Lec.)

DM 061 Basic Mathematics II (1)

This course is designed to give an understanding of fractions. Selected topics include primes, factors, least common multiples, percents, and basic operations with fractions. (1 Lec.)

DM 062 Pre Business (1)

This course is designed to introduce students to business mathematics. Selected topics include discounts and commissions, interest, metric and English measuring systems, areas, and volumes. (1 Lec.)

DM 063 Pre Algebra (1)

This course is designed to introduce students to the language of algebra with such topics as integers, metrics, equations, and properties of counting numbers. (1 Lec.)

DM 064 Mathematics For Nursing I (1)

This course is designed to develop an understanding of the measurements and terminology in medicine and calculations involving conversions of applicable systems of measurement. It is designed primarily for students in all nursing programs. (1 Lec.)

DM 065 Mathematics For Nursing II (1)

Prerequisite: Developmental Mathematics 064. This course includes medical calculations used in problems dealing with solutions and dosages. It is designed primarily for students in the nursing programs. (1 Lec.)

DM 070 Elementary Algebra I (1)

Prerequisites: Developmental Mathematics 090, 063, or equivalent. This course is an introduction to algebra and includes selected topics such as basic principles and operations of sets, counting numbers, and integers. (1 Lec.)

DM 071 Elementary Algebra II (1)

Prerequisite: Developmental Mathematics 070 or equivalent. This course includes selected topics such as rational numbers, algebraic polynomials, factoring, and algebraic fractions. (1 Lec.)

DM 072 Elementary Algebra III (1)

Prerequisite: Developmental Mathematics 071 or equivalent. This course includes selected topics such as fractional and quadratic equations, quadratic equations with irrational solutions, and systems of equations involving two variables. (1 Lec.)

DM 073 Introduction To Geometry (1)

This course introduces principles of geometry. Axioms, theorems, axiom systems, models of such systems, and methods of proof are stressed. (1 Lec.)

DM 080 Intermediate Algebra I (1)

Prerequisites: Developmental Mathematics 071, 091 or equivalent. This course includes selected topics such as systems of rational numbers, real numbers, and complex numbers. (1 Lec.)

DM 081 Intermediate Algebra II (1)

Prerequisite: Developmental Mathematics 080 or equivalent. This course includes selected topics such as sets, relations, functions, inequalities, and absolute values. (1 Lec.)

DM 082 Intermediate Algebra III (1)

Prerequisite: Developmental Mathematics 081 or equivalent. This course includes selected topics such as graphing, exponents, and factoring. (1 Lec.)

DM 090 Pre Algebra Mathematics (3)

This course is designed to develop an understanding of fundamental operations using whole numbers, fractions, decimals, and percentages and to strengthen basic skills in mathematics. The course is planned primarily for students who need to review basic mathematical processes. This is the first three-hour course in the developmental mathematics sequence. (3 Lec.)

DM 091 Elementary Algebra (3)

Prerequisite: Developmental Mathematics 090 or an appropriate assessment test score. This is a course in introductory algebra which includes operations on real numbers, polynomials, special products and factoring, rational expressions, and linear equations and inequalities. Also covered are graphs, systems of linear equations, exponents, roots, radicals, and quadratic equations. (3 Lec.)

DM 093 Intermediate Algebra (3)

Prerequisite: One year of high school algebra and an appropriate assessment test score or Developmental Mathematics 091. This course includes further development of the terminology of sets, operations on sets, properties of real numbers, polynomials, rational expressions, linear equations and inequalities, the straight line, systems of linear equations, exponents, roots, and radicals. Also covered are products and factoring, quadratic equations and inequalities, absolute value equations and inequalities, relations, functions, and graphs. (3 Lec.)

DEVELOPMENTAL READING

Students can improve their performance in English courses by enrolling in Developmental Reading courses. Developmental Reading 090 and 091 are valuable skill development courses for English 101. Reading 101 is especially helpful in courses that require a considerable amount of college-level reading. See the catalog descriptions in reading for full course content.

DR 090 Basic Reading Skills (3)

Development of comprehension and vocabulary skills, based on individual needs, is the focus of this course. Basic study skills are introduced. A score of 12 to 19 on the Descriptive Test of Language Skills Reading Comprehension Test would indicate that a student has the reading skills needed for this course. (3 Lec.)

DR 091 Preparation For College Reading (3)

This course emphasizes development of comprehension and vocabulary skills, according to individual needs. Also included are critical reading, rate flexibility, and basic study skills. A score of 20 to 27 on the Descriptive Test of Language Skills Reading Comprehension Test would indicate that a student has the reading skills needed for this course. (3 Lec.)

DEVELOPMENTAL WRITING

Students can improve their writing skills by taking Developmental Writing. These courses are offered for three hours of credit.

DW 090 Developmental Writing (3)

This course introduces the writing process. Course topics include practice in getting ideas, writing and rewriting, making improvements, and correcting mistakes. A learning lab is available to provide additional assistance. (3 Lec.)

DW 091 Developmental Writing (3)

This course focuses on the writing process. Course topics include inventing, drafting, revising, and editing multi-paragraph papers. Building reading skills, using resources, developing thinking skills, and improving attitudes toward writing comprise other course topics. A learning lab is available to provide additional assistance. (3 Lec.)

DW 093 Developmental Writing (3)

This course refines student writing skills in inventing, drafting, revising, and editing multi-paragraph papers. This course may be offered independently or in conjunction with English 101 or other courses requiring writing. (3 Lec.)

DIAGNOSTIC MEDICAL SONOGRAPHY**DMS 208 Cross Sectional Anatomy (3)**

Prerequisite: Minimum grade of "C" or better in all previous Radiologic Sciences courses. This course focuses on a detailed study of the anatomy of the abdomen, including the anatomical relationships of organs such as the liver, gallbladder, spleen, vascular system, and pelvis, as it relates to an ultrasound examination. Laboratory fee. (3 Lec.)

DMS 210 Acoustical Physics (3)

Prerequisite: Minimum grade of "C" or better in all previous Radiologic Science courses. This course is designed to introduce the student to the study of acoustical physics, with the discussion of such topics as the interaction of ultrasound with tissues, mechanics of ultrasound production, various transducer design and construction, and principles of dopler devices. (3 Lec.)

DMS 211 Clinical Education I (5)

Prerequisite: Minimum grade of "C" or better in all previous Radiologic Sciences courses. The student will participate in supervised experiences in an affiliated hospital ultrasound department. (20 Lab.)

DMS 216 Ultrasound Science I (2)

Prerequisite: Minimum grade of "C" or better in all previous Radiologic Sciences courses. This course discusses the history of sonography, related diagnostic research, and departmental procedures. Patient history and clinical findings relative to sonographic examination will be discussed. (2 Lec.)

DMS 218 Clinical Medicine I (4)

Prerequisite: Minimum grade of "C" or better in all previous Radiologic Sciences courses. A detailed study of scanning techniques, transducers, normal and abnormal abdominal anatomy, patient history and laboratory data, as it relates to sonographic examination are the focus of this course. (4 Lec.)

DMS 222 Pathophysiology (3)

Prerequisite: Minimum grade of "C" or better in all previous Radiologic Sciences courses. This course presents a study of the pathology and pathophysiology of abdominal structures visualized with ultrasound examination, including urinary and reproductive systems, breast and thyroid. Correlations will be made between sonographic examination and disease processes of these organs. (3 Lec.)

DMS 225 Clinical Medicine II (4)

Prerequisite: Minimum grade of "C" or better in all previous courses. This is a continuation of Clinical Medicine I with emphasis on the male and female pelvis, and obstetrics. (4 Lec.)

DMS 227 Instrumentation/Standardization (2)

Prerequisite: Minimum grade of "C" or better in all previous courses. This course focuses on the components and functions of the scanner, display systems, scan converter, and hard copy units of sonographic examination. Discussion will include a comparison of various real time units, B scan units. Operations and calibration of an ultrasound unit will also be discussed. (2 Lec.)

DMS 228 Clinical Education II (6)

Prerequisite: Minimum grade of "C" or better in all previous courses. This is a continuation of Clinical Education I. Students will be assigned to affiliated hospital ultrasound departments. (24 Lab.)

DMS 237 Clinical Medicine III (1)

Prerequisite: Minimum grade of "C" or better in all previous courses. This course is a continuation of Clinical Medicine II, with emphasis on the neonatal head. (3 Lec.)

DMS 242 Clinical Medicine IV (1)

Prerequisite: Minimum grade of "C" or better in all previous courses. This course is a continuation of Clinical Medicine III with emphasis placed on review of adult abdominal organ systems. (3 Lec.)

DMS 250 Clinical Education III (3)

Prerequisite: Minimum grade of "C" or better in all previous courses. This course is a continuation of Clinical Education II. Students will be assigned to affiliated hospital ultrasound departments. (32 Lab.)

DMS 251 Clinical Education IV (3)

Prerequisite: Minimum grade of "C" or better in all previous courses. This course is a continuation of Clinical Education III. Students will be assigned to affiliated hospital ultrasound departments. (32 Lab.)

DRAFTING AND COMPUTER AIDED DESIGN

(See COMPUTER AIDED DESIGN AND DRAFTING)

EARTH SCIENCE**ES 117 Earth Science (4)**

This course is for the non-science major. It covers the interaction of the earth sciences and the physical world. Geology, astronomy, meteorology, and space science are included. Selected principles and concepts of the applied sciences are explored. This course is also offered as Physical Science 119. Laboratory fee. (3 Lec., 3 Lab.)

ECOLOGY**ECY 291 People And Their Environment II (3)**

(Common Course Number GEOL 1305)

Environmental awareness and knowledge are emphasized. Topics include pollution, erosion, land use, energy resource depletion, overpopulation, and the effects of unguided technological development. Proper planning of societal and individual action in order to protect the natural environment is stressed. (3 Lec.)

ECONOMICS**ECO 105 Economics Of Contemporary Social Issues (3)**

(Common Course Number ECON 1303)

This course is a study of the economics of current social issues and public policy, including such matters as antitrust policy, business deregulation, social security, wage and price controls, budget deficits, economic growth, medical care, nuclear power, farm policy, labor unions, foreign trade, and economic stabilization. This course is a credit course that can serve as a transfer elective and/or introductory course for the Principles sequence (Economics 201 or 202). This course, however, will not replace either Economics 201 or 202 where these courses are required in a university transfer curriculum. (3 Lec.)

ECO 201 Principles Of Economics I (3)

(Common Course Number ECON 2301)

Sophomore standing is recommended. The principles of macroeconomics are presented. Topics include economic organization, national income determination, money and banking, monetary and fiscal policy, macroeconomic applications of international trade and finance, economic fluctuations, and growth. (3 Lec.)

ECO 202 Principles Of Economics II (3)

(Common Course Number ECON 2302)

Prerequisite: Economics 201 or demonstrated competence approved by the instructor. The principles of microeconomics are presented. Topics include the theory of demand, supply, and price of factors. Income distribution and theory of the firm are also included. Emphasis is given to microeconomic applications of international trade and finance as well as other contemporary microeconomic problems. (3 Lec.)

ECO 203 Economics of Global Issues (3)

(Common Course Number ECON 2311)

Prerequisite: ECO 201 or demonstrated competence approved by the instructor. This course is an analytical study of global economic relationships with historical development of various production and distribution activities. The interaction of social and political factors as well as physical and monetary resources in determining the location, and relocation, of particular economic activities will be investigated. This course will emphasize critical inquiry into the major issues currently affecting the global economy at large as well as the diverse individual cultures within its spread. (3 Lec.)

EDUCATIONAL PERSONNEL**EP 129 Language Skills For Educational Personnel (3)**

This course surveys methods for developing the language skills of students. Topics include creative writing, story telling, appreciation of literature, tutoring, cursive and manuscript handwriting, and listening skills. (3 Lec.)

EP 131 Introduction To Educational Processes I (3)

The role of educational support personnel is defined within the framework of contemporary public school organization. Legal guidelines and procedures of local, state, and federal agencies governing public education are described. Special attention is given to the development of effective interpersonal relationships with emphasis on application to the public school setting. (3 Lec.)

EP 133 Introduction To Educational Processes II (3)

This course focuses on developing a wholesome learning environment in the classroom. The facilitation of learning in small groups is emphasized. Factors affecting the growth and development of students in a pluralistic society are covered. The responsibilities of educational personnel are covered. (3 Lec.)

EP 134 Introduction To Media (3)

Basic skills for preparing graphic and projected educational materials are developed. The operation of selected audiovisual equipment is also included. (2 Lec., 2 Lab.)

EP 135 Arts And Crafts (3)

Creative art materials and methods used in programs for children are presented. Opportunities are provided for the use of these materials. Classroom displays, charts, poster art, and bulletin boards are included, emphasis is on creating an attractive environment in the classroom. (3 Lec.)

EP 136 Principles And Practices Of Multi-Cultural Communications (3)

This course examines cultural variations found in our society and reflected in our pluralistic classrooms. Students will look at their own culturally influenced behavior, study other major cultures, and develop an awareness of cultural diversity and the process of intercultural communication. Differences in lifestyles, communication styles, learning processes, educational philosophies, interpersonal relations, and sources of stress for various cultural groups will be explored in a seminar-type environment. (3 Lec.)

EP 140 Child Language Development (3)

This course will cover information on language development for the bilingual and monolingual student with emphasis on cross-cultural awareness and second language acquisition. The role of oral language development will be studied with regard to its application for both ESL and bilingual methods and techniques. (3 Lec.)

EP 143 Bilingual Education: Philosophy, Techniques And Materials (3)

This course presents the core techniques in bilingual education. Topics included are: awareness of cultural backgrounds, teaching techniques, material development, historical and philosophical concepts of bilingual/bicultural education, and Spanish technical vocabulary in the content areas. (3 Lec.)

EP 210 Computer Instruction For Educators (3)

This course is an introduction to microcomputer use for educators. Topics include history, terminology, classroom applications, instructional software preview, introductory programming, and productivity software. Hands-on computer activities are emphasized throughout the course. (2 Lec., 2 Lab.)

EP 241 Techniques For Teaching English To Non-Native Speakers (3)

This course is a practical application of second language learning theory as it relates to the non-English speaking student. The process, contents and management of second language teaching will be discussed, demonstrated and practiced. (3 Lec.)

EP 245 Diversified Studies (1)

This course provides for specialized study by educational personnel. Possible areas for study are special education, bilingualism, child development, educational media, library, physical education, counseling, and health services. Other areas may be approved by the instructor. This course may be repeated for credit, when the topics vary, up to a maximum of three credit hours. (1 Lec.)

EP 246 Diversified Studies (2)

This course provides for specialized study by educational personnel. Possible areas for study are special education, bilingualism, child development, educational media, library, physical education, counseling, and health services. Other areas may be approved by the instructor. Other areas may be repeated for credit, when the topics vary, up to a maximum of four credit hours. (2 Lec.)

EP 247 Diversified Studies (3)

This course provides for specialized study by educational personnel. Possible areas for study are special education, bilingualism, child development, educational media, library, physical education, counseling, and health services. Other areas may be approved by the instructor. Other areas may be repeated for credit, when the topics vary, up to a maximum of six credit hours. (3 Lec.)

EP 249 The Exceptional Child (3)

This course is designed as a comprehensive survey of the field of exceptionality with emphasis on the educational, sociological, and psychological effects of handicapping condition on children. (3 Lec.)

EP 702 Cooperative Work Experience (2)

Prerequisites: Completion of two courses in the Educational Personnel program or instructor approval. This course combines productive work experience with academic study. The student, employer and instructor will develop a written competency-based learning plan with varied learning objectives and work experiences. Students must develop new learning objectives each semester. The seminar consists of 16 hours of group and individual learning experiences related to such topics as writing competency-based learning objectives, job-related problem solving, improving one's chances for advancement, interpersonal communication skills, contemporary issues in education and other topics as appropriate for particular educational groups or individuals. (1 Lec., 10 Lab.)

EP 703 Cooperative Work Experience (3)

Prerequisites: Completion of two courses in the Educational Personnel program or instructor approval. This course combines productive work experience with academic study. The student, employer and instructor will develop a written competency-based learning plan with varied learning objectives and work experiences. Students must develop new learning objectives each semester. The seminar consists of 16 hours of group and individual learning experiences related to such topics as writing competency-based learning objectives, job-related problem solving, improving one's chances for advancement, interpersonal communication skills, contemporary issues in education and other topics as appropriate for particular educational groups or individuals. (1 Lec., 15 Lab.)

EP 704 Cooperative Work Experience (4)

Prerequisites: Completion of two courses in the Educational Personnel program or instructor approval. This course combines productive work experience with academic study. The student, employer and instructor will develop a written competency-based learning plan with varied learning objectives and work experiences. Students must develop new learning objectives each semester. The seminar consists of 16 hours of group and individual learning experiences related to such topics as writing competency-based learning objectives, job-related problem solving, improving one's chances for advancement, interpersonal communication skills, contemporary issues in education and other topics as appropriate for particular educational groups or individuals. (1 Lec., 20 Lab.)

EP 712 Cooperative Work Experience (2)

Prerequisites: Completion of two courses in the Educational Personnel program or instructor approval. This course combines productive work experience with academic study. The student, employer and instructor will develop a written competency-based learning plan with varied learning objectives and work experiences. Students must develop new learning objectives each semester. The seminar consists of 16 hours of group and individual learning experiences related to such topics as employee interviewing skills, strategies for career upward mobility, effective resume writing and interpersonal communication skills. (1 Lec., 10 Lab.)

EP 713 Cooperative Work Experience (3)

Prerequisites: Completion of two courses in the Educational Personnel program or instructor approval. This course combines productive work experience with academic study. The student, employer and instructor will develop a written competency-based learning plan with varied learning objectives and work experiences. Students must develop new learning objectives each semester. The seminar consists of 16 hours of group and individual learning experiences related to such topics as employee interviewing skills, strategies for career upward mobility, effective resume writing and interpersonal communication skills. (1 Lec., 15 Lab.)

EP 714 Cooperative Work Experience (4)

Prerequisites: Completion of two courses in the Educational Personnel program or instructor approval. This course combines productive work experience with academic study. The student, employer and instructor will develop a written competency-based learning plan with varied learning objectives and work experiences. Students must develop new learning objectives each semester. The seminar consists of 16 hours of group and individual learning experiences related to such topics as employee interviewing skills, strategies for career upward mobility, effective resume writing and interpersonal communication skills. (1 Lec., 20 Lab.)

ELECTRIC POWER TECHNOLOGY**ELP 244 Advanced Electric Power Systems (4)**

Prerequisite: Electro-Mechanical Technology 233. Power distribution systems are studied. Generating equipment, transmission lines, plant distribution, and protective devices are included. The laboratory provides hands-on experience in the operation and testing of the various types of generation and power distribution equipment. Laboratory fee. (3 Lec., 3 Lab.)

ELECTRICAL TECHNOLOGY**ELE 105 Introduction Of Electrical Technology (2)**

This course focuses on the nature of the electrical technology industry and employment opportunities. Safety, materials, and the proper use of tools and common test devices are covered. Laboratory fee. (2 Lec., 1 Lab.)

ELE 106 Fundamentals Of Electricity (4)

Electrical theory and basic DC and AC circuits are covered. Voltage, current, resistance, reactance, impedance, phase angle, and power factors are calculated and measured in series, parallel and combination circuits. Laboratory fee. (3 Lec., 3 Lab.)

ELE 107 Electrical Transformers (4)

This course focuses on the fundamentals, types and testing procedures of electrical transformers. Power generation, transmission, and distribution systems are presented utilizing both single-phase and three-phase transformers. Laboratory fee. (4 Lec., 2 Lab.)

ELE 108 General Electrical Codes (2)

General Electrical Codes as identified in the current National Electric Code are presented. General codes concepts and residential applications are stressed. (2 Lec.)

ELE 115 Low Voltage Circuits (3)

This course focuses on types of low voltage electrical circuits. The theory, installation, and testing of low voltage circuits such as bells, chimes, and alarm systems will be presented. Laboratory fee. (2 Lec., 2 Lab.)

ELE 116 General Electrical Wiring (3)

This course covers general wiring practices with emphasis on safety and procedures. Topics include materials selection, splicing, switches, receptacles, and lighting circuits for both residential and selected commercial applications. Laboratory fee. (2 Lec., 4 Lab.)

ELE 117 General Electrical Planning (4)

This course presents service, feeders, and branch circuit load calculations. Student activities include calculating appliance loads and circuit locations using blueprints, construction drawings and specifications. Laboratory fee. (4 Lec., 2 Lab.)

ELE 118 Commercial Codes (2)

This course is an extension of the Basic Electrical Codes to applications frequently encountered in commercial electrical wiring. Information presented is based upon the current National Electrical Code. (2 Lec.)

ELE 205 Commercial Wiring (3)

Topics in this course are centered on accepted procedures and practice in wiring for commercial applications. Materials, conduit, and circuit layouts are included. Laboratory fee. (2 Lec., 4 Lab.)

ELE 206 Commercial Planning (4)

This course stresses applications for service, feeders, and branch circuits for commercial loads. Topics covered include blueprint reading, load calculations, overload protection, and planning for selected commercial environments. Laboratory fee. (4 Lec., 2 Lab.)

ELE 207 Industrial Planning (2)

This course covers power applications for industrial locations. Topics include high voltage wiring, feeder bus systems, switching, and system protection. Laboratory fee. (2 Lec., 1 Lab.)

ELE 208 Industrial Codes (2)

This course presents those areas of the current National Electric Code dealing with transformer and welder feeder circuits, motor and branch circuit overload protection. (2 Lec.)

ELE 213 Electrical Motor Fundamentals (2)

Theory and fundamentals of AC, DC, and three-phase electrical motors are presented. Emphasis is placed on the characteristics, connection, and testing of these machines. Laboratory fee. (2 Lec., 1 Lab.)

ELE 214 Solid State Controls (3)

Solid state digital logic concepts and applications for motor controls are presented. System diagnostic procedures are covered. Laboratory fee. (2 Lec., 2 Lab.)

ELE 216 Motor Controls (3)

This course focuses on the connection and testing of electrical systems used to control single and multiple motor operations. Topics included are control circuit diagrams, magnetic starting, overload protecting, jogging, reversing, and sequencing. Laboratory fee. (3 Lec., 2 Lab.)

ELE 218 Electrical Design (3)

This course presents topics pertaining to designing and planning residential and commercial projects. Topics include construction drawings, specifications, load calculations, electrical layout and schedules, materials selection, and cost estimating. Activities are centered on major student projects. Laboratory fee. (2 Lec., 4 Lab.)

ELE 703 Cooperative Work Experience (3)

Prerequisites: Completion of two courses in the Electrical Technology program or instructor approval. This course combines productive work experience with academic study. The student, employer and instructor will develop a written competency-based learning plan with varied learning objectives and work experiences. Students must develop new learning objectives each semester. The seminar consists of topics which include job interview and job application techniques, job site interpersonal relations, and employer expectations of employees. (1 Lec., 15 Lab.)

ELE 704 Cooperative Work Experience (4)

Prerequisites: Completion of two courses in the Electrical Technology program or instructor approval. This course combines productive work experience with academic study. The student, employer and instructor will develop a written competency-based learning plan with varied learning objectives and work experiences. Students must develop new learning objectives each semester. The seminar consists of topics which include job interview and job application techniques, job site interpersonal relations, and employer expectations of employees. (1 Lec., 20 Lab.)

ELE 713 Cooperative Work Experience (3)

Prerequisites: Completion of two courses in the Electrical Technology program or instructor approval. This course combines productive work experience with academic study. The student, employer and instructor will develop a written competency-based learning plan with varied learning objectives and work experiences. Students must develop new learning objectives each semester. The seminar consists of topics which include preparation of resumes, changing jobs, supervising subordinates, and building self-esteem. (1 Lec., 15 Lab.)

ELE 714 Cooperative Work Experience (4)

Prerequisites: Completion of two courses in the Electrical Technology program or instructor approval. This course combines productive work experience with academic study. The student, employer and instructor will develop a written competency-based learning plan with varied learning objectives and work experiences. Students must develop new learning objectives each semester. The seminar consists of topics which include preparation of resumes, changing jobs, supervising subordinates, and building self-esteem. (1 Lec., 20 Lab.)

ELECTRONICS TECHNOLOGY**ET 135 DC-AC Theory And Circuit Analysis (6)**

Prerequisite: Credit or concurrent enrollment in Mathematics 195 or the equivalent. This is an accelerated course combining DC circuits (ET 190) and AC circuits (ET 191) in one semester for students with previous electronics experience or a good mathematics background. Topics include the analysis of resistive, capacitive, inductive, and combination circuits. Magnetism, resonance, schematic symbols, and sine wave analysis are also included. Series, parallel, and series-parallel circuits are covered. Laboratory fee. (5 Lec., 3 Lab.)

ET 170 Printed Circuit Board Manufacturing (1)

The student will build a working printed circuit board. The course will begin with a schematic and parts list and progress through all steps necessary to produce a single sided photographically produced board. Laboratory fee. (1 Lec., 1 Lab.)

ET 172 Soldering (1)

This course is intended to ensure that the student understands the theory and use of tools and equipment for proper industrial soldering techniques. The prime emphasis is to build the student's skill in soldering. Laboratory fee. (1 Lec., 1 Lab.)

ET 174 Oscilloscope Utilization (1)

This course will cover all front panel controls on basic laboratory calibrated oscilloscopes. Emphasis will be placed on utilization of oscilloscope in trouble-shooting a circuit. Laboratory fee. (1 Lec., 1 Lab.)

ET 190 DC Circuits And Electrical Measurements (4)

The mathematical theory of direct current circuits is presented in combination with laboratory fundamentals. Emphasis is on elementary principles of magnetism, electric concepts and units, diagrams, and resistance. Electromagnetism, series and parallel circuits, simple meter circuits, conductors, and insulators are also stressed. Laboratory fee. (3 Lec., 3 Lab.)

ET 191 A.C. Circuits (4)

Prerequisites: Electronics Technology 190 and credit or concurrent enrollment in Mathematics 195 or the equivalent. This course covers the fundamental theories of alternating current. The theories are applied in various circuits. Included are laboratory experiments on power factor, sine wave analysis, resonant circuits, capacitance, inductance, Q of coils, magnetism, and resistance. Laboratory fee. (3 Lec., 3 Lab.)

ET 192 Digital Computer Principles (3)

Prerequisite: Electronics Technology 190. This course is a study of number systems and arithmetic in various bases. Included are truth tables, relay and diode logic analysis, logic symbols, and basic functions including NOT, AND, NAND, OR NOR, and EX OR. Logic manipulations include basic laws, minterm, maxterm, sum of products, and product of sums expression forms. Venn diagrams, Veitch and Karnaugh reduction techniques, and circuit synthesis are also covered using design examples. Laboratory fee. (2 Lec., 2 Lab.)

ET 193 Active Devices (4)

Prerequisites: Electronics Technology 190 and credit or concurrent enrollment in Electronics Technology 191. Semiconductors (active devices) are the focus of this course. Topics include composition, parameters, linear and nonlinear characteristics, in-circuit action, amplifiers, rectifiers, and switching. Laboratory fee. (3 Lec., 3 Lab.)

ET 194 Instrumentation (3)

Prerequisites: Electronics Technology 190 and credit or concurrent enrollment in Electronics Technology 191 and 193. Electrical devices for measurement and instrumentation are studied and applied to work situations. Included are basic AC and DC measurement meters, impedance bridges, oscilloscopes, signal generators, signal-tracers, and tube and transistor testers. The course concludes with a study of audio frequency test methods and equipment. Laboratory fee. (2 Lec., 3 Lab.)

ET 200 Special Applications Of Electronics (4)

This course is intended for use by any given group of students that desire specific topics to be covered. This course may substitute for any 200 level electronics course with the demonstrated competence approved by the instructor. This course is repeatable for credit as topics vary. Laboratory fee. (3 Lec., 3 Lab.)

ET 201 Automated Manufacturing (4)

This course provides an introduction to automated manufacturing and robotics. Areas of study include the types of equipment and devices used in industry, their construction, operation, programming methods and applications for use in manufacturing. The student develops skills in system operation and program analysis in the lab. Laboratory fee. (3 Lec., 3 Lab.)

ET 202 Industrial Power Systems (4)

This course examines predominant power systems used in industrial applications. Topics covered include electric motors and their control circuits, mechanical devices and systems, and fluid power principles and systems, including pneumatic and hydraulic operations. Fundamental theory of operation, control and application are studied in each of these areas as well as developing skills and techniques of use with hands-on experience. Laboratory fee. (3 Lec., 3 Lab.)

ET 203 Industrial Controls (4)

Prerequisite: Electronics Technology 193. This course examines the devices and systems used in industrial controls. Topics covered include electromechanical devices, various types of transducers, signal conditioning, modulation and demodulation methods, and interfacing and data communications techniques. The student gains operational experience working with the devices and equipment in the lab. Laboratory fee. (3 Lec., 3 Lab.)

ET 210 Basic CRT Display And Television Theory and Service (4)

Prerequisite: Electronics Technology 190, 191, 193 and 194. This course is designed to introduce CRT display and television theory and to give the student hands on experience in basic servicing of all major sections of modern television receivers and CRT displays for computers. Laboratory fee. (3 Lec., 3 Lab.)

ET 231 Special Circuits With Communications Applications (4)

Prerequisites: Electronics Technology 193 and 194. Active devices are applied to circuitry common to most communications equipment. Both the theory of operation and practical applications of the circuits in laboratory experiments are included. Circuits including power supplies, voltage regulators, tuned and untuned amplifiers, filters, oscillators, modulators, and detectors, with application to various types of intelligence transmission and reception are emphasized in the course. Laboratory fee. (3 Lec., 3 Lab.)

ET 232 Analysis Of Electronic Logic And Switching Circuits (4)

Prerequisites: Electronics Technology 193 and 194. The course presents circuitry common to electronic control systems and automatic measuring systems. Typical circuit systems functions covered include clamping, gating, switching, and counting. Circuits include voltage discriminators, multi-vibrators, dividers, counters, and gating circuits. Boolean algebra and binary numbers are reviewed. Emphasis is on semiconductor devices. Fluidic switching devices are introduced. Laboratory fee. (3 Lec., 3 Lab.)

ET 234 Electronic Circuits And Systems (3)

Prerequisites: Completion of all electronics technology courses up to and including Electronics Technology 231; and may take Electronics Technology 232 and Electronics Technology 231 concurrently with Electronics Technology 234. The design, layout construction, and calibration of an electronic project are covered. Students develop independent project and prepare term papers on functions of components, operating specifications and schematics. Laboratory fee. (6 Lab.)

ET 235 Fundamentals Of Electricity (4)

This course is an introduction to electricity for student in related programs. Topics include basic AC and DC theory, voltage, current, and resistance, and electrical wiring principles and schematics. Transformers, relays, timers, electrical measuring devices, and basic electrical calculations are also included. Laboratory fee. (3 Lec., 3 Lab.)

ET 237 Modular Memories And Microprocessors (4)

Prerequisite: Electronics Technology 232. Read only memories (ROM's), random access memories (RAM's) and microprocessors are presented. Emphasis is on specifications, applications, and operation. Control busses, data busses, addressing, coding, and programming of typical microprocessor units are included. Micro processor system is tested, coded, and programmed. Laboratory fee. (3 Lec., 3 Lab.)

ET 238 Linear Integrated Circuits (4)

Prerequisites: Electronics Technology 190, 191, and 193. Differential amplifiers, operational amplifiers, and integrated circuit timers are investigated. Topics include comparators, detectors, inverting and non-inverting amplifiers, OP. AMP adders, differentiating and integrating amplifiers, and instrumentation amplifiers. Digital to analog converters, analog to digital converters, special OP. AMP applications, and integrated circuits timers are also included. Limitations and specifications of integrated circuits are covered. Laboratory fee. (3 Lec., 3 Lab.)

ET 239 Microwave Technology (3)

Prerequisites: Electronics Technology 194 and Electronics Technology 231. Microwave concepts such as propagation, transmission lines including waveguides, standing waves, impedance matching, basic antennas and various basic microwave measurements are covered. Microwave measurement techniques such as power and frequency meter measurements and calibration, VSWR determinations, klystron characteristics, and waveguide tuning will be demonstrated. A basic radar system is discussed as time permits. (3 Lec.)

ET 240 Electronic Theory And Application Of Digital Computers (4)

Prerequisites: Mathematics 196 and Electronics Technology 193. The course presents the electronic switching circuits for digital computer systems. Logic symbology, gates, and related Boolean algebra are covered. Computer terminology and number systems are included. An introduction to BASIC language programming for electronic circuit analysis is also included. Laboratory experiments in addition to computer programming include basic logic gate analysis and test procedures. Laboratory fee. (3 Lec., 3 Lab.)

ET 250 Principles Of Electronic Integrated Circuits (4)

Prerequisites: Electronics Technology 190 and concurrent enrollment in Computer Aided Design 241. This is a survey course of solid state devices and their associated circuitry. This course is intended to teach the student fundamentals of common electronic circuits which contain integrated circuits and to teach elements of solid state devices from the principle of the PN junction through the function of integrated circuits. Laboratory fee. (3 Lec., 2 Lab.)

ET 260 Sinusoidal Circuits (4)

Prerequisites: Electronics Technology 191 and 193. Power supply circuits are presented. Included are full wave rectification, filtering, and regulation. Amplifier circuits involving large and small signal analysis, coupling, classes of operation and feedback techniques are also covered. Semiconductor devices considered include the Zener diode, SCR, TRIAC, MOSFET, JFET, CMOS, and unijunction transistors. Laboratory fee. (3 Lec., 3 Lab.)

ET 261 Pulse And Switching Circuits (4)

Prerequisites: Electronics Technology 191 and 193. Thevenin's theorem and superposition are applied to AC and DC sources. Wave form analysis is studied including pulse characteristics and pulsetrain measurements of harmonic content. Other topics include RC and RL circuit response to step inputs, exponential forms, diode clipper and clamp circuits, and transistor action in digital circuits involving saturation and cutoff. Gate types of RTL, DTL, TTL, ECL, and MOS technologies are also included. The bistable, monostable, and astable types of multivibrator circuits are covered. Laboratory fee. (3 Lec., 3 Lab.)

ET 263 Digital Computer Theory (4)

Prerequisite: Electronics Technology 191, 192, and 193. This course focuses on basic computer circuits. Included are flip-flops, shift registers, counters (sequential and nonsequential), operational amplifiers, and A to D converters. Analysis of specific current integrated circuits is also included. Laboratory fee. (3 Lec., 3 Lab.)

ET 264 Digital Systems (4)

Prerequisites: Electronics Technology 192 and 263 or concurrent enrollment in Electronics Technology 263. The three major component systems of a digital computer are studied. The arithmetic-logic section covers arithmetic in binary, hexadecimal, counting, and number representation within a machine. The memory studies center around the operation of core and semiconductor memory assemblies which include addressing and data buffering. The control section deals with state, distributive, and ROM type of control circuits. Laboratory fee. (3 Lec., 3 Lab.)

ET 265 Digital Research (3)

Prerequisites: Electronics Technology 192 and concurrent enrollment in Electronics Technology 263 or 264. The design, layout, construction, and calibrating of a major electronic project are covered. The project uses digital circuits. Students develop independent projects and prepare term papers on functions of components, operating specifications, and schematics. Laboratory fee. (1 Lec., 5 Lab.)

ET 266 Computer Applications (4)

Prerequisite: Electronics Technology 192. Machine language and assembly language programming are the focus of this course. Emphasis is on problem solving for in-house computers. Laboratory fee. (3 Lec., 3 Lab.)

ET 267 Microprocessors (4)

Prerequisites: Electronics Technology 192 and 266. This course is a study of microcomputers. Topics include architecture, software, interfacing, microprocessors, and microcomputer systems. Emphasis is on practical applications using in-house microcomputers. Laboratory fee. (3 Lec., 3 Lab.)

ET 268 Microprocessor Trouble-shooting And Interface (4)

Prerequisite: Electronic Technology 267. This course studies trouble-shooting techniques on microprocessor, disk controls, CRT controls and interfaces. Emphasis is on hardware trouble-shooting and peripheral interface. Laboratory fee. (3 Lec., 3 Lab.)

ET 298 Electro-Optics Systems (4)

Prerequisite: Electronics Technology 193 and Electronics Technology 263 (recommended). This course is the study of components, circuits and systems that combine electronic technology with optics. Topics include basic optical principles, electro-optic sources, fiber optic links, optical receivers, integrated optics, and system interconnection. Laboratory fee. (3 Lec., 3 Lab.)

ET 704 Cooperative Work Experience (4)

Prerequisites: Completion of two courses in the Electronics Technology, Digital Electronics Technology, or Electronic Telecommunications Technology programs, or instructor approval. This course combines productive work experience with academic study. The student, employer and instructor will develop a written competency-based learning plan with varied learning objectives and work experiences related to the electronics field. The seminar consists of group or individual meetings with the instructor, individualized plans for job-related or self improvement (i.e. job interview, job application procedures, job site interpersonal relations, employer expectations of employees) or combinations of both. (1 Lec., 20 Lab.)

ET 714 Cooperative Work Experience (4)

Prerequisites: Completion of two courses in the Electronics Technology, Digital Electronics Technology, or Electronic Telecommunications Technology programs, or instructor approval. This course combines productive work experience with academic study. The student, employer and instructor will develop a written competency-based learning plan with varied learning objectives and work experiences related to the electronics field. The seminar consists of group or individual meetings with the instructor, individualized plans for job-related or self improvement (i.e. preparation of resumes, changing jobs, supervising subordinates, building self-esteem), or combinations of both. (1 Lec., 20 Lab.)

ELECTRONIC TELECOMMUNICATIONS

ET 102 Introduction To Telecommunications (3)

This course is an introduction to the fundamentals of telecommunications with an emphasis on analog and digital voice transmission techniques and technology. Telecommunications majors are required to take the laboratory course Electronics Technology 103. (3 Lec.)

ET 103 Introduction To Telecommunications Laboratory (1)

Prerequisites: Electronics Technology 190, 191 and concurrent enrollment in Electronics Technology 102. This course is designed to support the theories taught in Electronics Technology 102 with laboratory experiments. Laboratory fee. (3 Lab.)

ET 290 Advanced Electronic Devices (4)

Prerequisites: Electronics Technology 102, 103 and 193. This course continues the study of solid state devices and circuit theory. Emphasis will be on application of these devices in circuitry relevant to the telecommunications systems: power supplies, regulators, amplifiers and oscillators. Laboratory fee. (3 Lec., 3 Lab.)

ET 291 Linear Integrated Circuit Applications (4)

Prerequisite: Electronics Technology 290 or concurrent enrollment in Electronics Technology 290. A study of operational amplifiers and their use as basic building blocks of linear integrated circuitry. Topics will include voltage level detectors, comparators, signal generating circuits, signal processing circuits, inverting and non-inverting amplifiers, differential, instrumentation and bridge amplifiers, active filters, IC. timers, and selected linear integrated circuits. Laboratory fee. (3 Lec., 3 Lab.)

ET 292 Telephony Switching Systems (4)

Prerequisite: Electronics Technology 290 or concurrent enrollment in Electronics Technology 290. This course will familiarize the student with the following topics: telephone set, public switched networks, local exchanges, networks, two and four wire systems, tip and ringing requirements, and an introduction to digital transmission techniques. Laboratory fee. (3 Lec., 3 Lab.)

ET 293 Basic Radio Circuitry (4)

Prerequisite: Electronics Technology 290 or concurrent enrollment in Electronics Technology 290. This course covers the theory and practices of modern communications systems. Topics include amplitude modulation, frequency modulation, single side band techniques and digital radio characteristics. Laboratory fee. (3 Lec., 3 Lab.)

ET 294 High Frequency Transmission Systems (4)

Prerequisites: Electronics Technology 291, 292, and 293. The theory and application of long-haul transmission techniques utilized in the telecommunication industry will be covered. Microwave transmission, fiber optics principles, and satellite communication are major areas of emphasis. Laboratory fee. (3 Lec., 3 Lab.)

ET 295 Telecommunication Signaling (4)

Prerequisite: Electronics Technology 294 or concurrent enrollment in Electronics Technology 294. This course covers circuit and system application necessary to implement signaling protocols, conversion systems, formats, and loop starts. Specific signaling topics are SF (single frequency) E & M, DX (duplex), and looping systems. Laboratory fee. (3 Lec., 3 Lab.)

ET 297 System Installation And Testing (4)

Prerequisite: Electronics Technology 295 or concurrent enrollment in Electronics Technology 294 or Electronics Technology 295. This course is designed to make the student familiar with the installation of telecommunications switching equipment. The student will become familiar with the theory, operation, and maintenance of switching equipment along with trouble-shooting techniques. Laboratory fee. (3 Lec., 3 Lab.)

ET 704 Cooperative Work Experience (4)

Prerequisites: Completion of two courses in the Electronic Telecommunications or Digital Electronics Technology programs or instructor approval. This introductory course combines productive work experience with academic study. The student, employer and instructor will develop a written competency-based learning plan with varied learning objectives each semester. The seminar consists of an introduction to co-op, orientation to on-the-job learning, writing the learning plan and college degree plan. (1 Lec., 20 Lab.)

ET 714 Cooperative Work Experience (4)

Prerequisites: Completion of two courses in the Electronic Telecommunications or Digital Electronics Technology programs or instructor approval. This advanced course combines productive work experience with academic study. The student, employer and instructor will develop a written competency-based learning plan with varied learning objectives and work experiences. Students must develop new learning objectives each semester. The seminar consists of self-inventory, work values, selling yourself and hints to keep a job. (1 Lec., 20 Lab)

ENGINEERING

EGR 101 Engineering Analysis (2)

(Common Course Number ENGR 1201)

Prerequisite: Two years of high school algebra or Developmental Mathematics 093 or demonstrated competence approved by the instructor. A mathematical scheme of analysis appropriate in engineering design is presented. Topics include natural quantities, vectors, Newton's laws, work, energy, first law of thermodynamics, information, dimensional analysis, physical modeling, compatibility, continuity, and interpretation of analytic results. Computer programming is taught and used in processing information for analysis. (2 Lec.)

EGR 105 Engineering Design Graphics (3)

(Common Course Number ENGR 1304)

Prerequisite: Engineering 101 or Mathematics 102 or 196 or demonstrated competence approved by the instructor. Graphic fundamentals are presented for engineering communications and engineering design. A rational engineering design procedure is taught and computer aided design is introduced. Graphical topics include geometric construction, geometric modeling, orthographic drawing system, auxiliaries, sections, dimensions and tolerances, graphical analysis, pictorial and working drawings. Laboratory Fee. (2 Lec., 4 Lab.)

EGR 106 Descriptive Geometry (3)

(Common Course Number ENGR 1305)

Prerequisite: Computer Aided Design 183 or Engineering 105. This course provides instruction in the visualization of three dimensional structures and computer transformations of geometric models. Emphasis is on accurately representing these structures in drawings by analyzing the true relationship between points, lines, and planes. Included are the generation and classification of lines, surfaces, intersections, development, auxiliaries, and revolutions. Laboratory fee. (2 Lec., 4 Lab.)

EGR 107 Engineering Mechanics I (3)

(Common Course Number ENGR 2301)

Prerequisite: Credit or concurrent enrollment in Mathematics 124. This course is a study of the statics of particles and rigid bodies with vector mathematics in three dimensional space. Topics include the equilibrium of forces and force systems, resultants, free body diagrams, friction, centroids and moments of inertia, virtual works, and potential energy. Distributed forces, centers of gravity, and analysis of structures, beams, and cables are also presented. (3 Lec.)

EGR 186 Manufacturing Processes (2)

This course introduces the student enrolled in technical programs to the many steps involved in manufacturing a product. This is accomplished by involving the class in producing a device with precision. The student gains practical experience with working drawings, a variety of machine tools and the assembly of components. The student is made aware of the factors involved in selecting materials and economical utilization of materials. Laboratory fee. (1 Lec., 2 Lab.)

EGR 187 Manufacturing Processes (2)

Prerequisite: Engineering 186. This course is a continuing study of the metalworking processes with emphasis on automation, programming and operation of CNC machines. Laboratory fee. (1 Lec., 2 Lab.)

EGR 201 Engineering Mechanics II (3)

(Common Course Number ENGR 2302)

Prerequisites: Engineering 107 and credit or concurrent enrollment in Mathematics 225. This is a study of dynamics. Particles and rigid bodies are examined as they interact with applied forces. Both constrained and general motions are included. Space, time, mass, velocity, acceleration, work and energy, impulse, and momentum are covered. (3 Lec.)

EGR 202 Engineering Mechanics Of Materials (3)

(Common Course Number ENGR 2332)

Prerequisites: Engineering 107 and credit or concurrent enrollment in Mathematics 225. Simple structural elements are studied. Forces, deformation, material properties, the concepts of stress, strain, and elastic properties are presented. Analysis of thin walled vessels, members loaded in tension, torsion, bending and shear, combined loadings, and stability conditions are included. Behavioral phenomena such as fracture, fatigue, and creep are introduced. (3 Lec.)

EGR 204 Electrical Systems Analysis (3)

(Common Course Number ENGR 2305)

Prerequisite: Credit or concurrent enrollment in Mathematics 225. Electrical science is introduced. Included are fundamental electrical systems and signals. Basic concepts of electricity and magnetism with mathematical representation and computation are also covered. (3 Lec.)

EGR 205 Plane Surveying (3)

(Common Course Number ENGR 1307)

Prerequisites: Mathematics 102 or 196 and Engineering 105 or Computer Aided Design 183. This course focuses on plane surveying. Topics include surveying instruments, basic measuring procedures, vertical and horizontal control, error analysis, and computations. Traverse, triangulation, route alignments, centerlines, profiles, mapping, route surveying, and land surveying are also included. Laboratory fee. (2 Lec., 4 Lab.)

EGR 206 Electrical Engineering Laboratory (1)

(Common Course Number ENGR 2105)

Prerequisite: Credit or concurrent enrollment in Engineering 204. Various instruments are studied and used. These include the cathode ray oscilloscope, ammeters, voltmeters, ohmmeters, power supplies, signal generators, and bridges. Basic network laws, steady state and transient responses, and diode characteristics and applications are demonstrated. Computer simulation is introduced. Laboratory fee. (3 Lab.)

EGR 207 Computer Methods In Engineering (3)

Prerequisite: Credit or concurrent enrollment in Mathematics 124 and demonstrated ability to program in a computer language approved by the instructor. Fundamental methods of numerical analysis with computer programming applications are presented. Topics include computer programming, recursion formulas, successive approximations, error analysis, nonlinear equations, and systems of linear equations and matrix methods. Probabilistic models, interpolations, determination of parameters, numerical integration, and solution of ordinary differential equations are also covered. (3 Lec.)

EGR 290 Mechanics Of Structures (2)

Prerequisite: Mathematics 196. This is a basic course in engineering mechanics for technology students. It covers the principles of statics and strengths of materials. Topics include force systems, equilibrium, moments, centroids, elasticity, yield, stresses and strains. Methods analysis and design of bolted and welded joints, trusses, beams, and columns are introduced. Laboratory fee. (2 Lec., 2 Lab.)

ENGINEERING TECHNOLOGY**EGT 124 Industrial Organizations (2)**

This course presents an overall view of the manufacturing company. Topics include process planning, costs and budgets, contracts, marketing, economics, and personnel. (2 Lec.)

EGT 140 Fluid Power Systems (4)

The principles of industrial hydraulics and pneumatics are examined. Pumps, compressors, motors, cylinders, valves, fluids and conductors are studied. The analysis and design of fluid power circuitry is emphasized. Hydraulic and pneumatic circuits are set up and evaluated in the laboratory. Laboratory fee. (3 Lec., 3 Lab.)

EGT 141 Basic Hydraulics And Fluid Mechanics (4)

Principles of hydraulics and fluid mechanics are examined. Hydraulic pumps, motors, cylinders, and valves are studied. Emphasis is on the application of formulas related to the properties of fluids and the laws which govern fluid flow. Various hydraulic components are tested, and basic hydraulic circuits are set up and evaluated. (3 Lec., 3 Lab.)

EGT 143 Technical Programming (4)

Prerequisite: Mathematics 195 or demonstrated competence approved by the instructor. This course introduces the engineering technician to the world of technology. Skills are developed in using hand calculators and computers to solve engineering problems. Basic computer programming techniques are introduced in the microcomputer laboratory using high-level languages such as BASIC. Laboratory fee. (3 Lec., 3 Lab.)

EGT 144 Instrumentation And Testing (4)

Prerequisite: Credit or concurrent enrollment in Electronics Technology 191. Industrial instrumentation and testing are introduced. The characteristics of various instruments are emphasized. Included are characteristics of basic AC and DC measurement meters, digital meters, impedance bridges, oscilloscopes, and electronic counters. Analog-to-digital and digital-to-analog measuring systems are introduced. Laboratory fee. (3 Lec., 3 Lab.)

EGT 188 Manufacturing Processes (2)

This course introduces the student to the steps involved in manufacturing a product. A variety of machine tools are used in the laboratory. Emphasis is placed on automation, and programming and operation of CNC machines. Laboratory fee. (1 Lec., 4 Lab.)

EGT 198 Electro-Mechanical Design (4)

Prerequisite: Computer Aided Design 183. This course provides an introduction to the design process and creative problem solving. There is a continuing emphasis on electro-mechanical assemblies and industrial processes. Handbooks, manuals, ANSI and military standards are utilized. (1 Lec., 6 Lab.)

EGT 225 Advanced Fluid Power Systems (4)

This course examines fluid power systems. Included is the design of hydraulic and pneumatic systems. Circuit calculations are made for force, torque, power, speed, fluid pressure, flow rate, and velocity. Emphasis is on the selection of pumps, cylinders, valves, motors, compressors, filters, and other fluid power components. The setup, operation, and testing of various fluid power circuits are covered. Laboratory fee. (3 Lec., 3 Lab.)

EGT 228 Amplifier And Analog Control Circuits (4)

Prerequisite: Electronics Technology 193. This course treats analog circuits including conventional amplifiers and operational amplifiers. The use of these circuits in controls, sensing, and testing is stressed. The laboratory emphasis is on application and characteristics of these circuits as applied to electro mechanical controls. Reliance on preassembled or commercially available circuits is emphasized, especially semiconductor and integrated circuits. Laboratory fee. (3 Lec., 3 Lab.)

EGT 230 Digital Machine Control (4)

Prerequisite: Electronics Technology 191. This course emphasizes electromechanical controls, solid state industrial controls, and programmable controllers. Control components, control and power circuit diagrams, manual and automatic AC and DC machine control, solid state logic elements and programmable controllers are studied. Laboratory fee. (3 Lec., 3 Lab.)

EGT 232 Applied Mechanics (4)

Prerequisite: Mathematics 196 or the equivalent. The theory and applications of mechanics are presented. Basic static and dynamic concepts are included. Topics include forces, vectors, equilibrium, moments, friction, moment of inertia, rectilinear and angular motion, work, energy and power. The construction, testing and analysis of linkage and drive elements in laboratory supports lecture material on related topics. (3 Lec., 3 Lab.)

EGT 233 Electrical Machinery (3)

Prerequisite: Electronics Technology 191 or concurrent enrollment in Electronics Technology 191. The theory and function of power electricity, including AC and DC machines. Electrical and mechanical aspects are stressed. The laboratory provides hands-on experience in operation of machinery, quantitative analysis of performance characteristics, electrical measurements on power circuits and demonstration of principles discussed in class. Safety practices are stressed. Laboratory fee. (2 Lec., 3 Lab.)

EGT 239 Principles Of Microcomputer Control (4)

Prerequisite: Electro-Mechanical Technology 242. The control of automated industrial systems with digital elements as subsystems is studied. Included are the functions of the various control elements and their interface with other components. The conversion of control information between analog and binary forms is examined. The use and implementation of logical decision elements are covered. Emphasis is on the operation and function of microcomputers in modern control systems. Laboratory fee. (3 Lec., 3 Lab.)

EGT 242 Digital Control Circuits (4)

Prerequisite: Electronics Technology 193 or the equivalent. This course covers number systems used in computer systems. Alphanumeric and interchange codes are included. Binary arithmetic, including octal, hexadecimal and BCD, is covered with logic functions and Boolean algebra presented at a conceptual level. Logic gates, flip-flops, registers, encoders, decoders, counters, timing circuits, ALU's and memory units are included. Lecture material is supported by laboratory work. Laboratory fee. (3 Lec., 3 Lab.)

EGT 243 Robotics I (3)

This course provides an introduction to robot technology. The basic components and systems used in industrial robots are studied. The setup and operation of robots and associated automatic control systems are emphasized. Laboratory fee. (2 Lec., 3 Lab.)

EGT 247 Robotics II (3)

Prerequisite: Engineering Technology 243 or demonstrated competence approved by the instructor. This course includes a study of robot end effectors, sensors, programmable controllers, power systems and software. The development of workcells and complete robotic systems is emphasized. Laboratory fee. (2 Lec., 3 Lab.)

EGT 248 Computer Aided Design (4)

Prerequisite: Computer Aided Design 183 or Engineering 105 or demonstrated competence approved by the instructor. This course is an introductory course in computer aided design (CAD) systems. Emphasis will be on producing technical drawings which will help the student master the basic operations of interactive state-of-the-art CAD systems. The use of graphic commands, library storage, screen and tablet menus, digitizers and plotters will be included. No previous background in the use of computers is required. (2 Lec., 6 Lab.)

EGT 249 Applications In Computer-Aided Design (4)

Prerequisite: Engineering Technology 248 or demonstrated competence approved by the instructor. This course is an advanced applications course in computer aided design (CAD) systems. Emphasis will be on producing technical drawings which will optimize the decision process. The student will be introduced to the value and importance of an information bank (database) and the integration of drafting, design, and manufacturing. Laboratory fee. (2 Lec., 6 Lab.)

EGT 251 Advanced Robotics And Automated Systems (3)

Prerequisite: Engineering Technology 247 or demonstrated competence approved by the instructor. In this course, the student will interface industrial robots with programmable controllers and other types of equipment used in automated manufacturing. An introduction to Computer Integrated Manufacturing and Artificial Intelligence related to robotics is included. Hands-on laboratory work is emphasized. Laboratory fee. (2 Lec., 3 Lab.)

EGT 252 Design For Manufacturing (4)

Prerequisites: Engineering Technology 188 and 249 or demonstrated competence approved by the instructor. This is an electro-mechanical design course which emphasizes integration of design and manufacturing. The student will study manufacturing from the viewpoint of the designer who must determine critical dimensions and provide tolerances which will allow economical manufacturing, proper assembly and function. Laboratory fee. (2 Lec., 6 Lab.)

EGT 268 Microprocessor Interfacing And Trouble-shooting (4)

Prerequisite: Engineering Technology 239. This course is a study of microcomputer hardware interface concepts and necessary input/output software. An overall system approach is used to learn practical trouble-shooting techniques that are applicable to any microprocessor system. Actual trouble-shooting tools are used. Laboratory fee. (3 Lec., 3 Lab.)

EGT 270 Computer Integrated Manufacturing (4)

This course introduces the concepts of Computer Integrated Manufacturing (CIM). Emphasis is placed on the use of computers to automate the total manufacturing system. Topics include manufacturing automation protocols, flexible manufacturing systems, artificial intelligence, and machine vision. Laboratory work provides hands-on experience in integrating CAD, robotics, NC machines, automated material handling, and automated testing in a CIM environment. (3 Lec., 3 Lab.)

EGT 701 Cooperative Work Experience (1)

Prerequisites: Completion of two courses in the Engineering Technology program or instructor approval. This course combines productive work experience with academic study. The student, employer and instructor will develop a written competency-based learning plan with varied learning objectives and work experiences. Students must develop new learning objectives each semester. The seminar consists of discussions on the writing of effective competency-based learning objectives and other work related skills such as time management, resume writing, and human relations. (1 Lec., 5 Lab.)

EGT 702 Cooperative Work Experience (2)

Prerequisites: Completion of two course in the Engineering Technology program or instructor approval. This course combines productive work experience with academic study. The student, employer and instructor will develop a written competency-based learning plan with varied learning objectives and work experiences. Students must develop new learning objectives each semester. The seminar consists of discussions on the writing of effective competency-based learning objectives and other work related skills such as time management, resume writing, and human relations. (1 Lec., 10 Lab.)

EGT 703 Cooperative Work Experience (3)

Prerequisites: Completion of two courses in the Engineering Technology program or instructor approval. This course combines productive work experience with academic study. The student, employer and instructor will develop a written competency-based learning plan with varied learning objectives and work experiences. Students must develop new learning objectives each semester. The seminar consists of discussions on the writing of effective competency-based learning objectives and other work related skills such as time management, resume writing, and human relations. (1 Lec., 15 Lab.)

EGT 704 Cooperative Work Experience (4)

Prerequisites: Completion of two courses in the Engineering Technology program or instructor approval. This course combines productive work experience with academic study. The student, employer and instructor will develop a written competency-based learning plan with varied learning objectives and work experiences. Students must develop new learning objectives each semester. The seminar consists of discussions on the writing of effective competency-based learning objectives and other work related skills such as time management, resume writing, and human relations. (1 Lec., 20 Lab.)

ENGLISH

(Also see Developmental Reading and Developmental Writing.) Additional instruction in writing and reading is available through the Learning Skills Center.

ENG 101 Composition I (3)

(Common Course Number ENGL 1301)

Prerequisite: An appropriate assessment test score (ACT, DCCCD test, or SAT). This course focuses on student writing. It emphasizes reading and analytical thinking and introduces research skills. Students practice writing for a variety of audiences and purposes. (This course is offered on campus and may be offered via television.) (3 Lec.)

ENG 102 Composition II (3)

(Common Course Number ENGL 1302)

Prerequisite: English 101. In this course students refine the writing, research, and reading skills introduced in English 101. A related goal is the development of critical thinking skills. Writing assignments emphasize argumentation and persuasion. Students will also write a formal research paper. (This course is offered on campus and may be offered via television.) (3 Lec.)

English In The Sophomore Year

English 201, 202, 203, 204, 205, 206, 215, and 216 are independent units of three credit hours each. Any one of these courses will satisfy DCCCD degree requirements in sophomore English.

ENG 201 British Literature (3)

(Common Course Number ENGL 2322)

Prerequisite: English 102. This course includes significant works of British writers from the Old English Period through the 18th century. (3 Lec.)

ENG 202 British Literature (3)

(Common Course Number ENGL 2323)

Prerequisite: English 102. This course includes significant works of British writers from the Romantic Period to the present. (3 Lec.)

ENG 203 World Literature (3)

(Common Course Number ENGL 2331)

Prerequisite: English 102. This course includes significant works of Continental Europe and may include works from other cultures. It covers the Ancient World through the Renaissance. (3 Lec.)

ENG 204 World Literature (3)

(Common Course Number ENGL 2332)

Prerequisite: English 102. This course includes significant works of Continental Europe and may include selected works of other cultures from the Renaissance to the present. (3 Lec.)

ENG 205 American Literature (3)

(Common Course Number ENGL 2326)

Prerequisite: English 102. This course includes significant works of American writers from the Colonial through the Romantic Period. (3 Lec.)

ENG 206 American Literature (3)

(Common Course Number ENGL 2327)

Prerequisite: English 102. This course includes significant works of American writers from the Realistic Period to the present. (3 Lec.)

ENG 209 Creative Writing (3)

(Common Course Number ENGL 2307)

Prerequisite: English 102. The writing of fiction is the focus of this course. Included are the short story, poetry, and short drama. (3 Lec.)

ENG 210 Technical Writing (3)

(Common Course Number ENGL 2314)

Prerequisites: English 101 and English 102. The technical style of writing is introduced. Emphasis is on the writing of technical papers, reports, proposals, progress reports, and descriptions. (3 Lec.)

ENG 215 Studies In Literature (3)

(Common Course Number ENGL 2352)

Prerequisite: English 102. This course includes selections in literature organized by genre, period, or geographical region. Course descriptions are available each semester prior to registration. This course may be repeated for credit. (3 Lec.)

ENG 216 Studies In Literature (3)

(Common Course Number ENGL 2353)

Prerequisite: English 102. This course includes selections in literature organized by theme, interdisciplinary content or major author. Course titles and descriptions are available each semester prior to registration. This course may be repeated for credit. (3 Lec.)

ENGLISH AS A SECOND LANGUAGE

The English-as-a-Second Language ESL credit curriculum is designed to develop a student's pre-academic language proficiency in the areas of listening, speaking, reading, and writing. The plan of study consists of sixteen courses divided into four proficiency levels and four skill areas (Listening-Speaking, Reading, Writing, and Grammar). The credit curriculum is designed to interface both with other ESL programs and with developmental studies or college level programs on each campus. A student enters this program by taking an English placement test and then by being advised by a specially trained ESL academic advisor.

ESL 031-034 (Listening-Speaking)

These courses prepare students to communicate orally in both public and academic environments. Emphasis is placed on developing language functions, pronunciation, and listening skills, and improving social and intercultural communication skills. Activities range from brief descriptions and small group discussions to formal oral presentations and debates.

ESL 041-044 (Reading)

These courses engage students in reading material from daily experience and prepare them for college reading tasks. Each course instructs students in reading skills, vocabulary development, critical thinking skills, and the use of resources.

ESL 051-054 (Writing)

These courses are designed to help students increase fluency and build confidence in writing. The courses focus on writing as a process. Through inventing, drafting, and revising, students write for specific audiences and purposes.

ESL 061-064 (Grammar)

These courses are designed to complement the ESL 051-054 writing series. They provide instruction and practice with discrete grammar points necessary for effective writing.

INGLES COMO SEGUNDO IDIOMA

El programa de credito academico de Ingles Como Segundo Idioma ESL esta disenado para desarrollar el dominio del idioma pre-academico del estudiante en las areas de escuchar, hablar, leer y escribir. El plan de estudio consiste en dieciseis cursos divididos en cuatro niveles de dominio y cuatro areas de habilidades (Escuchar/Hablar, Lectura, Escritura y Gramatica). El programa de credito academico esta disenado para complementar otros programas de ESL y con los estudios de desarrollo o programas de nivel universitario de cada campus. El estudiante comienza este programa al tomar un examen de clasificacion y despues de una entrevista individual con un asesor academico entrenado especialmente en ESL.

ESL 031-034 (Escuchar y Conversar)

Estos cursos preparan al alumno para comunicarse con confianza en situaciones sociales y académicas. Se desarrollan las varias funciones del lenguaje, se mejora la pronunciación y comprensión auditiva y se practica la comunicación académica y transcultural. Las actividades didácticas incluyen describir lugares y objetos, proyectos en grupo, presentaciones orales y debates formales.

ESL 041-044 (Lectura)

Estos cursos permiten a los estudiantes el acceso a material de lectura de la vida diaria y los prepara para tareas de lectura académica. Cada curso instruye a los estudiantes en habilidades de lectura, desarrollo de vocabulario, pensar en forma crítica y el uso de los varios recursos disponibles en la institución.

ESL 051, ESL 052, ESL 053, ESL 054

Estos cursos están diseñados con el objeto de ayudar los alumnos a obtener fluidez y confianza en escritura. Los cursos se enfocan en el proceso de escritura. A través de crear, planear y revisar, los estudiantes producirán escritos para diferentes audiencias y con diversos propósitos.

ESL 061, ESL 062, ESL 063, ESL 064

Estos cursos están diseñados para complementar la serie de Escritura 051-054. Dichos cursos proveen instrucción y ejercicios prácticos, así como puntos esenciales de gramática necesarios para la efectiva comunicación escrita.

ENGLISH-AS-A-SECOND LANGUAGE**ESL 031 ESL Listening/Speaking (3)**

This course focuses on developing basic social and preacademic listening and speaking skills. It includes skills such as describing, giving directions, and learning to understand explanations. Conversation conventions will be practiced as well as non-verbal communication skills. (Pronunciation is introduced through the study of basic phonetic segments and intonation patterns.) This course may be repeated for credit. (3 Lec.)

ESL 032 ESL Listening/Speaking (3)

This course develops intermediate social and preacademic listening and speaking skills through situational activities. Students will express ideas and opinions in small groups and learn to understand and react appropriately. Intercultural communication will be incorporated. (Pronunciation skills will be practiced through identifying phonetic correctness and applying concepts of stress and intonation.) This course may be repeated for credit. (3 Lec.)

ESL 033 ESL Speaking (3)

This course develops public/academic oral language skills through active participation in group projects and presentations. Rhetorical skills such as narration and description will be practiced, and improving cross-cultural communication skills will be emphasized. (Pronunciation skills, including stress and intonation, will be refined with focused effort on areas of need through monitoring of oral production.) This course may be repeated for credit. (3 Lec.)

ESL 034 ESL Academic Speaking (3)

This course stresses academic speaking skills. Students learn formal presentation techniques as they defend a point of view and participate in seminars, panels, and debates. Formal rhetorical skills such as cause/effect, process, and summary will be practiced. The course will emphasize the value of cultural diversity. (Pronunciation skills, including stress and intonation, will continue to be refined with focused effort on areas of need through monitoring of oral production.) This course may be repeated for credit. (3 Lec.)

ESL 041 ESL Reading (3)

This course focuses on language development through reading activities. It includes reading comprehension, vocabulary building, study skills techniques, and intercultural sharing. This course may be repeated for credit. (3 Lec.)

ESL 042 ESL Reading (3)

This course continues language development through reading comprehension and vocabulary building. It introduces paragraph organization, idiom study, and adapting reading rate for different purposes. This course may be repeated for credit. (3 Lec.)

ESL 043 ESL Reading (3)

This course includes specific reading comprehension skills, reading efficiency strategies, critical thinking skills, vocabulary expansion, and the use of campus resources such as labs and libraries. This course may be repeated for credit. (3 Lec.)

ESL 044 ESL Reading (3)

This course is designed to build on skills taught in previous reading classes but with a more academic emphasis. Students are taught reading skills and critical thinking skills as they relate to academic topics and to literature. This course may be repeated for credit. (3 Lec.)

ESL 051 ESL Writing (3)

This course stresses the creation of sentences and groups of sentences. It also introduces basic spelling rules and vocabulary development. This course may be repeated for credit. (3 Lec.)

ESL 052 ESL Writing (3)

This course introduces the development of controlled and guided paragraphs using a variety of organizational structures and stresses logic patterns of English. This course may be repeated for credit. (3 Lec.)

ESL 053 ESL Writing (3)

This course stresses the process of paragraph writing and the characteristics of effective paragraph structure. It also introduces modes of discourse such as description, cause-effect, and comparison-contrast. This course may be repeated for credit. (3 Lec.)

ESL 054 ESL Writing (3)

This course emphasizes modes of discourse in expository writing for academic purposes. Particular attention is given to improving unity, coherence, transition, and style as students progress to multi-paragraph compositions. Paraphrasing and summarizing are also introduced. This course may be repeated for credit. (3 Lec.)

ESL 061 ESL Grammar (3)

This course introduces the basic aspects of English grammar needed to write simple and compound sentences. It includes the study of basic verb tenses, parts of speech, subject-verb agreement, and question formation. This course may be repeated for credit. (3 Lec.)

ESL 062 ESL Grammar (3)

This course reviews basic elements of English grammar introduced in ESL 061 and introduces grammar points necessary for writing controlled paragraphs. It includes further study of verb tenses, parts of speech, and question formation and introduces two-word verbs, modals, gerunds, and infinitives. This course may be repeated for credit. (3 Lec.)

ESL 063 ESL Grammar (3)

This course reviews grammar points studied in ESL 061 and ESL 062 and introduces elements necessary for students to write effective one-paragraph essays. It continues the study of verb tenses, parts of speech, and modals and introduces adverb, adjective, and noun clauses. This course may be repeated for credit. (3 Lec.)

ESL 064 ESL Grammar (3)

This course reviews grammar points studied in ESL 061, ESL 062, and ESL 063 and analyzes complex elements of those points. In addition, it introduces passive voice and conditional sentences. This course may be repeated for credit. (3 Lec.)

FASHION MARKETING

(See MARKETING)

FIRE PROTECTION**FPT 131 Fundamentals Of Fire Protection (3)**

The history and philosophy of fire protection are studied. Statistics on fire losses are reviewed and agencies involved in fire protection are introduced. Other topics include legislative developments, career orientation, recruitment and training for fire departments, position classification and pay plans, and employee organizations. Current and future problems are also reviewed. (3 Lec.)

FPT 132 Fire Prevention (3)

Fire prevention administration is studied. Both principles and procedures are covered. Other topics include inspections, organization, public cooperation and image, recognition of fire hazards, insurance problems, and legal aspects. Local, state, and national codes on fire prevention are reviewed. Relationships between building inspection agencies and fire prevention organizations are described. Engineering is presented as a solution to fire hazards. (3 Lec.)

FPT 135 Fire Administration I (3)

This course focuses on the organization and management of a fire department. Topics include budgeting, maintenance of records and reports, and management of fire department officers. Personnel administration, distribution of equipment and personnel, and relations with various government agencies are also included. Fire service leadership is viewed from the company officer's position. (3 Lec.)

FPT 136 Fire And Arson Investigation (3)

The detection and investigation of arson are studied. Topics include investigation techniques, case histories, gathering and preserving evidence, and preparing for a court case. Also included is a selected discussion of laws, decisions, and opinions. Kinds of arsonists, interrogation procedures, and cooperation between fire fighters and arson investigators are also covered. (3 Lec.)

FPT 137 Hazardous Materials I (3)

Prerequisite: Chemistry 116. Characteristics and behavior of various materials that burn or react violently are studied. Flammable liquids, combustible solids, and gases are included. Storage, transportation, and handling are covered. Emphasis is on emergency situations and methods of control. (3 Lec.)

FPT 140 Fire Fighting Tactics And Strategy (3)

This course examines the nature of fire and the process of determining requirements to fight a fire. The effective use of personnel and equipment are covered. Emphasis is on preplanning, study of conflagration problems, problem-solving, decision-making, and attack tactics and strategy. The use of mutual aid and large scale command problems are also included. (3 Lec.)

FPT 231 Building Codes And Construction (3)

The fire resistance of building construction is considered. Included are building materials, assemblies, and exposures. Both local and national laws and guidelines are reviewed. Model building codes and the life safety code are also studied. (3 Lec.)

FPT 232 Industrial Fire Protection I (3)

Safeguards for business and industrial organizations are presented. Topics include plant layout, fire prevention programs, extinguishing factors and techniques, hazards, and prevention methods. The organization and development of an industrial fire brigade are described. Gaining cooperation between the public and private fire department organization is also covered. (3 Lec.)

FPT 233 Fire Protection Systems (3)

This course examines fire protection systems. Topics include standards for water supply, special hazards protection systems, automatic sprinklers and special extinguishing systems, and automatic signaling and detection systems. Rating organizations and underwriting agencies are also described. (3 Lec.)

FPT 234 Industrial Fire Protection II (3)

Prerequisite: Fire Protection 232. The study of industrial fire protection is continued. Fire and safety organizations in industry are described, and relations between private and public fire protection organizations are examined. Current trends, deficiencies, and possible solutions for industrial fire problems are discussed. The role of insurance and other special organizations is covered. Other topics cover industrial processes, equipment, facilities, and work practices. Both hazards and techniques to control hazards are included. Field trips to selected plants and demonstrations of new techniques, equipment, and innovations are also included. (3 Lec.)

FPT 235 Fire Administration II (3)

Prerequisite: Fire Protection 135. Various aspects of the operations of a fire department are covered. Topics include insurance rates and ratings, budgets, training, city water requirements, and fire alarm and communication systems. The importance of public relations, report writing, and record keeping are stressed. Measurement of results, use of records to improve procedures, legal aspects of fire prevention and fire protection, and the design and construction of fire department buildings are also covered. (3 Lec.)

FPT 236 Legal Aspects Of Fire Protection (3)

This course focuses on legal rights and duties. Liability of the fire department is included. Other topics include civil and criminal law, the Texas and federal judicial structure, and cities' liability for acts of the fire department and fire prevention bureaus. (3 Lec.)

FPT 237 Hazardous Materials II (3)

Hazardous materials are studied. Included are the storage, handling, laws, standards, and fire fighting techniques associated with hazardous materials. The materials include chemicals, gases, flammable liquids, corrosives, poisons, explosives, rocket propellants and exotic fuel, and radioactive substances. The formation of toxic fumes and health hazards is also stressed. Ignition and combustion characteristics of gases, liquids, and solids are covered. Special attention is given to radiological instruments, human exposure to radiation, decontamination procedures, common uses of radioactive materials, and operational procedures. (3 Lec.)

FPT 238 Fire Safety Education (3)

Physical, chemical, and electrical hazards are surveyed and related to loss of property and life. Codes, laws, problems, and cases are studied. The physical and psychological aspects of casualties are examined. Safe storage, transportation, and handling techniques are stressed to eliminate or control potential risks. (3 Lec.)

FPT 239 Fire Service Communications (3)

This course presents various communication and fire alarm systems. The installation, operation, and testing of the most common systems are included. Receiving, dispatching, and radio communication procedures are also included. Other topics cover regulations, the fire alarm operations office, mutual aid systems, fire station communications and facilities, response and fire ground procedures, emergency operations, code and numbering systems, required records and reports, and technological advances. (3 Lec.)

FPT 240 Fire Insurance Fundamentals (3)

The relationships among fire defenses, fire losses, and insurance rates are studied. Basic insurance principles, fire loss experience, loss ratios, state regulations of fire insurance, key rate system, the I.S.O. grading schedule, and other topics are stressed. Also covered are the relationship of insurance to modern business, principles of property and casualty insurance contracts, and the corporate structure of insurance companies. (3 Lec.)

FPT 241 Advanced Fire Loss Statistical Systems (3)

This course is a study of computerized systems used for storing and retrieving fire loss statistics. Techniques for programming records and reports are covered. New systems of microfilming, including the modern technology of COM (computer output microfilm) and microfiche, are presented. Standards for uniform coding for fire protection are reviewed. (3 Lec.)

FPT 242 Urban Fire Problem Analysis (3)

The urban fire problem is explored. Problems from lack of zoning and other land use laws are described. Research techniques and systems engineering are used to analyze water supply and fire alarm methods. Socio-economic and management factors are related to city planning. Environment problems are studied. (3 Lec.)

FPT 243 Technical Writing For Firefighters (3)

Prerequisite: English 101. This course focuses on advanced writing in technical, scientific, and business fields. Included are reports, proposals, papers, and correspondence. Emphasis is on collecting, organizing, and presenting materials. (3 Lec.)

FOOD AND HOSPITALITY SERVICE**FHS 110 Principles Of Food And Beverage Administration (3)**

This course is an introduction to the management of food and beverage facilities. Subjects to be covered are the serving of food and beverages, classification of foods and spirits and their presentation. The marketing of food and beverage is stressed. (3 Lec.)

FHS 111 Dining Room Service Management (3)

This course provides students with practical skills and knowledge for effective management of food and beverage service in restaurants, cafeterias, coffee shops, room service, banquet areas, and dining rooms. Presents basic service principles while emphasizing the special needs of guests. (3 Lec.)

FHS 112 Organization And Management (3)

The organizational structure of various types of group care institutions is studied. Administration, tools of management, budget, and cost analysis are emphasized. (3 Lec.)

FHS 114 Front Office Procedures (3)

This course introduces the student to the operations, procedures and personnel functions of the front office. The course traces the flow of activities and functions performed in today's lodging operations. Comparisons are made of manual, machine assisted and computer based methods for each front office function. (3 Lec.)

FHS 115 Principles Of Hotel-Motel Administration (3)

The physical aspects of hotel-motel operations are analyzed. Included are procedures for emergencies, check cashing, use of credit cards, and collections of accounts receivable. Emphasis is also given to guest relations, guest room facilities, protection of the property, and the development of the properties' growth. (3 Lec.)

FHS 116 Supervision For Hospitality Services (3)

Recruiting, selecting, training and supervising personnel for food and lodging services are studied. Personnel policies, job descriptions, training methods, scheduling and work improvements are included. (3 Lec.)

FHS 119 Food Service Equipment (3)

This course covers food service equipment. Specifications, uses, cleaning, and preventive maintenance are emphasized. Equipment for preparation, cooking, refrigeration, storage, and cleanup is included. The relation of air conditioning, electricity, gas, and plumbing to food service facilities is examined. Layout analysis, design, and effective use of equipment and space are also covered. (3 Lec.)

FHS 120 Basic Food Preparation (3)

Quality food preparation and cookery are studied. Emphasis is on the importance of the person to be served, and the provision of nutritionally adequate meals. Food preparation techniques, selection of equipment, and the effective use of time are included. Laboratory fee. (2 Lec., 4 Lab.)

FHS 122 Advanced Food Preparation (3)

Prerequisite: Food and Hospitality Service 120. This course is a continuation of Food and Hospitality Service 120. Procedures for large quantities and management for food preparation are introduced. Topics include basic cookery, safety and sanitation factors, and selection of equipment. Emphasis is on high preparation techniques for high quality. Laboratory fee. (2 Lec., 4 Lab.)

FHS 124 Food Service Sanitation And Safety (3)

The principles of microbiology are studied and applied to the need for personal cleanliness. The cause, control, and investigation of illness caused by food contamination are explored. Other topics include sanitary practices, dish washing procedures, the use of cleaning materials, garbage and refuse disposal, general safety precautions, and elementary first aid. (3 Lec.)

FHS 132 Food Purchasing, Handling And Storage (3)

This course focuses on policies and procedures for purchasing food in quantity. Storage requirements, procedures, and controls are included. The availability of food supplies, analysis of food quality, and specification writing are also covered. (3 Lec.)

FHS 135 Nutrition And Menu Planning (3)

Food nutrients and their importance in maintaining health are surveyed. The digestive and absorptive characteristics of nutrients are included. The nutritional needs of all age groups are studied and applied to the planning of meals for business and institutions. Psychological needs, type of operation, and available equipment and personnel are all considered. (3 Lec.)

FHS 138 Food Service Cost Control (3)

Prerequisite: Mathematics 130. The principles and procedures of the control of food cost are presented. Emphasis is on applying the principles and procedures to any food service operation. (3 lec.)

FHS 140 Elementary Bakery Training (3)

This course covers the work of the baker. Doughs, breads, pies, and cookies are analyzed and produced in quantity. Also covered are all types of fillings, butter creams, puddings, cakes, cake decorations and frostings. The use of proper flours and the handling of the pastry bag are stressed. Laboratory fee. (2 Lec., 4 Lab.)

FHS 201 Hotel-Restaurant-Institutions-Special Topics (1)

Prerequisite: Demonstrated competence approved by the instructor. Students participate in identifying, defining and analyzing current topics of interest in food and hospitality services. The course emphasizes present industry needs and problems, and students are guided to offer realistic and workable solutions which include the total knowledge of food and hospitality services processes. (1 Lec.)

FHS 202 Hotel-Restaurant-Institutions-Special Topics (2)

Prerequisite: Demonstrated competence approved by the instructor. Students participate in identifying, defining, and analyzing current topics of interest in food and hospitality services. The course emphasizes present industry needs and problems, and students are guided to offer realistic and workable solutions which include the total knowledge of food and hospitality services processes. (2 Lec.)

FHS 203 Hotel-Restaurant-Institutions-Special Topics (3)

Prerequisite: Demonstrated competence approved by the instructor. Students participate in identifying, defining and analyzing current topics of interest in food and hospitality services. The course emphasizes present industry needs and problems, and students are guided to offer realistic and workable solutions which include the total knowledge of food and hospitality services processes. (3 Lec.)

FHS 204 Hotel-Restaurant-Institutions-Special Topics (3)

Prerequisite: Demonstrated competence approved by the instructor. Students participate in lecture and laboratory situations in identifying, defining and analyzing current trends and topics of interest in the food and hospitality industry. The course emphasizes topics which are current needs and are covered in lectures. The laboratory allows each student to acquire hands-on experience in areas of food preparation, baking, pastry and other areas of the industry. (2 Lec., 4 Lab.)

FHS 210 Hotel-Motel Sales Development (3)

The technique of developing a marketing plan for any size operation are studied. Included is the development of the departments of the hotel into a coordinated team. Emphasis is on the organization and functioning of a sales department, sales tools, techniques, advertising, and types of markets. (3 Lec.)

FHS 214 Hotel-Motel Law (3)

This course covers the legal responsibilities and rights of the innkeeper. The consequences caused by failure in those responsibilities are illustrated. Topics include court attitudes toward an innkeeper where negligence and liability are involved. (3 Lec.)

FHS 220 Quantity Food Preparation And Service (4)

Prerequisite: Food and Hospitality Service 122. A lecture-laboratory course offering field training study of quantity food procedures and techniques with emphasis on retention of nutritive value of foods. Kitchen organization and planning of quantity production, use of large and small institutional equipment, food control and the associated supervisory problems as related to institutional and commercial food service. Includes study and use of convenience foods. Laboratory fee. (3 Lec., 5 Lab.)

FHS 222 Advanced Quantity Food Preparation And Service (4)

Prerequisite: Food and Hospitality Service 220. This course emphasizes the planning and management of quantity food production. Training in the field is provided. Practice is given in producing entire meals, including evaluation and controls. Quality food standards of various cost levels are studied. The planning, layout, and maintenance of equipment are also covered. Laboratory fee. (3 Lec., 5 Lab.)

FHS 233 Food Marketing (3)

The distribution of the finished product is introduced. Emphasis is on the consumer. Included are the activities involved in developing markets, customers, and distribution services. (3 Lec.)

FHS 238 Garde-Manger Training (3)

Prerequisite: Food and Hospitality Service 122. This course covers the preparation of the cold buffet. Included are salads, sandwiches, ice carvings, lard sculptures, chaud froids hors d'oeuvres, pates, cold fish, poultry, meats, and game. Also included is the proper setup of the garde-manger station. Laboratory fee. (2 Lec., 4 Lab.)

FHS 239 Saucier Training (3)

Prerequisite: Food and Hospitality Service 122. This course covers the preparation of basic soups, sauces, vegetables, and garnitures. All meats, fish, poultry, and game are also covered. The proper setup of the saucier station is also included. Laboratory fee. (2 Lec., 4 Lab.)

FHS 245 Advanced Pastry Shop Training (3)

Prerequisite: Food and Hospitality Service 140. This course covers the operation of the pastry shop. Topics include French pastry, hot and cold desserts, pastillage, ice creams, and ices, sugar fantasies, chocolate work, and decorations with cornet. Emphasis is on advance techniques in continental pastries. Laboratory fee. (2 Lec., 4 Lab.)

FHS 247 Beverage Operations And Service (3)

This course deals with beverage service in the commercial sector. Topics include basic bar operations, sales control, beverage service, and profits. A detailed analysis is made of the organization of a beverage bar, wine cellar, or catered beverage service. (3 Lec.)

FHS 248 Advanced Nutrition And Dietetics (3)

Prerequisite: Food and Hospitality Service 135. Nutrition knowledge is applied to the care of people. How people eat and what they eat is studied. The role of community health agencies, food and nutrition assistance programs and nutrition service agencies are studied. Techniques for evaluation of nutritional status and dietary intakes are included. Special emphasis is placed on meeting the needs of persons requiring modifications of food intake. The role of nutrition services extended through schools and supplementary food assistance programs is included. (3 Lec.)

FHS 249 Child Nutrition (3)

Prerequisite: Food and Hospitality Service 135. The nutrition of children is studied. The time period begins with birth and extends through childhood and adolescence. Emphasis is on the contribution of feeding programs in child care centers and schools. (3 Lec.)

FHS 704 Cooperative Work Experience (4)

Prerequisites: Completion of two courses in the Food and Hospitality Service program or instructor approval. This course combines productive work experience with academic study. The student, employer and instructor develop a written competency-based learning plan with varied learning objectives and work experiences. Students must develop new learning objectives each semester. The seminar consists of topics which include outside reading in professional journals and books. Other topics include employment guidance in resume writing, security and holding interviews, and building a professional outlook. (1 Lec., 20 Lab.)

FHS 714 Cooperative Work Experience (4)

Prerequisites: Completion of two courses in the Food and Hospitality Service program or instructor approval. This course combines productive work experience with academic study. The student, employer and instructor develop a written competency-based learning plan with varied learning objectives and work experiences. Students must develop new learning objectives each semester. The weekly seminar consists of discussions with industry leaders on management/supervisory styles, marketing strategies, and procurement problems. Students will be involved concurrently in outside readings on topics of special interest in the food and hospitality industry. (1 Lec., 20 Lab.)

FRENCH**FR 101 Beginning French (4)**

(Common Course Number FREN 1411)

The essentials of grammar and easy idiomatic prose are studied. Emphasis is on pronunciation, comprehension, and oral expression. Laboratory fee. (3 Lec., 2 Lab.)

FR 102 Beginning French (4)

(Common Course Number FREN 1412)

Prerequisite: French 101 or the equivalent. This course is a continuation of French 101. Emphasis is on idiomatic language and complicated syntax. Laboratory fee. (3 Lec., 2 Lab.)

FR 201 Intermediate French (3)

(Common Course Number FREN 2311)

Prerequisite: French 102 or the equivalent. Reading, composition, and intense oral practice are covered in this course. Grammar is reviewed. (3 Lec.)

FR 202 Intermediate French (3)

(Common Course Number FREN 2312)

Prerequisite: French 201 or the equivalent. This course is a continuation of French 201. Contemporary literature and composition are studied. (3 Lec.)

FR 203 Introduction To French Literature (3)

(Common Course Number FREN 2303)

Prerequisite: French 202 or demonstrated competence approved by the instructor. This course is an introduction to French literature. It includes readings in French literature, history, culture, art, and civilization. (3 Lec.)

FR 204 Introduction To French Literature (3)

(Common Course Number FREN 2304)

Prerequisite: French 202 or demonstrated competence approved by the instructor. This course is a continuation of French 203. It includes readings in French literature, history, culture, art, and civilization. (3 Lec.)

FR 207 French Conversation I (3)

(Common Course Number FREN 2306)

Prerequisite: French 101 and French 102 or the equivalent. This course is designed to strengthen and improve oral skills in the language. Oral activities focus on current events, cultural, historical and social issues. Audio-visual media are used to explore French life and society. This course is intended to complement French 201. (3 Lec.)

FR 208 French Conversation II (3)

(Common Course Number FREN 1310)

Prerequisite: French 201 or the equivalent. This course is designed to further strengthen and improve oral skills in the language. Oral activities will continue to focus on current events, cultural, historical and social issues. Audio-visual media are used to explore French life and society. This course is intended to complement French 202. (3 Lec.)

FR 209 Language Practicum in French (3)

Prerequisite: French 101 and French 102 or the equivalent. This course provides a study of the language as it applies to specific purposes, especially business and workplace settings. The emphasis of the course will be on the development of communicative skills within a practical, work-related context. This course is intended to complement French 201 or French 202. (3 Lec.)

FR 211 French for Business I (3)

Prerequisites: French 201 or the equivalent. This course exposes students to the French language used in business including the terminology and idioms of French business language in special oral and written communication. Emphasis is placed on the structure and content of French business correspondence. Authentic materials are used to give students a contemporary view of business as it is conducted in French society. This course is not a substitute for French 201 or 202. (3 Lec.)

FR 212 French for Business II (3)

Prerequisite: French 211 or the equivalent. This course is devoted to the continued development of business language skills with a focus on the accurate use of business vocabulary and business style. Emphasis is on preparing students to function in French in a business setting via practice of receptive and productive linguistic skills. The course also provides training in cross-cultural communication skills. It is designed to help students achieve levels of proficiency to meet foreign language needs for business and international trade. This course is not a substitute for French 201 or 202. (3 Lec.)

GEOGRAPHY

GPY 101 Physical Geography (3)

(Common Course Number GEOG 1301)

The physical composition of the earth is surveyed. Topics include weather, climate, topography, plant and animal life, land, and the sea. Emphasis is on the earth in space, use of maps and charts, and place geography. (3 Lec.)

GPY 102 Economic Geography (3)

(Common Course Number GEOG 2312)

The relation of humans to their environment is studied. Included is the use of natural resources. Problems of production, manufacturing, and distributing goods are explored. Primitive subsistence and commercialism are considered. (3 Lec.)

GPY 103 Cultural Geography (3)

This course focuses on the development of regional variations of culture. Topics include the distribution of races, religions, and languages. Aspects of material culture are also included. Emphasis is on origins and diffusion. (3 Lec.)

GPY 104 World Regional Geography (3)

(Common Course Number GEOG 1303)

A study of major developing and developed regions with emphasis on awareness of prevailing world conditions and developments, including emerging conditions and trends, and awareness of diversity of ideas and practices to be found in those regions. Course content may include one or more regions. (3 Lec.)

GEOLOGY

GEO 101 Physical Geology (4)

(Common Course Number GEOL 1403)

This course is for science and non-science majors. It is a study of earth materials and processes. Included is an introduction to geochemistry, geophysics, the earth's interior, and magnetism. The earth's setting in space, minerals, rocks, structures, and geologic processes are also included. Laboratory fee. (3 Lec., 3 Lab.)

GEO 102 Historical Geology (4)

(Common Course Number GEOL 1404)

This course is for science and non-science majors. It is a study of earth materials and processes within a developmental time perspective. Fossils, geologic maps, and field studies are used to interpret geologic history. Laboratory fee. (3 Lec., 3 Lab.)

GEO 103 Introduction To Oceanography (3)

(Common Course Number GEOL 1345)

The physical and chemical characteristics of ocean water, its circulation, relationship with the atmosphere, and the effect on the adjacent land are investigated. The geological development of the ocean basins and the sediment in them is also considered. Laboratory fee. (2 Lec., 2 Lab.)

GEO 201 Introduction To Rocks And Mineral Identification (4)

(Common Course Number GEOL 2409)

Prerequisites: Geology 101 and 102. This course introduces crystallography, geochemistry, descriptive mineralogy, petrology, and phase equilibria. Crystal models and hand specimens are studied as an aid to rock and mineral identification. Laboratory fee. (3 Lec., 3 Lab.)

GEO 205 Field Geology (4)

Prerequisites: Eight credit hours of geology or demonstrated competence approved by the instructor. Geological features, landforms, minerals, and fossils are surveyed. Map reading and interpretation are also included. Emphasis is on the identification, classification and collection of specimens in the field. This course may be repeated for credit. (3 Lec., 3 Lab.)

GEO 207 Geologic Field Methods (4)

(Common Course Number GEOL 2407)

Prerequisites: Geology 101 and 102. This course covers basic geologic and topographic mapping, observation of geologic structures, and examination of petrologic systems in an actual field setting. Students will spend a major portion of the course collecting data for and constructing topographic and geologic maps and geologic cross sections and columns. (3 Lec., 3 Lab.)

GEO 209 Mineralogy (4)

Prerequisites: Geology 101 and 102 and Chemistry 102. This course covers basic geochemistry; crystal chemistry; crystallography, including symmetry elements, stereographic and gnomonic projections, Miller indices, crystal systems, and forms; x-ray diffraction; optical properties of minerals; descriptive mineralogy including identification of hand specimens; and phase equilibria. Laboratory fee. (3 Lec., 3 Lab.)

GERMAN

GER 101 Beginning German (4)

(Common Course Number GERM 1411)

The essentials of grammar and easy idiomatic prose are studied. Emphasis is on pronunciation, comprehension, and oral expression. Laboratory fee. (3 Lec., 2 Lab.)

GER 102 Beginning German (4)

(Common Course Number GERM 1412)

Prerequisite: German 101 or the equivalent. This course is a continuation of German 101. Emphasis is on idiomatic language and complicated syntax. Laboratory fee. (3 Lec., 2 Lab.)

GER 201 Intermediate German (3)

(Common Course Number GERM 2311)

Prerequisite: German 102 or the equivalent or demonstrated competence approved by the instructor. Reading, composition, and intense oral practice are covered. Grammar is reviewed. (3 Lec.)

GER 202 Intermediate German (3)

(Common Course Number GERM 2312)

Prerequisite: German 201 or the equivalent. This course is a continuation of German 201. Contemporary literature and composition are studied. (3 Lec.)

GOVERNMENT

GVT 201 American Government (3)

(Common Course Number GOVT 2301)

Prerequisite: Sophomore standing recommended. This course is an introduction to the study of political science. Topics include the origin and development of constitutional democracy (United States and Texas), federalism and intergovernmental relations, local governmental relations, local government, parties, politics, and political behavior. (3 Lec.)

GVT 202 American Government (3)

(Common Course Number GOVT 2302)

Prerequisite: Sophomore standing recommended. The three branches of the United States and Texas government are studied. Topics include the legislative process, the executive and bureaucratic structure, the judicial process, civil rights and liberties, and domestic policies. Other topics include foreign relations and national defense. (3 Lec.)

GVT 211 Introduction To Comparative Politics (3)

(Common Course Number GOVT 2331)

A comparative examination of governments, politics, problems and policies with illustrative cases drawn from a variety of political systems. (3 Lec.)

GRAPHIC ARTS

GA 120 Printing Fundamentals (3)

This course is a study of basic mathematics used in the printing industry. It includes proportional copy, enlargement and reduction, percentages, copy fitting, and conversion of inches into points and picas. Paper calculations for cutting and buying procedures are discussed. Laboratory fee. (2 Lec., 4 Lab.)

GA 134 Basic Camera Operations (3)

Prerequisite: Graphic Arts 120. This course introduces the student to the Graphic Arts darkroom and photolithographic process camera. Operation of horizontal and vertical cameras are taught. Lab assignments include PMT's line and halftone photography, contacting and an introduction to process color. Stripping and platemaking procedures are also included. Laboratory fee. (2 Lec., 4 Lab.)

GA 136 Beginning Copy Preparation (3)

Prerequisite: Graphic Arts 120. This course teaches the basic fundamentals of paste-up procedures. The student is introduced to design principles and balance. Lab assignments include proportions and paste-up of stationery, reply cards, and advertising posters. Laboratory fee. (2 Lec., 4 Lab.)

GA 140 Beginning Offset Printing (3)

Prerequisite: Graphic Arts 120. This course covers principles, problems, and techniques of the operation of an offset press. Students learn how to use different plate materials to print simple line work. Laboratory fee. (2 Lec., 4 Lab.)

GA 142 Basic Typesetting (3)

Prerequisite: Office Careers 172 or demonstrated competence approved by the instructor. This course is an introduction to photocomposition. It is a study of text, headline, and display type. Students will learn fundamentals of typesetting by setting cards, brochures, invitations, body copy, and simple charts. Laboratory fee. (2 Lec., 4 Lab.)

GA 204 Electronic Publishing (4)

This course is designed to teach the student how to select, use, construct, implement, and integrate text, business graphics, data, line art and photographs to produce quality business publications electronically. Topics will include corporate publications, PC hardware and software requirements, text editing, graphics design, page layout, font selection, type measurement, copy fitting and laser printers. (2 Lec., 6 Lab.)

GA 206 Graphic Projects (3)

Prerequisite: Concurrent enrollment or 16 hours of credit in Graphic Arts. This course provides problem analysis and project development. It gives the student the opportunity of producing a complete printed product. Laboratory fee. (2 Lec., 4 Lab.)

GA 225 Special Topics (3)

This course is intended for use by any given group of students that desire specific topics to be covered. This course may substitute for any 200 level Graphic Arts course with the demonstrated competence approved by the instructor. This course is repeatable for credit as topics vary. Laboratory fee. (2 Lec., 4 Lab.)

GA 234 Intermediate Camera Operations (3)

Prerequisite: Graphic Arts 134. Students gain expertise in working with problem line and halftone copy. Contacting and the use of filters are more fully discussed. Laboratory assignments include duotones, color keys, proofs, advanced stripping and platemaking techniques. Laboratory fee. (2 Lec., 4 Lab.)

GA 236 Advanced Copy Preparation (3)

Prerequisite: Graphic Arts 136. This course builds upon the skills developed in beginning copy preparation. Emphasis is on precision ruling, masking, scribing, design, and proportions. Principles of advertising and marketing are discussed. Laboratory fee. (2 Lec., 4 Lab.)

GA 240 Advanced Offset Printing (3)

Prerequisite: Graphic Arts 140. This course covers halftones, two-color and advanced line work for quality printing. Minor press maintenance and care, with discussions of paper, pricing and estimating procedures, are covered. Troubleshooting for the small offset press is included. Laboratory fee. (2 Lec., 4 Lab.)

GA 242 Intermediate Typesetting (3)

Prerequisite: Graphic Arts 142. Advanced typesetting skills are acquired through business forms, graphs, newsletters, advertisements, etc. Proofreading and markup of copy for designated layouts will increase typesetting skills. Formatting and advanced codes will be included. Laboratory fee. (2 Lec., 4 Lab.)

GA 704 Cooperative Work Experience (4)

Prerequisites: Completion of two courses in the Graphic Arts program or instructor approval. This introductory course combines productive work experience with academic study. The student, employer and instructor will develop a written competency-based learning plan with varied learning objectives and work experiences. Students must develop new learning objectives each semester. The seminar will consist of an introduction to co-op, an orientation to on-the-job learning, writing the learning plan and college degree plan. (1 Lec., 20 Lab.)

GA 714 Cooperative Work Experience (4)

Prerequisites: Completion of two courses in the Graphic Arts program or instructor approval. This advanced course combines productive work experience with academic study. The student, employer and instructor will develop a written competency-based learning plan with varied learning objectives and work experience. Students must develop new learning objectives each semester. The seminar will consist of a self-inventory, work values, selling yourself, and hints to keep a job. (1 Lec., 20 Lab.)

GREEK**GRK 101 Beginning Classical Greek (3)**

(Common Course Number GREE 1311)

The essentials of grammar and reading of easy prose are studied. Greek mythology and civilization and building of English vocabulary derived from Greek will also be studied. Laboratory fee. (3 Lec., 2 Lab.)

GRK 102 Beginning Classical Greek (3)

(Common Course Number GREE 1312)

Prerequisite: Greek 101 or the equivalent. This course is a continuation of Greek 101. Essentials of grammar, the reading of easy prose, Greek mythology and civilization and vocabulary are studied. Laboratory fee. (3 Lec., 2 Lab.)

GRK 201 Intermediate Greek (3)

(Common Course Number GREE 2311)

Prerequisite: Greek 102 or the equivalent. Grammar is reviewed. Emphasis is on vocabulary study and readings from standard authors. (3 Lec.)

GRK 202 Intermediate Greek (3)

(Common Course Number GREE 2312)

Prerequisite: Greek 201 or the equivalent. This course is a continuation of 201. Readings of standard authors are studied. (3 Lec.)

HISTORY

HST 101 History Of The United States (3)

(Common Course Number HIST 1301)

The history of the United States is presented, beginning with the European background and first discoveries. The pattern of exploration, settlement, and development of institutions is followed throughout the colonial period and the early national experience to 1877. (This course is offered on campus and may be offered via television.) (3 Lec.)

HST 102 History Of The United States (3)

(Common Course Number HIST 1302)

The history of the United States is surveyed from the Reconstruction era to the present day. The study includes social, economic, and political aspects of American life. The development of the United States as a world power is followed. (This course is offered on campus and may be offered via television.) (3 Lec.)

HST 103 World Civilizations (3)

(Common Course Number HIST 2321)

This course presents a survey of ancient and medieval history with emphasis on Asian, African, and European cultures. (3 Lec.)

HST 104 World Civilizations (3)

(Common Course Number HIST 2322)

This course is a continuation of History 103. The modern history and cultures of Asia, Africa, Europe, and the Americas, including recent developments, are presented. (3 Lec.)

HST 105 Western Civilization (3)

(Common Course Number HIST 2311)

The civilization in the West from ancient times through the Enlightenment is surveyed. Topics include the Mediterranean world, including Greece and Rome, the Middle Ages, and the beginnings of modern history. Particular emphasis is on the Renaissance, Reformation, the rise of the national state, the development of parliamentary government, and the influences of European colonization. (3 Lec.)

HST 106 Western Civilization (3)

(Common Course Number HIST 2312)

This course is a continuation of History 105. It follows the development of civilization from the Enlightenment to current times. Topics include the Age of Revolution, the beginning of industrialism, 19th century, and the social, economic, and political factors of recent world history. (3 Lec.)

HST 110 The Heritage Of Mexico (3)

(Common Course Number HIST 2380)

This course (cross-listed as Anthropology 110) is taught in two parts each semester. The first part of the course deals with the archaeology of Mexico beginning with the first humans to enter the North American continent and culminating with the arrival of the Spanish in 1519 A.D. Emphasis is on archaic cultures, the Maya, the Toltec, and the Aztec empires. The second part of the course deals with Mexican history and modern relations between the United States and Mexico. The student may register for either History 110 or Anthropology 110, but may receive credit for only one of the two. (3 Lec.)

HST 112 Latin American History (3)

(Common Course Number HIST 2331)

This course presents developments and personalities which have influenced Latin American history. Topics include Indian cultures, the Conquistadors, Spanish administration, the wars of independence, and relations with the United States. A brief survey of contemporary problems concludes the course. (3 Lec.)

HST 120 Afro-American History (3)

(Common Course Number HIST 2381)

The role of the Black in American history is studied. The slave trade and slavery in the United States are reviewed. Contributions of black Americans in the U.S. are described. Emphasis is on the political, economic, and sociological factors of the 20th century. (3 Lec.)

HST 204 American Minorities (3)

(Common Course Number HUMA 2319)

Prerequisite: Sociology 101 or six hours of U.S. history recommended. Students may register for either History 204 or Sociology 204 but may receive credit for only one of the two. The principal minority groups in American society are the focus of this course. The sociological significance and historic contributions of the groups are presented. Emphasis is on current problems of intergroup relations, social movements, and related social changes. (3 Lec.)

HST 205 Advanced Historical Studies (3)

(Common Course Number HIST 2341)

Prerequisite: Six hours of history. An in-depth study of minority, local, regional, national, or international topics is presented. (3 Lec.)

HORTICULTURE TECHNOLOGY

HLN 131 Horticulture Science (4)

This course covers the science and practices of ornamental horticulture. Stress is on the culture and growth of plants, landscaping, plant production, and nursery propagation. Laboratory fee. (3 Lec., 3 Lab.)

HLN 132 Landscape Trees (2)

The identification and classification of landscape trees are studied. Characteristics and landscape uses are included. Laboratory fee. (1 Lec., 3 Lab.)

HLN 133 Landscape Shrubs, Vines, And Ground Cover (2)

The identification and classification of landscape shrubs, vines, and ground covers are studied. Characteristics and landscape uses are included. Laboratory fee. (1 Lec., 3 Lab.)

HLN 134 Interior Plant Identification (2)

This course covers the identification and classification of tropical plants used in the home and commercial interior landscapes. Design characteristics for interiorscapes and environmental requirements of the plants used are included. (1 Lec., 3 Lab.)

HLN 140 Herbaceous And Exotic Plants (3)

The identification, culture, and use of ornamental herbaceous plants are studied. Plants for homes, gardens, and conservatories are included. Laboratory fee. (2 Lec., 3 Lab.)

HLN 141 Floral Design (4)

This course presents the principles of floral art, flowers, and other design materials. Special and unusual floral designs are included. Laboratory fee. (2 Lec., 6 Lab.)

HLN 145 Landscape Development I (3)

Prerequisite: Horticulture Technology 131 or demonstrated competence approved by the instructor. This course covers the planning and scheduling of landscape operations, the application of pesticides, the study of pests and diseases in the landscape, maintenance of landscaping tools and equipment, installation of irrigation systems, contracts and construction specifications, and related government regulations. Laboratory fee. (1 Lec., 6 Lab.)

HLN 146 Fundamentals Of Landscape Planning (3)

Concepts and practices used in preparing landscape plans and in constructing and improving landscapes are covered. Students will be introduced to the operations of the LandCAD computer design system. Laboratory fee. (1 Lec., 6 Lab.)

HLN 147 Landscape Development II (3)

Prerequisite: Horticulture Technology 131 or demonstrated competence approved by the instructor. This course trains the student in the use and maintenance of landscape plants, tree surgery and repair, pruning and training plants in the landscape, and the installation and maintenance of turf grasses in the landscape. Laboratory fee. (1 Lec., 6 Lab.)

HLN 227 Greenhouse Horticulture (4)

Prerequisites: Horticulture Technology 131 and either Chemistry 115 or Physical Science 118. The construction and operation of ornamental horticulture production structures are studied. Included are greenhouses, plastic houses, lath houses, hotbeds, and coldframes. Emphasis is on installing, operating, and maintaining equipment for environmental control and efficiency in production operations. Laboratory fee. (2 Lec., 6 Lab.)

HLN 231 Landscape Design (4)

Prerequisites: Horticulture Technology 132, 133, and 146; Mathematics 195 or the equivalent is desirable. This course introduces the basic principles of landscape design for residences. Plant selection is included. Students will learn how to design a plat plan for a residential landscape using the LandCAD computer design system. Laboratory fee. (2 Lec., 6 Lab.)

HLN 233 Nursery Operations (3)

Prerequisites: Horticulture Technology 131 and either Chemistry 115 or Physical Science 118. In this course emphasis is placed on nursery site selection and layout, plant growth and plant protection, and production in field nurseries and container nurseries. Laboratory fee. (2 Lec., 3 Lab.)

HLN 234 Ornamental Crop Production (3)

Prerequisite: Horticulture Technology 235, 226 or 233. Advanced methods of crop production in the nursery and greenhouse are presented. Topics include container nursery production, turf grass production, cut flower and pot plant production, and the field propagation and production of nursery stock. Laboratory fee. (2 Lec., 3 Lab.)

HLN 235 Propagation Of Woody Ornamental Plants (2)

Prerequisites: Horticulture Technology 131 and 140. This course covers all phases of propagation of woody ornamental plants including cutting and seed propagation and grafting, budding, and layering. It also includes the management of propagation facilities. Laboratory fee. (1 Lec., 3 Lab.)

HLN 238 Landscape Management (3)

Prerequisite: Horticulture Technology 231. This course provides advanced studies in landscape business operations including landscape contracting and garden center management. It is a study of the landscape horticulture industry, management practices, marketing methods and estimating, bidding and contracting landscape jobs. Laboratory fee. (2 Lec., 3 Lab.)

HLN 246 Problems And Practices In Industry (3)

Prerequisites: Horticulture 227 or Horticulture 233 or Horticulture 238 or Horticulture 249 or Horticulture 252 or concurrent enrollment. This course enables students to research current regional problems and practices in the ornamental horticulture industry. The student visits specialists; observes operations; conducts research on problems; implements findings; and prepares a report. (1 Lec., 6 Lab.)

HLN 248 Advanced Floral Design (3)

Prerequisite: Floral Design 141. This course is an advanced study of commercial floral design as used in the retail florist business. Advanced techniques in floral art are practiced in corsage making, wedding design, memorial decoration, religious and fraternal designs and other special occasion designs. Laboratory fee. (2 Lec., 3 Lab.)

HLN 249 Foliage Plants And Interiorscaping (3)

Prerequisites: Horticulture Technology 131 and 140. This course covers the propagation, culture, and marketing of foliage plants and other tropical and subtropical plants used in interiorscapes. Principles of interiorscaping and care of plants in indoor environments are studied. Laboratory fee. (2 Lec., 3 Lab.)

HLN 250 Advanced Landscape Planning (3)

Prerequisites: Horticulture Technology 145 and 231. Landscape planning and design principles are studied in depth. Topics include advanced design analysis, architectural elements, space articulation, and engineering land and plant uses. Laboratory fee. Students will be introduced to advanced landscape planning with the LandCAD computer design system. (2 Lec., 3 Lab.)

HLN 252 Flower Shop Management (3)

Prerequisite: Horticulture Technology 141. This course is an advanced study of flower shop operations in the florist industry. Included in this study is the structure of the industry, shop location and organization, marketing methods, and management practices. Laboratory fee. (2 Lec., 3 Lab.)

HLN 703 Cooperative Work Experience (3)

Prerequisites: Completion of two courses in the Horticulture Technology program or instructor approval. This course combines work experience with academic study. The student, employer, and instructor will develop a written competency-based learning plan with varied learning objectives and work experiences. Students must develop new learning objectives each semester. Each student must complete three objectives and work a minimum of 15 hours per week for a total of three credit hours. The seminars consist of 15 hours of group and individual learning experiences related to such topics as writing competency-based learning objectives, job related problem solving, interpersonal communication skills, and other topics as needed for success in the horticulture industry. (1 Lec., 15 Lab.)

HLN 713 Cooperative Work Experience (3)

Prerequisite: Completion of two courses in the Horticulture Technology program or instructor approval. This course combines work experience with academic study. The student should be gaining experience at a management or supervisory level position. The student, employer, and instructor will develop a written competency-based learning plan with varied learning objectives and work experiences. Students must develop new learning objectives each semester. Each student must complete three learning objectives and work a minimum of 15 hours per week for a total of three credit hours. The seminar consists of 15 hours of group and individual learning experiences related to such topics as development of management and supervisory skills, conducting interviews, negotiating business deals, and evaluating work performance of employees. (1 Lec., 15 Lab.)

HUMAN DEVELOPMENT**HD 092 Student Success (3)**

In this orientation course, students are introduced to academic and personal goal-setting and learning skills that enhance their chances for educational success. Students will learn how to develop positive attitudes toward themselves, improve communication and decision-making skills, and make effective use of campus resources. This course supports students enrolling in other appropriate remediation. (3 Lec.)

HD 100 Educational Alternatives (1)

The learning environment is introduced. Career, personal study skills, educational planning, and skills for living are all included. Emphasis is on exploring career and educational alternatives and learning a systematic approach to decision-making. A wide range of learning alternatives is covered, and opportunity is provided to participate in personal skills seminars. This course may be repeated for credit. (1 Lec.)

HD 104 Educational And Career Planning (3)

This course is designed to teach students the ongoing process of decision-making as it relates to career/life and educational planning. Students identify the unique aspects of themselves (interests, skills, values). They investigate possible work environments and develop a plan for personal satisfaction. Job search and survival skills are also considered. (3 Lec.)

HD 105 Basic Processes Of Interpersonal Relationships (3)

This course is designed to help the student develop a self-awareness that will enable him/her to relate more effectively to others. Students are made aware of their feelings, values, attitudes, verbal and nonverbal behaviors. The course content, which utilizes an experiential model, also focuses on developing communication and problem-solving skills. (3 Lec.)

HD 106 Personal And Social Growth (3)

This course focuses on the interactions between the individual and the social structures in which he/she lives. Roles, social influences and personal adjustments to the world around us are explored in readings and classroom discussion. Human behavior, the diversity of lifestyles and the components of a healthy personality are studied in an effort to develop a pattern for growth that demonstrates a responsibility to self and society. (3 Lec.)

HD 107 Developing Leadership Behavior (3)

The basic purpose of this course is to help the student develop leadership and human relation skills. Topics include individual and group productivity, value systems, appropriate communication skills, and positive attitudes in a group environment. The concepts of leadership are explored through both theory and practice. These leadership activities can be applied to the student's personal, business, and professional interactions. (3 Lec.)

HD 108 The Master Student Course (3)

This course will provide an opportunity for the student to learn, practice and adopt specific strategies to support his or her success in college. Topics include individual learning skills, self-monitoring, goal-setting, problem solving, critical thinking, stress/time management, understanding motivation and procrastination, test anxiety, memory, creativity, and the importance of supportive relationships. (3 Lec.)

HD 110 Assessment Of Prior Learning (1)

Prerequisite: Limited to students in Technical-Occupational Programs. Demonstrated competence approved by the instructor is required. This course is designed to assist students in documenting prior learning for the purpose of applying for college credit. Students develop a portfolio which includes a statement of educational/career goals, related noncollegiate experiences which have contributed to college-level learning, and documentation of such experiences. This course may be repeated for credit. (1 Lec.)

HUMANITIES**HUM 101 Introduction To The Humanities (3)**

(Common Course Number HUMA 1301)

Introduction to the Humanities focuses on the study and appreciation of the fine and performing arts and the ways in which they reflect the values of civilizations. (3 Lec.)

HUM 102 Advanced Humanities (3)

(Common Course Number HUMA 1302)

Prerequisite: Humanities 101 or demonstrated competence approved by the instructor. Human value choices are presented through the context of the humanities. Universal concerns are explored, such as a person's relationship to self and to others and the search for meaning. The human as a loving, believing and hating being is also studied. Emphasis is on the human as seen by artists, playwrights, film makers, musicians, dancers, philosophers, and theologians. The commonality of human experience across cultures and the premises for value choices are also stressed. (3 Lec.)

INTERIOR DESIGN**INT 164 Color Theory And Application For Interior Designers (3)**

Prerequisites: Interior Design major. Actual interior design studies will be given that will involve applying various color systems (with emphasis on Munsell), along with mixing techniques to gain desired hue, value, and intensities for solving design color schemes. Color psychologies are also investigated. Laboratory fee. (2 Lec., 4 Lab.)

INT 166 Interior Design Studio II (4)

Prerequisites: Art 165 and Interior Design 171. Introduction to the basic design principles as they apply to furniture layouts and space distribution for interiors. The complete design process is investigated. Freehand sketching is emphasized through plans, elevations, sections, perspectives, and schedules. Functional priorities, including circulation and spatial usages will be investigated. Building codes are introduced. Laboratory fee. (2 Lec., 5 Lab.)

INT 171 Drafting For Interior Designers (3)

Prerequisites: Interior Design major. This course provides the beginning interior design student with basic drafting skills including the correct use of drafting instruments and supplies to obtain good line quality and lettering. Emphasis is placed on the ability to draw orthographic projections and paraline drawings, and an introduction to architectural symbols, dimensioning and notes, and the use of the print machine to reproduce drawings. Building codes and barrier free design are utilized. Laboratory fee. (2 Lec., 4 Lab.)

INT 173 Construction Drawings For Interior Designers (3)

Prerequisite: Interior Design 171. This course teaches the student how to take design drawings and develop the necessary construction drawings needed to build a structure. Emphasis is on the knowledge of building construction as well as the correct representation of building materials and construction assemblies in construction drawings. Typical wood frame residential construction will be utilized with plans, elevations, sections, details, schedules, and specifications included to produce a representative set of building documents. Laboratory fee. (2 Lec., 4 Lab.)

INT 176 Perspective Drawing For Interior Designers (2)

Prerequisites: Interior Design 171. This course introduces the student to the principles of one- and two-point perspective construction. The "office method" of mechanical plotting will be utilized to teach basic perspective vocabulary. The "grid system" and perspective charts will be employed to teach speed and aesthetic values in interior spaces. Perspective shades and shadows will also be included. Laboratory fee. (6 Lab.)

INT 191 History Of Modern Design (3)

This course surveys the evolution of 20th Century design from the Industrial Revolution to the present, including 19th Century developments and major influences of the 20th Century. Special attention is given to significant designers, architects, and personalities and their affect on the modern movement. Laboratory fee. (3 Lec.)

INT 245 Design Sketching (3)

Prerequisite: Architecture 133 or Interior Design 176 or Art 114 or demonstrated competence approved by the instructor. This course includes an introduction to and the development of graphic skills needed to formulate and communicate design concepts. Study and practice of visualization and freehand perspective drawing of the student's own design are emphasized. Concepts in various media are the main activities covered. Laboratory fee. (2 Lec., 4 Lab.)

INT 261 Interior Design Studio III (3)

Prerequisites: Interior Design 166, 164, 173 and 176. The principles studied in Interior Design 166 are expanded to include studies and experimentation dealing with abstract spatial concepts leading to conceptual planning of specific spaces. Projects deal with general furnishings and simple manipulations of surfaces and volumes. Laboratory fee. (2 Lec., 4 Lab.)

INT 262 Interior Design Studio IV (3)

Prerequisites: Interior Design 261, 281, and 293. The principles studied in Interior Design 261 are expanded to include detailed space planning and selection of specific furnishings and accessories as well as design and detailing of millwork and other interior construction. Laboratory fee. (2 Lec., 4 Lab.)

INT 276 Delineation Techniques for Interior Designers (3)

Prerequisites: Interior Design 164 and 176. This course introduces the student to basic delineation techniques to render two- and three-dimensional drawings of interior architectural spaces. Emphasis is on the development of black and white and color rendering procedures dealing with plans, elevations, and perspectives. Media applied include graphite pencil, pen and ink, color pencil, markers, opaque media, and mixed media techniques of presentation. Laboratory fee. (2 Lec., 4 Lab.)

INT 281 Textiles For Interior Design (3)

This course is a study of the textile products, characteristics, and their uses as applied to the interior design industry. Fibers, yarns, construction, and finishes are individually studied. A history of decorative textiles and their uses in traditional interiors is included. Contemporary textiles and their application to new uses in interior design are studied. A project notebook is required. (3 Lec.)

INT 283 Materials For Interior Design (3)

Prerequisites: Interior Design major. A comprehensive overview is presented to introduce the student to the various interior design materials, finishes, and methods of construction installation that are available for specification today, and to compile an actual working source file through field trips, guest speakers, demonstrations, and class lectures. How to specify through measurements, millwork, finish types, quantities, and costs is stressed. (2 Lec., 4 Lab.)

INT 284 Lighting Design (3)

Prerequisites: Interior Design 164 and 173. Qualitative and quantitative aspects of lighting are assessed. Topics include lamp types, fixture systems, design calculations, system layouts, electrical symbols, electrical plans and specifications, lighting schedules, and emphasis on the effects of lighting systems on colors. Laboratory fee. (2 Lec., 4 Lab.)

INT 293 History Of Interior Arts (3)

Prerequisites: Art 105 and Art 106. This course is a historical survey of the interior arts and interior architecture covering the Antiquities, Italian Renaissance and the French styles. Emphasis for the semester is placed on the French styles. An illustrated research notebook is required. Laboratory fee. (3 Lec., 1 Lab.)

INT 294 Comparative Survey Of Styles (3)

Prerequisite: Interior Design 293. This course is a comparative survey of the interior arts and interior architecture of the English, Oriental, and American styles. Emphasis for the semester is placed on the English styles. An illustrated research notebook is required. Laboratory fee. (3 Lec., 1 Lab.)

INT 363 Interior Design Studio V (3)

Prerequisites: Interior Design 262, 276, 283, 284, and 294. The principles studied in Interior Design 262 are expanded to include consideration of spatial psychologies, historical design applications, and interior mechanical equipment. Laboratory fee. (2 Lec., 4 Lab.)

INT 364 Interior Design Studio VI (3)

Prerequisites: Interior Design 191, 363, 385, and 395. The principles studied in Interior Design 363 are expanded to include project management. Advanced construction documents are prepared. Efforts are made to achieve advanced levels of fully developed creative projects. Laboratory fee. (2 Lec., 4 Lab.)

INT 385 Professional Practice For Interior Designers (3)

Prerequisite: Interior Design 262 or demonstrated competence approved by the instructor. This course involves the theory and application of design office practices and procedures as well as discussion of client psychology. Various management systems and methods are studied. Topics include the marketing of professional services, coordination with consultants, professional organizations, legal and tax issues, business insurance, project management forms, building codes, and consumer issues. (3 Lec.)

INT 395 Restoration And Preservation (3)

Prerequisites: Interior Design 294 and concurrent enrollment in Interior Design 363 and 385. This is an introductory course to the many aspects of restoration, preservation, and adaptive reuse of structures and spaces. Emphasis is placed on the architectural interior. Legal and tax issues are discussed. Restoration projects involving actual local structures are studied, along with theoretical problems. Specialized resources are included. (2 Lec., 2 Lab.)

INT 702 Cooperative Work Experience (2)

Prerequisites: All second year major courses. This course provides practical work experience in a Dallas interior design studio with emphasis placed in the specialty of the students' choice. Areas of specialization are: commercial, residential, institutional, medical, architectural, retail, specifiers, lighting, restaurants, hotels, workroom vendors, computer aided drafting, education and others. The student, employer and instructor compile a written competency-based learning plan in the form of work objectives to be accomplished on the job. Sixteen seminar sessions each semester consist of informational speakers and film presentations concerning special problems and interests in the workplace. This course may be repeated for credit. (1 Lec., 10 Lab.)

INT 703 Cooperative Work Experience (3)

Prerequisites: All second year major courses. This course provides practical work experience in a Dallas interior design studio with emphasis placed in the specialty of the students' choice. Areas of specialization are: commercial, residential, institutional, medical, architectural, retail, specifiers, lighting, restaurants, hotels, workroom vendors, computer aided drafting, education and others. The student, employer and instructor compile a written competency-based learning plan in the form of work objectives to be accomplished on the job. Sixteen seminar sessions each semester consist of informational speakers and film presentations concerning special problems and interests in the workplace. This course may be repeated for credit. (1 Lec., 15 Lab.)

INTERNATIONAL BUSINESS AND TRADE**IBT 275 Introduction to International Business and Trade (3)**

The techniques for entering the international marketplace are covered. The impact and dynamics of sociocultural, demographic, economic, technological, and political-legal factors on the foreign trade environment are emphasized. Topics include patterns of world trade, internationalization of the firm, and operating procedures of the multinational enterprise. (3 Lec.)

IBT 276 International Marketing Management (3)

Recommended prerequisites: International Business & Trade 275 and Marketing 206. Opportunities for international trade are explored. Market trends, forecasting, pricing, sourcing, and distribution factors are utilized in the analysis of international marketing strategies. An international export/import marketing and financial plan is developed. (3 Lec.)

IBT 277 International Comparative Management (3)

Recommended prerequisite: International Business & Trade 275. Cross-cultural comparisons of management and trade practices are made. Cultural and geographic distinctions and antecedents that affect individual, group, and organizational behavior are emphasized. The sociocultural, demographic, economic, technological, and political-legal environments of cluster countries grouped by culture are related to organizational communication and decision making. (3 Lec.)

IBT 278 International Finance (3)

Recommended prerequisites: Economics 201 and International Business & Trade 275. This course covers the international monetary system, financial markets, flow of capital, foreign exchange and financial institutions. Export-import payments and financing including the preparation of letters of credit, shipping documentation, and electronic transfers are provided. An introduction to multinational financial decisions, such as financing foreign investment or working capital, is made. (3 Lec.)

IBT 279 International Business Law (3)

Recommended prerequisites: Business 234 and International Business & Trade 275. This course focuses on law as it applies to international business transactions in the global political-legal environment. Study is made of inter-relationships among laws of different countries and the legal effects on individuals and business organizations. Topics introduced include international contracts and administration, regulation of exports and imports, technology transfers, regional transactions, intellectual property, and product liability. (3 Lec.)

IBT 704 Cooperative Work Experience (4)

Prerequisites: Completion of two core International Business and Trade courses or demonstrated competence approved by the instructor. This course combines international work experiences with college study. A competency-based plan describing learning objectives and work experiences is developed. A seminar relates the cross-cultural dimensions of contemporary international and business trade problems to functional areas such as marketing or finance and to work experiences. (1 Lec., 20 Lab.)

INVASIVE CARDIOVASCULAR TECHNOLOGY

ICV 101 Introduction to Cardiovascular Technology (2)

Prerequisite: A grade of "C" or better in prerequisite courses of Biology 120 or 221, Mathematics 101, Chemistry 115 and English 101. Concurrent enrollment in Invasive Cardiovascular Technology 110 and 112. This course is designed to introduce the student to the field of invasive cardiovascular technology and the role of the Cardiovascular Technologist. Medical terminology, ethical-legal aspects and communication skills will be covered. (2 Lec.)

ICV 110 Cardiovascular Physiology (3)

Prerequisite: A grade of "C" or better in prerequisite courses of Biology 120 or 221, Mathematics 101, Chemistry 115 and English 101. Concurrent enrollment in Invasive Cardiovascular 101 and 112. This course provides a study of the anatomy, physiology, and structural relationships of the human heart and vascular system. This course will concentrate on cardiac anatomy, electrocardiology, cardiac hemodynamics, and the innervation of the heart. (3 Lec.)

ICV 112 Medical Instrumentation I (3)

Prerequisite: A grade of "C" or better in prerequisite courses of Biology 120 or 221, Mathematics 101, Chemistry 115 and English 101. Concurrent enrollment in Invasive Cardiovascular 101 and 110. This course emphasizes basic principles in medical electronics and computers for the cardiovascular student. The theory and operation of medical instrumentation will be the focus. (3 Lec.)

ICV 120 Cardiovascular Physiology II (3)

Prerequisite: A grade of "C" or better in all previous support courses and Invasive Cardiovascular Technology 101, 110, and 112. Concurrent enrollment in Invasive Cardiovascular Technology 122 and 124. This course is a continuation of Invasive Cardiovascular Technology 110 with emphasis on cardiac disease states. The methods of hemodynamic data collection and implications in relation to cardiac diseases will be studied. (3 Lec.)

ICV 122 Medical Instrumentation II (3)

Prerequisite: A grade of "C" or better in all previous support courses and invasive cardiovascular course work. Concurrent enrollment in Invasive Cardiovascular Technology 120 and 124. This course is a continuation of Invasive Cardiovascular Technology 112. The course will focus on the theory, calibration, operation and clinical application of cardiovascular diagnostic instrumentation. Methods of hemodynamic data collection, calculation, analysis and implications will be studied. Laboratory fee. (2 Lec., 2 Lab.)

ICV 124 Cath Lab Fundamentals I (3)

Prerequisite: A "C" or better in all previous support courses and invasive cardiovascular course work. Concurrent enrollment in Invasive Cardiovascular Technology 120 and 122. This course introduces the diagnostic procedures used in the cath lab. Prior didactic instruction in cardiac physiology and medical instrumentation will be applied to cath lab procedures including patient preparation and monitoring, angiographic equipment setup and the coronary angiography procedure itself. Laboratory fee. (2 Lec., 2 Lab.)

ICV 130 Cath Lab Fundamentals II (1)

Prerequisite: A grade of "C" or better in all previous support courses and invasive cardiovascular course work. Concurrent enrollment in Invasive Cardiovascular Technology 132. This course is a continuation of Invasive Cardiovascular Technology 124. This course emphasizes x-ray technology and interventional procedures in the cardiac cath lab. Discussion will also focus on the beginning cath lab clinical experience. (3 Lec.)

ICV 132 Introduction To The Cath Lab (1)

Prerequisite: A grade of "C" or better in all previous support courses and invasive cardiovascular course work. Concurrent enrollment in Invasive Cardiovascular Technology 130. This course introduces the student to a working cath lab. Under the supervision of faculty and clinical staff, the student will observe and familiarize themselves with different cath labs, including setups, standard procedures, and laboratory operations. Laboratory fee. (8 Lab.)

ICV 134 Cardiac Cath I (1)

Prerequisite: A grade of "C" or better on all previous support courses and invasive cardiovascular course work. Concurrent enrollment in Invasive Cardiovascular Technology 136. In this course, basic life support, cardiac pharmacology, and emergency procedures as they relate to the cath lab experience will be covered. (3 Lec.)

ICV 136 Cath Lab Clinical I (2)

Prerequisite: A grade of "C" or better in all previous support courses and invasive cardiovascular course work. Concurrent enrollment in Invasive Cardiovascular Technology 134. This course is a continuation of Invasive Cardiovascular Technology 132. Under the supervision of faculty and clinical staff, the student will observe, assist, and perform tasks specific to the cath lab in assigned affiliated hospital cath labs. Laboratory fee. (32 Lab.)

ICV 210 Cardiac Cath II (3)

Prerequisite: A grade of "C" or better in all previous support courses and invasive cardiovascular courses. Concurrent enrollment in Invasive Cardiovascular Technology 212. This course is a continuation of Invasive Cardiovascular Technology 134. An intensive study of advance cardiovascular diagnostic and therapeutic procedures will occur. Topics include percutaneous transluminal coronary angioplasty and electrophysiology studies. A term paper will be required. (3 Lec.)

ICV 212 Cath Lab Clinical II (5)

Prerequisite: A grade of "C" or better in all previous support courses and invasive cardiovascular course work. Concurrent enrollment in Invasive Cardiovascular Technology 210. This course is a continuation of Invasive Cardiovascular Technology 136. This course will provide the student continued opportunity to observe, assist, and perform tasks specific to the cath lab. Student will be assigned to an affiliated hospital cath lab. Laboratory fee. (24 Lab.)

ICV 220 Cath Lab III (3)

Prerequisite: A grade of "C" or better in all previous support courses and invasive cardiovascular course work. Concurrent enrollment in Invasive Cardiovascular Technology 222. This course is a continuation of Invasive Cardiovascular Technology 210. The student will study areas of opportunity outside the cath lab. These will include non-invasive cardiology, cardiac surgical procedures, and hospital administration as related to the cath lab. The course will also assist the student in role transition from student to cath lab employee. (3 Lec.)

ICV 222 Cath Lab Clinical III (5)

Prerequisite: A grade of "C" or better in all previous support courses and invasive cardiovascular course work. Concurrent enrollment in Invasive Cardiovascular Technology 220. This course is a continuation of Invasive Cardiovascular Technology 212. The student will be provided continued opportunity to observe, assist, and perform tasks specific to the cath lab. Students will be assigned to an affiliated hospital cath lab. Laboratory fee. (24 Lab.)

INTERPRETER TRAINING PROGRAM**ITP 140 Introduction To Deafness (3)**

The psychology and history of educating the deaf are introduced. Emphasis is on the psychological, social, emotional, and occupational aspects of deafness. (3 Lec., 1 Lab.)

ITP 141 American Sign Language I (4)

Basic linguistic components (sentence patterns) of American Sign Language are introduced and practiced expressively and receptively. Students learn to describe signs in terms of hand configuration and palm direction. Fingerspelling is also introduced and practiced receptively and expressively. Laboratory fee. (3 Lec., 2 Lab.)

ITP 143 American Sign Language II (4)

Prerequisite: Interpreter Training 141. The linguistic components of American Sign Language will continue to be explored and practiced, both expressively and receptively. Receptive and expressive fingerspelling skills are increased. Basic vocabulary is expanded, and idioms are introduced. Emphasis is on mastering receptive skills. Laboratory fee. (3 Lec., 2 Lab.)

ITP 144 Psychosocial Aspects Of Deafness (3)

This course focuses on exploration of the psychosocial aspects of deafness. Vocational problems are also explored and studied. (3 Lec.)

ITP 148 Receptive Fingerspelling (1)

Prerequisite: Interpreter Training 141 or concurrent enrollment in Interpreter Training 141. This course increases the student's ability to read fingerspelling. Video tapes are used to demonstrate finger spelling--starting with two-letter words and progressing to words of several syllables. These words are presented individually as well as in sentences. (2 Lab.)

ITP 231 Interpreting: Ethics And Specifics (3)

Prerequisite: Interpreter Training 143 or demonstrated competence approved by the instructor. This class focuses on interpreter protocol, i.e., manner of dress, code of ethics, and language level. The student will learn about the preparation and training to become an interpreter for the deaf in different settings. Examples of these settings are legal, religious, vocational, medical, educational, counseling and rehabilitation. (3 Lec.)

ITP 240 American Sign Language III (4)

Prerequisite: Interpreter Training 143. Students will study linguistic aspects of American Sign Language and will apply this knowledge by translating written English selections into ASL. Students' vocabularies will be increased by their study of multiple English synonyms per ASL sign and "idiomatic" sign language expressions. Students will receive practice in the expressive and receptive modes of both sign language and fingerspelling. Emphasis will be on mastery of ASL. Laboratory fee. (3 Lec., 2 Lab.)

ITP 247 Special Topics In Deafness (3)

Prerequisite: Demonstrated competence approved by the instructor. Various topics are studied as demand warrants. Examples include introduction to rehabilitation, deaf/blind, mime, conversational skills in American Sign Language, and maintenance skills in American Sign Language. This course may be repeated for credit when topics vary. (3 Lec.)

ITP 248 Rehabilitation Of The Multiply Handicapped Deaf (3)

Other handicapping conditions accompanying deafness are studied. The emphasis is on problems of development and education and on severity of vocational problems when deafness is one of the handicaps. Techniques of management and instruction are included. Instructional personnel will include guest professionals from areas of all handicaps. (3 Lec., 1 Lab.)

ITP 250 Interpreting: Sign To Voice (3)

Prerequisite: Interpreter Training 240 or concurrent enrollment. This course is designed for the advanced sign language students. Sign to voice skills are developed and practiced through the use of video tapes, audio tapes and one-on-one practice demonstrations. (3 Lec.)

ITP 251 Educational/Specialized Signs (4)

Prerequisite: Interpreter Training 143. This course provides students with knowledge of sign terminology in the following areas: signs for educational purposes, medical, legal, drug use/abuse, and religious. Additional content areas are explored as needed. Laboratory fee. (3 Lec., 2 Lab.)

ITP 253 Interpreting: Voice To Sign (3)

Prerequisite: Interpreter Training 240 or concurrent enrollment. Students will acquire theoretical information pertaining to the expressive aspect of interpreting. Students will interpret in class by using audio and video tapes. Each student's vocabulary/sign choice and performance will be analyzed and recommendations made for improvement of delivery. Laboratory fee. (3 Lec.)

ITP 260 Practicum (3)

Prerequisites: Fifteen hours of Interpreter Training courses and demonstrated competence approved by the instructor. An extended practicum involves carefully selected areas of service to the deaf upon student demonstration of interest and aptitude. Course content is primarily applied practicum experiences in specific areas of interest. (10 Lab.)

ITP 702 Cooperative Work Experience (2)

Prerequisites: Completion of two courses in the Interpreter Training Program or instructor approval. This introductory course combines productive work experience with academic study. The student, employer and instructor will develop a written competency-based learning plan with varied learning objectives and work experiences. Students must develop new learning objectives each semester. The seminar consists of writing the learning plan, goal clarification and educational objectives, self-inventories, and attendance at specific conferences/workshops. (1 Lec., 10 Lab.)

JAPANESE**JPN 101 Beginning Japanese (4)**

(Common Course Number JAPN 1411)

This course focuses on basic conversation, reading, and writing. Students will also be introduced to Japanese culture, customs and institutions. Laboratory fee. (3 Lec., 2 Lab.)

JPN 102 Beginning Japanese (4)

(Common Course Number JAPN 1412)

Prerequisite: Japanese 101 or the equivalent. This course is a continuation of Japanese 101. Conversation, reading, and writing are continued. Students will continue study of Japanese culture, customs and institutions. Laboratory fee. (3 Lec., 2 Lab.)

JPN 201 Intermediate Japanese (3)

(Common Course Number JAPN 2311)

Prerequisite: Japanese 101 and Japanese 102 or the equivalent. Reading, writing, and intense oral practice are covered. Japanese language structures, vocabulary and the phonetic system are reviewed. The study of culture and institutions is continued. (3 Lec.)

JPN 202 Intermediate Japanese (3)

(Common Course Number JAPN 2312)

Prerequisite: Japanese 201 or the equivalent. This course is a continuation of Japanese 201. Reading, writing, and intense oral practice are continued. (3 Lec.)

JOURNALISM**JN 101 Introduction To Mass Communications (3)**

This course surveys the field of mass communications. Emphasis is on the role of mass media in modern society. (3 Lec.)

JN 102 News Gathering And Writing (3)

Prerequisite: Typing ability. This course focuses upon recognizing newsworthy events, gathering information and writing the straight news story. It provides a basis for future study in newspaper and magazine writing, advertising, broadcast journalism and public relations. Students are required to write for the campus newspaper. (2 Lec., 3 Lab.)

JN 103 News Gathering And Writing (3)

Prerequisite: Journalism 102 or professional experience approved by the instructor. This course is a continuation of Journalism 102. Students study and practice writing more complex stories, such as features, profiles, follow-up stories, and sidebars. Students are required to write for the campus newspaper. (2 Lec., 3 Lab.)

JN 104 Student Publications (1)

Prerequisite: Demonstrated competence approved by the instructor. This course may not be taken for credit concurrently with Journalism 102 or 103. Individual staff assignments are made for the student newspaper. Assignments may be made in writing, advertising, photography, cartooning, or editing. Student are required to work at prescribed periods under supervision and must attend staff meetings. (3 Lab.)

JN 105 Student Publications (1)

Prerequisite: Demonstrated competence approved by the instructor. This course may not be taken for credit concurrently with Journalism 102 or 103. This course is a continuation of Journalism 104. (3 Lab.)

JN 106 Student Publications (1)

Prerequisite: Demonstrated competence approved by the instructor. This course may not be taken for credit concurrently with Journalism 102 or 103. This course is a continuation of Journalism 105. (3 Lab.)

JN 202 Principles Of Advertising (3)

Fundamentals of advertising, including advertising appeals, print and broadcast copy writing, and design and selection of media will be covered. Typography as it relates to advertising is stressed. The course will provide students with the concepts they will need to go into the advertising field and into advanced advertising courses. (3 Lec.)

JN 203 Survey Of Broadcasting (3)

This course stresses broadcast organization and operations and includes the theoretical and historical aspects of broadcasting. It introduces students to the social, political, technical and economic aspects of the broadcasting industry. (3 Lec.)

JN 204 News Editing And Copy Reading (3)

Prerequisite: Journalism 102. This course focuses on editing news for newspaper, radio, and television. Emphasis is on writing headlines and laying out pages. (3 Lec.)

LATIN**LAT 101 Beginning Latin (4)**

(Common Course Number LATI 1411)

Grammar, vocabulary, and readings are introduced. Declensions of nouns, adjectives, pronouns, and conjugations of verbs are studied. Oral reading of simple sentences and written translations are introduced. Emphasis is placed on the value of Latin as background for the study of English and modern Romance languages. (3 Lec., 2 Lab.)

LAT 102 Beginning Latin (4)

(Common Course Number LATI 1412)

Prerequisite: Beginning Latin 101 or the equivalent. This course is a continuation of Latin 101. Introduction to elementary grammatical structures is completed. Vocabulary study is continued. Reading from elementary classics is introduced. Emphasis is placed on the value of Latin as background for the study of English and modern Romance languages. Laboratory fee. (3 Lec., 2 Lab.)

LAT 201 Intermediate Latin (3)

(Common Course Number LATI 2311)

Prerequisite: Latin 102 or the equivalent. The study of grammar is continued in this class. Emphasis is on readings of Latin prose. Emphasis is also placed on the value of Latin as background for the study of English and modern Romance languages. (3 Lec.)

LAT 202 Intermediate Latin (3)

(Common Course Number LATI 2312)

Prerequisite: Latin 201 or the equivalent. This course is a continuation of Latin 201. Latin rhetoric, reading of lyrical and epic poetry, and a Latin comedy are included. Emphasis is placed on the value of Latin as background for the study of English and modern Romance languages. (3 Lec.)

LEGAL ASSISTANT**LA 131 Introduction To Legal Technology (3)**

Prerequisite: Legal Assistant 131 is a prerequisite for all other Legal Assistant courses except Legal Assistant 135. Legal technology is introduced. Topics include the legal technician concept, the legal profession and unauthorized practice, legal ethics and the "new profession" concept. The history and areas of American law are also included. Legal research, bibliography, legal drafting, and writing are also covered. (3 Lec.)

LA 133 Law Of Real Property And Real Estate Transactions (3)

Prerequisites: Legal Assistant 131, 135, and English 101. The law of real property and common real estate transactions are studied. Topics include contracts, leases, and deeds of trust. Problems involved in the drafting of these instruments are examined. The system of recording and the search of public documents are also covered. (3 Lec.)

LA 134 Principles Of Family Law (3)

Prerequisites: Legal Assistant 131, 135, and English 101. Family law is surveyed. Divorce, separation, custody, legitimacy, adoption, change of name, guardianship, support, domestic relations court procedures, and separation agreements are studied. (3 Lec.)

LA 135 Texas And Federal Court Systems (3)

Prerequisite: Legal Assistant 135 is a prerequisite for all other Legal Assistant courses except Legal Assistant 131. The Texas and federal courts are studied. Legal practices related to the courts and principles of court administration are examined. (3 Lec.)

LA 138 Introductory Legal Research And Drafting (3)

Prerequisites: Legal Assistant 131 and 135 and English 101. This course familiarizes the beginning legal assistant student with operation of a typical law library and the use of various legal research materials and tools. General and Texas legal research resources are emphasized. The student also studies legal research terminology, introductory computerized legal research techniques, and "shepardizing." Basic citation form for legal resource material is discussed. The student is given several opportunities to research rudimentary legal problems and write short case reports and legal memoranda. (3 Lec.)

LA 203 Legal Assistant Special Topics (3)

Prerequisites: Legal Assistant 131 and 135 and English 101. Students participate in identifying, defining and analyzing current topics of interest in legal assistant services. The course emphasizes present career needs and problems, and students are guided to offer realistic and workable solutions which include the knowledge of legal concepts and principles involved in legal assistant careers. (3 Lec.)

LA 225 Business Organizations (3)

Prerequisites: Legal Assistant 131, 135, and English 101. This course is a study of the practical aspects of the law of business organizations, including a "how-to-do-it" approach, with explanation of the legal principles which must be observed in counseling and enterprise. This course covers the common law principles of proprietorships and reviews the Uniform Partnership Act, the Uniform Limited Partnership Act, and the Model Business Corporation Act as they have been used and adopted in Texas law. (3 Lec.)

LA 227 Civil Litigation I (3)

Prerequisites: Legal Assistant 131, 135, English 101 or demonstrated competence approved by the instructor. This course is an overview of civil litigation in both state and federal courts with particular emphasis on the areas in which a legal assistant can assist the trial attorney. Particular attention is paid to preparation for litigation (interviewing clients and witnesses, reviewing public information), discovery proceedings (interrogatories, requests for admissions, depositions and document production), pretrial proceedings (motions to dismiss, motions for summary judgment, pretrial orders), and trial (witnesses and exhibits). Attention is also devoted to practical techniques required to cope with protracted or complex litigation, including organization of pleadings, documents and depositions; preparation of summaries, chronologies and indices; and maintaining a complex file in an orderly manner. Mention is made of the legal theories involved in complex litigation (e.g., product liability, civil rights, securities, and antitrust). Principal emphasis is on procedural techniques rather than substantive areas of law. (3 Lec.)

LA 230 Income Taxation (3)

Prerequisites: Legal Assistant 131 and 135 or demonstrated competence approved by the instructor. This course is a study of federal, state and local income taxation including discussion of tax-paying entities such as individuals, estates, trusts and corporations. Emphasis is on training in basic legal research skills related to income tax materials. (3 Lec.)

LA 231 Wills, Trusts, And Probate Administration (3)

Prerequisites: Legal Assistant 131, 133 and 135 or demonstrated competence approved by the instructor. The forms and principles of law for wills and trusts are covered. The organization and jurisdiction of the Texas Probate Court are studied. The administration of estates under the Texas Probate Code is analyzed, and estate and inheritance taxes are reviewed. (3 Lec.)

LA 232 Tort And Insurance Law And Claims Investigation (3)

Prerequisites: Legal Assistant 131, 135, and English 101 or demonstrated competence approved by the instructor. The law of torts and insurance is the focus of this course. The techniques of investigation involved in tort and insurance claims are considered, and the various forms of pleadings for making the claims are studied. (3 Lec.)

LA 234 Personal Property, Sales And Credit Transactions (3)

Prerequisites: Legal Assistant 131, 135, and English 101 or demonstrated competence approved by the instructor. The law of personal property and contracts is presented. Included are the special forms related to the law of sales and credit transactions and special drafting problems of various instruments and legal research projects. The Uniform Commercial Code and its effect are also included. (3 Lec.)

LA 238 Legal Office Management (3)

Prerequisites: Legal Assistant 131 and 135 and English 101. All aspects of law office management are covered. Topics include office organization, bookkeeping and accounting, fees and billing procedures, scheduling and calendaring, and ethics. Management of personnel, proofreading, file preparation, legal drafting, and procedures for specialized areas of law are also included. Trust accounts, law office forms, checklists and files, and disbursement on behalf of clients are covered. (3 Lec.)

LA 240 Advanced Legal Research and Drafting (3)

Prerequisites: Legal Assistant 131, 135 and 138 and English 101. This course familiarizes the students with advanced legal research materials, particularly federal legal resources. Students continue their study from Legal Research 138 of computerized legal research techniques. This course also continues training in citation form begun in Legal Assistant 138. The student is given several opportunities to research various legal problems and to write legal documents such as an appellate brief. (3 Lec.)

LA 248 Constitutional And Criminal Law (3)

Prerequisites: Legal Assistant 131 and 135 and English 101. This course covers freedom of communication and religion, individual privacy, private property and contractual rights, and criminal justice. Also studied are procedural due process and discrimination, rights and privileges of citizenship, states' powers and limitations, theories of federal government and its powers, congressional powers, the presidency, and the courts system and judicial review of constitutional issues. Special emphasis is put on the elements of criminal law and evidence with practice given on drafting documents related to these areas. (3 Lec.)

LA 251 Civil Litigation II (3)

Prerequisite: Legal Assistant 227. This course is a study coordinated with other legal technology courses at an advanced level. It includes specialized study and training in the preparation for and procedures of advanced litigation, including discovery and pretrial procedures, and specialized study of the basic legal concepts of antitrust and securities law, as well as the practical application of those concepts as the predominant topics of advanced litigation. (3 Lec.)

LA 253 Bankruptcy and Creditors' Rights (3)

Prerequisites: Legal Assistant 131 and 135 and English 101. This course provides the student with a historical overview of the Bankruptcy Code, Title 11, U.S.C., and understanding of the stages generally applicable to bankruptcy proceedings. The student will acquire a practical, comprehensive knowledge of chapters 7, 9, 11, and 13 of the Bankruptcy Code; the operations of the United States Trustee's Office; recovery of fraudulent and preferential transfers; creditors' rights under the Bankruptcy Code; and use of bankruptcy forms and schedules. Emphasis is put on preparation of documents related to this topic. (3 Lec.)

LA 255 Oil And Gas Law (3)

Prerequisite: Legal Assistant 133 or demonstrated competence approved by the instructor. Oil and gas law's history, terminology, and principle instruments are examined. Litigation of oil and gas matters, title determination, division of interest, and major regulatory agencies are also discussed. (3 Lec.)

LA 703 Cooperative Work Experience (3)

Prerequisites: Completion of two courses in the Legal Assistant program or instructor approval. This course combines productive work experience with academic study. The student, employer and instructor develop a written competency-based learning plan with varied objectives and work experiences. Students must develop new learning objectives each semester. The seminar consists of topics which include preparation of resumes, job application and interview techniques, organizational skills and building self-esteem. (1 Lec., 15 Lab.)

LA 704 Cooperative Work Experience (4)

Prerequisites: Completion of two courses in the Legal Assistant program or instructor approval. This course combines productive work experience with academic study. The student, employer and instructor develop a written competency-based learning plan with varied learning objectives and work experiences. Students must develop new learning objectives each semester. The seminar consists of topics which include preparation of resumes, job application and interview techniques, organizational skills and building self-esteem. (1 Lec., 20 Lab.)

LA 713 Cooperative Work Experience (3)

Prerequisites: Completion of two courses in the Legal Assistant program or instructor approval. This course combines productive work experience with academic study. The student, employer and instructor will develop a written competency-based learning plan with varied learning objectives each semester. The seminar consists of topics which include job site interpersonal relations, employer expectations of employees, analysis of job market research and changing jobs. (1 Lec., 15 Lab.)

LA 714 Cooperative Work Experience (4)

Prerequisites: Completion of two courses in the Legal Assistant program or instructor approval. This course combines productive work experience with academic study. The student, employer and instructor will develop a written competency-based learning plan with varied learning objectives each semester. The seminar consists of topics which include job site interpersonal relations, employer expectations of employees, analysis of job market research and changing jobs. (1 Lec., 20 Lab.)

LIBRARY SKILLS

LS 102 College Library Research Methods and Materials (3)

This course is a survey of college research methodologies and materials with emphasis on search strategies appropriate for college-level research in the undergraduate disciplines, the structure and assessment of information sources within society, and the organization of academic libraries. Attention will also be given to the formal presentation of research results, including models of academic writing, bibliographic preparation and documentation standards. (3 Lec.)

MACHINE SHOP

MS 130 Introduction To Turning And Milling (3)

This is a basic course designed to provide practical and theoretical experience on the lathe and milling machine. A series of lab exercises will provide the student with hands on experience in set up and operation of the machines. All lab exercises will be produced using engineering drawings. Precision tools will be used to measure drawing tolerances. Special emphasis will be placed on safety and good housekeeping in a machine shop environment. (1 Lec., 4 Lab.)

MS 133 Basic Lathe (5)

Practical experience is provided in the use of hand tools, layout, and hand threading. Various types of drill press work and engine lathe operations are introduced. Emphasis is on safety measures. The types and uses of machine oils, greases, coolants, and cutting oils are also included. Laboratory fee. (1 Lec., 8 Lab.)

MS 134 Basic Milling Machine (5)

This course focuses on hand threading. Drill press work and milling machine operations are presented. Machine parts, cutters, and arbors are covered. Emphasis is on safety measures. The types and uses of machine oils, greases, coolants, and cutting oils are also included. Laboratory fee. (1 Lec., 8 Lab.)

MS 135 Intermediate Lathe (5)

Prerequisite: Machine Shop 133. This course is the intermediate study of the engine lathe. Workpieces are more complicated and tolerances more exacting. Various machines and work holding methods are used. Precision layout and measuring tools are used. Precision layout and measuring tools are introduced. Additional work in determining cutting speeds and feeds is also included. Laboratory fee. (1 Lec., 8 Lab.)

MS 136 Intermediate Milling Machine (5)

Prerequisite: Machine Shop 134. This course is the intermediate study of the milling machine. Workpieces are more complicated and tolerances more exacting. Various machines and work holding methods are used. Precision layout and measuring tools are introduced. Additional work in determining cutting speeds and feeds is also included. Laboratory fee. (1 Lec., 8 Lab.)

MS 145 Special Topics (1)

This course is for those people who are working as machinists, toolmakers, diemakers, etc., who wish to review old or little used skills or to acquire skills needed in today's rapidly changing metal working field. This course may be repeated for credit when the topics vary. Laboratory fee. (1 Lec.)

MS 151 Basic Machine Operation For Weld Tooling (3)

Simple weld tooling is studied. Shop safety is stressed. Actual weld fixture components and weld fixtures are made using engine lathes, the milling machine, and drill presses. Laboratory fee. (1 Lec., 4 Lab.)

MS 233 Advanced Lathe (5)

This course is the advanced study of the engine lathe. Skill is developed in making open setups and in locating holes by means of layout and triangulation. Various attachments and accessories are used. Surface grinding and grinding wheel safety are introduced. Laboratory fee. (1 Lec., 8 Lab.)

MS 234 Advanced Milling Machine (5)

This course is the advanced study of the milling machine. Skill is developed in making open setups and in locating holes by means of layout and triangulation. Various attachments and accessories are used. Surface grinding and grinding wheel safety are introduced. Laboratory fee. (1 Lec., 8 Lab.)

MS 235 Applied Lathe (5)

Students are encouraged to take Machine Shop 236 concurrently with Machine Shop 235. In this course the student must independently carry out assignments on the lathe. Emphasis is on the interchangeability of workpieces, fits, and finishes. Initiative and ingenuity are encouraged. Tool and cutter grinding is introduced. Laboratory fee. (1 Lec., 8 Lab.)

MS 236 Applied Milling Machine (5)

The student is encouraged to take Machine Shop 235 concurrently with Machine Shop 236. In this course the student must independently carry out assignments on the milling machine. Emphasis is on the interchangeability of workpieces, fits, and finishes. Initiative and ingenuity are encouraged. Tool and cutter grinding is introduced. Laboratory fee. (1 Lec., 8 Lab.)

MS 702 Cooperative Work Experience (2)

Prerequisite: Completion of two courses in the Machine Shop program or instructor approval. This course combines productive work experience with academic study. The student, employer and instructor will develop a written competency-based learning plan with varied learning objectives and work experiences. Students must develop new learning objectives each semester. The seminar consists of topics which include job interview and job application techniques, job site interpersonal relations, and employer expectations of employees. (1 Lec., 10 Lab.)

MS 704 Cooperative Work Experience (4)

Prerequisite: Completion of two courses in the Machine Shop program or instructor approval. This course combines productive work experience with academic study. The student, employer and instructor will develop a written competency-based learning plan with varied learning objectives and work experiences. Students must develop new learning objectives each semester. The seminar consists of topics which include job interview and job application techniques, job site interpersonal relations, and employer expectations of employees. (1 Lec., 20 Lab.)

MS 712 Cooperative Work Experience (2)

Prerequisite: Completion of two courses in the Machine Shop program or instructor approval. This course combines productive work experience with academic study. The student, employer and instructor will develop a written competency-based learning plan with varied learning objectives and work experiences. Students must develop new learning objectives each semester. The seminar consists of topics which include preparation of resumes, changing jobs, supervising subordinates, and building self-esteem. (1 Lec., 10 Lab.)

MS 714 Cooperative Work Experience (4)

Prerequisite: Completion of two courses in the Machine Shop program or instructor approval. This course combines productive work experience with academic study. The student, employer and instructor will develop a written competency-based learning plan with varied learning objectives and work experiences. Students must develop new learning objectives each semester. The seminar consists of topics which include preparation of resumes, changing jobs, supervising subordinates, and building self-esteem. (1 Lec., 20 Lab.)

MANAGEMENT**MGT 136 Principles Of Management (3)**

This course emphasizes the managerial functions of planning, organizing, staffing, directing, and controlling. Communication, motivation, leadership, and decision making are included. (3 Lec.)

MGT 153 Small Business Management (3)

Small Business Management presents an introductory view of the basic entrepreneurial strategies for planning, financing, establishing, and operating a small business. Resources for both initial start-up and day-to-day operations are emphasized including market research, site selection, and such services as financial, legal, and accounting. (3 Lec.)

MGT 160 Principles Of Purchasing (3)

An introduction to the purchasing function is provided. The course covers purchasing tasks and responsibilities, analytical techniques in buying, organizational interrelationships and coordination, measurement and control, and legal implications. Special emphasis is placed on the five tenets of buying: quality, quantity, time, price and source. (3 Lec.)

MGT 171 Introduction To Supervision (3)

This course is a study of today's supervisors and their problems. The practical concepts of modern-day, first-line supervision are described. Emphasis is on the supervisor's major functions, such as facilitating relations with others, leading, motivating, communicating, and counseling. (3 Lec.)

MGT 210 Small Business Capitalization, Acquisition And Finance (3)

Prerequisite: Accounting 201 or demonstrated competence approved by instructor. The student studies alternative strategies of financial planning, capitalization, profits, acquisition, ratio analysis, and other related financial operations required of small business owners. The preparation and presentation of a loan proposal are included. (3 Lec.)

MGT 211 Small Business Operations (3)

Skills in decision making necessary for the operation of a small business are covered. Topics include strategic planning, forecasting, organizational structure, and the expansion of such business functions as human resources, marketing, finance and accounting, purchasing, and control processes. (3 Lec.)

MGT 212 Special Problems In Business (1)

Each student will participate in the definition and analysis of current business problems. Special emphasis will be placed on relevant problems and pragmatic solutions that integrate total knowledge of the business process in American society. This course may be repeated for credit up to a maximum of three credit hours. (1 Lec.)

MGT 237 Organizational Behavior (3)

The persisting human problems of administration in modern organizations are covered. The theory and methods of behavioral science as they relate to organizations are included. (3 Lec.)

MGT 242 Human Resources Management (3)

This course presents the fundamentals, theories, principles, and practices of people management. Emphasis is on people and their employment. Topics include recruitment, selection, training, job development, interactions with others, labor/management relations, and government regulations. The managerial functions of planning, organizing, staffing, directing, and controlling are also covered. (3 Lec.)

MGT 244 Problem Solving And Decision-Making (3)

The decision-making process and problem-solving as key components are the focus of this course. Topics include: individual, group, and organizational decision-making; logical and creative problem-solving techniques; and the use of decision aids by managers. Application of theory is provided by experiential activities such as small group discussions, case studies, and simulations. (3 Lec.)

MGT 704 Cooperative Work Experience (4)

Prerequisite: Previous credit in or concurrent enrollment in Management 171 or demonstrated competence approved by the instructor. This course is designed to develop the student's managerial skills through the completion of a written competency-based learning plan describing varied student learning objectives and planned work experience. Emphasis is on improving leadership skills and goal-setting. (1 Lec., 20 Lab.)

MGT 714 Cooperative Work Experience (4)

Prerequisite: Previous credit in or concurrent enrollment in Management 242 or demonstrated competence approved by the instructor. This course is designed to develop the student's managerial skills through the completion of a written competency-based learning plan describing varied student learning objectives and planned work experience. Emphasis is on the role of managers in job analysis/job descriptions and interviewing techniques. (1 Lec., 20 Lab.)

MGT 804 Cooperative Work Experience (4)

Prerequisite: Previous credit in or concurrent enrollment in Management 237 or demonstrated competence approved by the instructor. This course is designed to develop the student's managerial skills through the completion of a written competency-based learning plan describing varied student learning objectives and planned work experience. Emphasis is on improving motivational techniques and communicating. (1 Lec., 20 Lab.)

MGT 814 Cooperative Work Experience (4)

Prerequisite: Previous credit in or concurrent enrollment in Management 244 or demonstrated competence approved by the instructor. This course is designed to develop the competency-based learning plan describing varied student learning objectives and planned work experience. Emphasis is on individual and group decision-making and rational and creative problem solving. (1 Lec., 20 Lab.)

(PSA) See POSTAL SERVICE ADMINISTRATION

(TRT) See TRANSPORTATION TECHNOLOGY

MANUFACTURING ENGINEERING TECHNOLOGY**MET 231 Engineering Materials (3)**

This course is a study of common engineering materials. Emphasis is on material characteristics and modern industrial applications. (3 Lec.)

MET 234 Production And Inventory Control (3)

This course is a study of methods used in controlling production and inventory. Areas covered include demand forecasting, order quantities, scheduling and dispatching. Computer applications are introduced. (3 Lec.)

MET 235 Industrial Safety (3)

This course is a study of accident and loss prevention in modern industry. Inspections, investigations, record keeping, training, laws, codes, workman's compensation, insurance and problem solving are included. (3 Lec.)

MET 238 Principles Of Work Measurement (3)

This course covers the fundamentals of time and motion study procedures including use of samplings, formulas, charts, diagrams, and equipment. Emphasis is on improving productivity. (3 Lec.)

MARKETING**MKT 137 Principles Of Retailing (3)**

The operation of the retail system of distribution is examined. Topics include consumer demand, requirements, computer use, store location and layout, and credit policies. Interrelationships are emphasized. (3 Lec.)

MKT 206 Principles Of Marketing (3)

The scope and structure of marketing are examined. Marketing functions, consumer behavior, market research, sales forecasting, and relevant state and federal laws are analyzed. (3 Lec.)

MKT 211 Special Topics In Fashion Marketing (1)

Selected topics in fashion marketing are presented in this course which may include display, fashion show production and modeling, fashion markets, apparel production, and international influences. Special topics may vary from semester to semester to address contemporary concerns. This course may be repeated for credit when topics vary, up to a maximum of three credit hours. (1 Lec.)

MKT 212 Special Topics In Fashion Marketing (2)

Selected topics in fashion marketing are presented in this course which may include display, fashion show production and modeling, fashion markets, apparel production, and international influences. Special topics may vary from semester to semester to address contemporary concerns. This course may be repeated for credit as the topics vary. (2 Lec.)

MKT 222 Fashion Show Production (2)

Students will learn artistic fashion presentation essential in apparel promotion. The topics included are show themes, set design, apparel selection, accessories, make-up, modeling, commentary, direction, staging, music, lighting, budgeting and scheduling. Student productions and attendance of fashion shows are emphasized. Laboratory fee. (2 Lec.)

MKT 223 Special Topics In Fashion Marketing (3)

Selected topics in fashion marketing are presented in this course which may include display, fashion show production and modeling, fashion markets, apparel production, and international influences. Special topics may vary from semester to semester to address contemporary concerns. This course may be repeated for credit as topics vary. (3 Lec.)

MKT 230 Salesmanship (3)

The selling of goods and ideas is the focus of this course. Buying motives, sales psychology, customer approach, and sales techniques are studied. (3 Lec.)

MKT 233 Advertising And Sales Promotion (3)

This course introduces the principles, practices, and media of persuasive communication. Topics include buyer behavior, use of advertising media, and methods of stimulating sales people and retailers. The management of promotion programs is covered, including goals, strategies, evaluation, and control of promotional activities. (3 Lec.)

MKT 239 Automated Inventory Management (3)

Through the use of computer models, students will operate their own fashion retail stores with emphasis on inventory management. Intensive practice with buying, markdowns, price tag generation, sales, and analysis will be emphasized. Accounts payable for store vendors, and accounts receivable for store customers will also be covered. Laboratory fee. (3 Lec., 1 Lab.)

MKT 251 Visual Merchandising (3)

Concepts and skills essential to effectively promote fashion merchandise are the focus of this course. Experience will be gained in principles and elements of design, color, props, lighting, sign layout, budget, themes and sources of materials. These components will be applied to the creation of interior and window displays that sell. Laboratory fee. (3 Lec., 1 Lab.)

MKT 290 Fashion Buying (3)

This course focuses on the principles of fashion buying. It is designed to prepare the student for employment as an assistant buyer or buyer of fashion merchandise. (3 Lec.)

MKT 291 Fashion Merchandising (3)

This course introduces the field of fashion. Emphasis is on its historical development and trends, career opportunities, marketers, and merchandising methods. (3 Lec.)

MKT 292 Fashion Design (3)

This course is an introductory study in the fields of apparel manufacturing and design. Color, theory, design principles, silhouette, and organization of women's, men's, and children's wear lines will be explored. Emphasis will be placed on design theory rather than actual practice. (3 Lec.)

MKT 703 Cooperative Work Experience (3)

Prerequisite: Completion of two courses in the Fashion Marketing, or Sales, Marketing and Retail programs or demonstrated competence approved by the instructor. This course combines productive work experience with academic study. The student, employer and instructor will develop a written competency-based learning plan with varied learning objectives and work experiences. Students must develop new learning objectives each semester. Seminar topics will include personal issues, business ethics, customer service and interpersonal skills. Analysis and evaluation of job performance will be completed by faculty and employer. (1 Lec., 15 Lab.)

MKT 713 Cooperative Work Experience (3)

Prerequisite: Previous credit in Marketing 703, completion of two courses in the Fashion Marketing or Sales, Marketing and Retail programs or demonstrated competence approved by the instructor. This course combines productive work experience with academic study. The student, employer and instructor will develop a written competency-based learning plan with varied learning objectives and work experience. Students must develop new learning objectives each semester. Seminar topics in the areas of business, communications, organizational behavior, networking, and professional organizations will be included. Analysis and evaluation of job performance will be completed by faculty and employer. (1 Lec., 15 Lab.)

MATHEMATICS

(See Developmental Mathematics also. Supplementary instruction in mathematics is available through the Learning Resources Center.)

MTH 101 College Algebra (3)

(Common course number MATH 1314)

Prerequisites: Two years of high school algebra and an appropriate assessment test score or Developmental Mathematics 093. This course is a study of relations and functions including polynomial, rational, exponential, logarithmic, and special functions. Other topics include variation, complex numbers, systems of equations and inequalities, theory of equations, progressions, the binomial theorem, proofs, and applications. (3 Lec.)

MTH 102 Plane Trigonometry (3)

(Common course number MATH 1316)

Prerequisite: Mathematics 101 or equivalent. This course is a study of angular measures, functions of angles, identities, solutions of triangles, equations, inverse trigonometric functions, and complex numbers. (3 Lec.)

MTH 103 College Algebra (3)

Prerequisites: Two years of high school algebra and an appropriate assessment score or Developmental Mathematics 093. This course is a study of relations and functions including polynomial, rational, exponential, logarithmic, and special functions. Other topics include variation, complex numbers, systems of equations and inequalities, theory of equations, progressions, the binomial theorem, proofs, and applications. (4 Lec.)

MTH 109 Precalculus Mathematics (4)

(Common course number MATH 2312)

Prerequisites: Two years of high school algebra and trigonometry and an appropriate assessment test score. This course consists of the application of algebra and trigonometry to the study of polynomial, rational, exponential, logarithmic and trigonometric functions and their graphs. Conic sections, polar coordinates, and other topics of analytic geometry will be included. (4 Lec.)

MTH 111 Mathematics For Business And Economics I (3)

(Common course number MATH 1324)

Prerequisites: Two years of high school algebra and an appropriate assessment test score or Developmental Mathematics 093. This course includes equations, inequalities, matrices, linear programming; linear, quadratic, polynomial, rational, exponential, and logarithmic functions; and probability. Applications to business and economics problems are emphasized. (3 Lec.)

MTH 112 Mathematics For Business And Economics II (3)

(Common course number MATH 1325)

Prerequisite: Mathematics 111. This course includes limits, differential calculus, integral calculus, and appropriate applications. (3 Lec.)

MTH 115 College Mathematics I (3)

(Common course number MATH 1332)

Prerequisites: Two years of high school algebra and an appropriate assessment test score or Developmental Mathematics 093. Designed for liberal arts students, this course includes the study of sets, logic, sets of numbers, and mathematical systems. Additional topics will be selected from mathematics of finance, introduction to computers, introduction to statistics, and introduction to matrices. Recreational and historical aspects of selected topics are also included. (3 Lec.)

MTH 116 College Mathematics II (3)

(Common course number MATH 1333)

Prerequisites: Two years of high school algebra and an appropriate assessment test score or Developmental Mathematics 093. Designed for liberal arts students, this course includes the study of algebra, linear programming, permutations, combinations, probability, and geometry. Recreational and historical aspects of selected topics are also included. (3 Lec.)

MTH 117 Fundamental Concepts Of Mathematics For Elementary Teachers (3)

(Common course number MATH 1335)

Prerequisites: Two years of high school algebra and an appropriate assessment test score or Developmental Mathematics 093. This course includes the structure of the real number system and geometry. Emphasis is on the development of mathematical reasoning needed for elementary teachers. (3 Lec.)

MTH 121 Analytic Geometry (3)

(Common course number MATH 1348)

Prerequisite: Mathematics 102 or equivalent. This course is a study of the real numbers, distance, the straight line, conics, transformation of coordinates, polar coordinates, parametric equations, and three-dimensional space. (3 Lec.)

MTH 124 Calculus I (5)

(Common course number MATH 2513)

Prerequisite: Mathematics 109 or 121 or equivalent. This course is a study of limits, continuity, derivatives, and integrals of algebraic and transcendental functions; with applications. (5 Lec.)

MTH 130 Business Mathematics (3)

Prerequisites: One year of high school algebra and an appropriate assessment test score or Developmental Mathematics 091 or the equivalent. This course is intended primarily for students in specialized occupational programs. It is a study of simple and compound interest, bank discount, payrolls, taxes, insurance, mark up and mark down, corporate securities, depreciation, and purchase discounts. (3 Lec.)

MTH 136 Mathematics for Allied Health (3)

Prerequisite: Developmental Mathematics 090 or an appropriate test score. This course is a study of percents, apothecary system, metric system, linear equations, literal equations, gas laws, magnification laws, and statistics which includes histograms, bar graphs, pie-charts, averages, standard deviations and variances. Also included are basic concepts of geometry. (3 Lec.)

MTH 139 Applied Mathematics (3)

The course is a study of commercial, technical, and other applied uses of mathematics. Topics vary to fit the needs of the students enrolled in a particular technical/occupational program. The prerequisite will vary accordingly and be determined by the needed skills. (3 Lec.)

MTH 195 Technical Mathematics I (3)

Prerequisites: One year of high school algebra and an appropriate assessment test score or Developmental Mathematics 091 or the equivalent. This course is designed for technical students. It covers the basic concepts and fundamental facts of plane and solid geometry, computational techniques and devices, units and dimensions, the terminology and concepts of elementary algebra, functions, coordinate systems, simultaneous equations, and stated problems. (3 Lec.)

MTH 196 Technical Mathematics II (3)

Prerequisite: Mathematics 195. This course is designed for technical students. It includes a study of topics in algebra, an introduction to logarithms, and an introduction to trigonometry, trigonometric functions, and the solution of triangles. (3 Lec.)

MTH 202 Introductory Statistics (3)

(Common course number MATH 1342)

Prerequisite: Two years of high school algebra or demonstrated competence approved by the instructor. This course is a study of collection and tabulation of data, bar charts, graphs, sampling, measures of central tendency and variability, correlation, index numbers, statistical distributions, probability, and application to various fields. (3 Lec.)

MTH 215 Discrete Mathematics (3)

(Common course number MATH 2305)

Prerequisites: Mathematics 124 and an introductory programming course. This course is a study of sets, algebraic structures (relations, functions, groups, and Boolean Algebra), combinatorics, graphs, logic, algorithms, and applications to computing devices. (3 Lec.)

MTH 221 Linear Algebra (3)

(Common course number MATH 2318)

Prerequisite: Mathematics 124 or equivalent. This course is a study of matrices, linear equations, dot products, cross products, geometrical vectors, determinants, n-dimensional space, and linear transformations. (3 Lec.)

MTH 225 Calculus II (4)

(Common course number MATH 2414)

Prerequisite: Mathematics 124 or the equivalent. This course is a study of techniques of integration, polar coordinates, parametric equations, topics in vector calculus, sequences, series, indeterminate forms, and partial differentiation with applications. (4 Lec.)

MTH 226 Calculus III (3)

(Common course number MATH 2315)

Prerequisite: Mathematics 225 or the equivalent. This course is a study of topics in vector calculus, functions of several variables, and multiple integrals, with applications. (3 Lec.)

MTH 230 Differential Equations (3)

(Common course number MATH 2320)

Prerequisite: Mathematics 225 or demonstrated competence approved by the instructor. This course is a study of ordinary differential equations, including linear equations, systems of equations, equations with variable coefficients, existence and uniqueness of solutions, series solutions, singular points, transform methods, boundary value problems, and applications. (3 Lec.)

MTH 297 Technical Mathematics III (3)

Prerequisite: Mathematics 196. This course will introduce the concepts and applications of calculus used in the field of Engineering Technology. Included are basic concepts from analytic geometry, differential calculus, and integral calculus. Practical application of the derivative and of integration in technology will be emphasized. (3 Lec.)

MEDICAL LABORATORY TECHNOLOGY

MLT 130 Introduction Seminar (1)

Prerequisite: Acceptance into the Medical Laboratory Technology Program. Laboratory mathematics with clinical applications, quality assurance, laboratory safety, phlebotomy and medical ethics are presented. Laboratory fee. (2 Lab.)

MLT 133 Hematology (4)

Prerequisite: Acceptance into the Medical Laboratory Technician Program and concurrent enrollment in Medical Laboratory Technology 130 and 134. The theory and basic techniques used in the hematological examination of blood are presented. Laboratory fee. (3 Lec., 4 Lab.)

MLT 134 Instrumentation (2)

Prerequisites: Acceptance into the Medical Laboratory Technology Program and a minimum grade of "C" or concurrent enrollment in Medical Lab Technology 130. The theory of laboratory instruments including microscopes, centrifuges, hematological and clinical chemistry instrumentation is presented. Trouble shooting problems is included. Laboratory fee. (1 Lec., 3 Lab.)

MLT 136 Immunology/Serology (3)

Prerequisites: Minimum grade of "C" in Medical Laboratory Technology 130 or demonstrated competence approved by instructor. The theory and practice of clinical immunology are presented. Serological laboratory procedures are performed and applied to diagnostic correlations. Laboratory fee. (2 Lec., 3 Lab.)

MLT 137 Immunohematology (3)

Prerequisites: Acceptance into the Medical Laboratory Technology Program and a minimum grade of "C", or concurrent enrollment in Medical Lab Technology 136. The theory and practice of clinical immunohematology are presented. An overview of modern blood banking will include component preparation to specialized testing necessary for antibody identification. Laboratory fee. (2 Lec., 4 Lab.)

MLT 141 Clinical Practice I (4)

Prerequisites: Minimum grade of "C" in all previous Medical Laboratory Technology course work and an overall minimum grade of "C" in nontechnical course work. This course provides supervised clinical practice in hematology, serology, and blood banking. The student is assigned to a clinical laboratory. (35 Lab.)

MLT 225 Urinalysis And Body Fluids (3)

Prerequisites: Minimum grade of "C" in Medical Laboratory Technology 130, 134 and 137 or demonstrated competence approved by the instructor. This course is a study of the theory and laboratory procedures used in the analysis of urine and other body fluids. Laboratory fee. (2 Lec., 4 Lab.)

MLT 229 Medical Microbiology I (4)

Prerequisites: Completion of the first year of the Medical Laboratory Technology Program or demonstrated competence approved by the instructor. The fundamentals of microbial life are studied. Methods and procedures used in diagnostic microbiology are covered. Included are the principles of aseptic techniques, susceptibility testing of bacteria, quantification of selected bacteria. The normal body flora are discussed, and the relationship of these bacteria to disease in humans is emphasized. Laboratory fee. (3 Lec., 4 Lec.)

MLT 231 Clinical Chemistry (4)

Prerequisites: Minimum grade of "C" in Medical Laboratory Technology 229 and completion of Chemistry 203. This course focuses on the theory and procedures used in the clinical chemistry laboratory. Both manual and automated methods are presented in lectures and laboratory assignments. Laboratory fee. (3 Lec., 4 Lab.)

MLT 236 Medical Microbiology II (4)

Prerequisite: Minimum grade of "C" in Medical Laboratory Technology 229. This course is a continuation of Medical Laboratory Technology 229. It includes the study of the isolation and identification procedures for selected bacteria, fungi, and parasites. Laboratory fee. (3 Lec., 4 Lab.)

MLT 241 Clinical Practice II (4)

Prerequisites: Minimum grade of "C" in all previous Medical Laboratory Technology course work and an overall minimum grade of "C" in nontechnical course work. This course provides supervised clinical practice in diagnostic microbiology and clinical chemistry and urinalysis. The student is assigned to a clinical laboratory. (35 Lab.)

MEDICAL TRANSCRIPTION**MTR 131 Medical Terminology (4)**

Prerequisite: Admission to Medical Transcription program and concurrent enrollment in Biology 123 or approval by the instructor. This course is a study of the basic structure of medical words. Included are prefixes, suffixes, roots, combining forms and plurals. Emphasis is on pronunciation, spelling, and definitions. Exercises in the use of the medical dictionary are included. (4 Lec.)

MTR 133 Fundamentals of Medical Transcription (3)

Prerequisite: Admission to the Medical Transcription program and typing skills of 50 words per minute corrected or instructor approval. This course is an introduction to the health care record and medical documentation. Included will be transcription of basic medical dictation utilizing English mechanics and machine transcription skills. Proofreading, editing and accuracy and production will be stressed. Medicolegal and ethics issues will also be covered. Laboratory fee. (2 Lec., 3 Lab.)

MTR 135 Disease Processes I (2)

This course includes the study of common human disease conditions, including prevention, etiology, signs and symptoms, diagnostic and treatment modalities and prognosis. Medical references will be used for research and verification. (2 Lec.)

MTR 137 Introduction to Medical Word Processing (2)

Prerequisite: Admission to the Medical Transcription program. This course is designed to introduce students to the concepts of word processing with actual experience in composing, dictating, and producing simulated written communications as used in the medical field. Laboratory fee. (1 Lec., 2 Lab.)

MTR 141 Medical Transcription (4)

Prerequisite: Admission to the Medical Transcription program and completion of Medical Transcription 133 and prior course work with a "C" or better or instructor approval. Speed and accuracy in transcription, use of transcribing equipment, and medical- surgical terminology are all included in this course. Practice in completing medical forms, transcribing medical-surgical reports, and handling medical correspondence is emphasized. Laboratory fee. (2 Lec., 6 Lab.)

MTR 145 Disease Processes II (4)

Prerequisite: "C" or better in previous courses and completion of Medical Transcription 135. This course is a continuation of Medical Transcription 135. Common human disease conditions will be covered. Included will be prevention, etiology, signs and symptoms, diagnostic and treatment modalities and prognosis. (4 Lec.)

MTR 714 Cooperative Work Experience (4)

Prerequisite: Completion of all Medical Transcription course work with a "C" or better or the ability to transcribe 50 corrected words per minute with less than three errors per page, in Medical Transcription 133 or coordinator approval. This course combines productive work experience with academic study. The student, employer and instructor will develop a written competency-based learning plan with varied learning objectives each semester. The seminar will consist of exploration and analysis of the impact of the work environment on the medical transcriptionist. Resources for professional and career development will be included. (1 Lec., 20 Lab.)

MORTGAGE BANKING**MB 101 Loan Origination (3)**

This course provides the student with an introduction to the mortgage loan application process. Topics include regulatory compliance and documentation, real estate sales contracts, how to pre-qualify borrowers and how to explain the mortgage application to borrowers. (3 Lec.)

MB 102 Loan Underwriting (3)

This course is designed to provide the student with an in-depth training of mortgage loan underwriting for all facets of conventional loans as well as some discussion of FHA/VA lending practices. It provides a thorough understanding of Underwriting Guidelines as set forth by the Federal National Mortgage Association, Federal Home Loan Mortgage Corporation and most institutional type lenders. Topics include analyzing and evaluating documentation, analyzing IRS forms and working with private and secondary market investors. (3 Lec.)

MB 103 Loan Closing (3)

This course provides the student with comprehensive training in mortgage loan closing with an in-depth study of title commitments/policies, engineer's survey, deed restrictions, and various documents (legal and other) used for residential mortgage loans. (3 Lec.)

MB 104 Loan Quality Control (1)

This course provides the student with the understanding of quality control, its purpose and procedure. The student will learn to distinguish abnormal unacceptable transactions as well as to resolve the deficiencies noted. (1 Lec.)

MB 205 Loan Servicing (3)

This specialized course examines how mortgage lenders handle loans from the time a loan is closed until the final payment is made. The course focuses on the legal aspects and actual procedures used in the daily operations of the loan servicing function. Topics include escrow accounting, contract servicing, governmental regulations, taxing authorities and establishing tax rates and economic impacts of delinquency. (3 Lec.)

MB 206 Secondary Market (3)

This course provides a study of the purpose of the secondary mortgage market and its history. Included are review of the policies and programs of the major secondary market conduits; review of the basic strategies used in the selling of closed real estate mortgages into the secondary market; conventional and government segments; mortgage backed securities and bonds; regulatory requirements; GNMA mortgage backed securities; preparing and completing loans for sale and in servicing sold loans. Other topics are institutional and non-institutional lenders and characteristics provided; overview of types of mortgages; history, and alternative mortgage instruments. (3 Lec.)

MB 207 Investor Accounting (3)

This course provides the student with an introduction to accounting and investor reporting functions that relate to the financial aspects of servicing mortgages that are in either a first or second position. Topics include custodial and remittance accounting methods, reporting procedures and rules for establishment of a custodial account. (3 Lec.)

MB 704 Cooperative Work Experience (4)

Prerequisites: Completion of two core Mortgage Banking courses, concurrent enrollment in a core or related course or instructor approval. This course combines productive work experience with academic study. The student, employer and instructor will develop a written competency-based learning plan with varied learning objectives and work experiences. Students must develop new learning objectives each semester. The seminar consists of the development of a personalized on-the-job training plan and discussions with field experts on the application of mortgage banking fundamentals which may include finance, law, lending practices, government regulations and servicing. (1 lec., 20 Lab.)

MB 714 Cooperative Work Experience (4)

Prerequisites: Completion of two core Mortgage Banking courses, concurrent enrollment in a core or related course or instructor approval. This course combines productive work experience with academic study. The student, employer and instructor will develop a written competency-based learning plan with varied learning objectives and work experiences. Students must develop new learning objectives each semester. The seminar consists of the development of a personalized on-the-job training plan and discussions with field experts on the application of mortgage banking fundamentals which may include finance, law, lending practices, government regulations and servicing. (1 Lec., 20 Lab.)

MOTORCYCLE MECHANICS**MM 134 Motorcycle Service Principles (4)**

This course includes the principles of operation and failure analysis of two and four cycle engines. The principles of basic electricity as applied to motorcycles are also covered. Laboratory fee. (120 Contact Hours)

MM 135 Motorcycle Tune-Up (4)

This course covers the tune-up procedures for two and four cycle motorcycles, including ignition service, carburetion theory and service, and complete adjustment procedures. Laboratory fee. (120 Contact Hours)

MM 136 Motorcycle Two Stroke Engine/Transmission (4)

This course includes overhaul procedures for two stroke motorcycle engines and transmissions. Laboratory fee. (120 Contact Hours)

MM 137 Motorcycle Four Stroke Engine/Transmission (4)

This course includes overhaul procedures for four stroke motorcycle engines and transmissions. Laboratory fee. (120 Contact Hours)

MM 138 Motorcycle Electrical Systems (4)

This course includes the theory of operation and troubleshooting procedures for motorcycle ignition, charging systems, and accessories. Laboratory fee. (120 Contact Hours)

MM 139 Motorcycle Chassis And Drive Systems (4)

Included in this course is the theory of operation and service procedures for motorcycle front and rear suspensions, wheel and brake systems, and final drives. Laboratory fee. (120 Contact Hours)

MM 703 Cooperative Work Experience (3)

Prerequisite: Completion of two courses in the Motorcycle Mechanics program or instructor approval. This course combines productive work experience with academic study. The student, employer and instructor will develop a written competency-based learning plan with varied learning objectives and work experiences. Students must develop new learning objectives each semester. The seminar consists of topics which include job interview and job application techniques, job site interpersonal relations, employer expectations of employees and service repair liability. (1 Lec., 15 Lab.)

MUSIC**MUS 103 Guitar Ensemble (1)**

(Common course number MUSI 1137)

Music composed and arranged for a guitar ensemble is performed. Works for a guitar and a different instrument or for guitar and a voice are also included. This course may be repeated for credit. (3 Lab.)

MUS 104 Music Appreciation (3)

(Common course number MUSI 1306)

The basic elements of music are surveyed and examined in the music literature of western civilization, particularly from the Baroque Period to the present. Cultural influences on the music of each era are observed. (3 Lec.)

MUS 105 Italian Diction (1)

(Common course number MUSI 1160)

The phonetic sounds of the Italian language are studied. Included is selected vocabulary. This course is primarily for voice majors. (2 Lab.)

MUS 106 French Diction (1)

(Common course number MUSI 2161)

The phonetic sounds of the French language are studied. Included is selected vocabulary. This course is primarily for voice majors. (2 Lab.)

MUS 107 German Diction (1)

(Common course number MUSI 2160)

The phonetic sounds of the German language are studied. Included is selected vocabulary. This course is primarily for voice majors. (2 Lab.)

MUS 108 English Diction (1)

(Common course number MUSI 1161)

The phonetic sounds of the English language are studied. Included is selected vocabulary. This course is primarily for voice majors. (2 Lab.)

MUS 110 Music Literature (3)

(Common course number MUSI 1308)

The music of recognized composers in the major periods of music history is examined. Topics include the characteristics of sound, elements of music, performance media, and musical texture. Emphasis is on the music of the late Gothic, Renaissance, and Baroque eras. (3 Lec.)

MUS 111 Music Literature (3)

(Common course number MUSI 1309)

This course is a continuation of Music 110. The compositional procedures and forms used by composers are studied. Emphasis is on the Classical, Romantic, and Modern periods. (3 Lec.)

MUS 112 Guitar Literature And Materials (3)

The body of music for the guitar is surveyed. Emphasis is on the repertoire of instruments in the guitar family, such as the lute. Transcription and arranging are studied as well as the selection of a program for public performance. (3 Lec.)

MUS 113 Foundations Of Music I (3)

(Common course number MUSI 1300)

This course is the initial course to prepare students with limited music training for Music 145. It focuses on notation (music reading), musical terminology, analysis, listening to and creating rhythmic and melodic responses. (3 Lec.)

MUS 114 Foundations Of Music II (3)

Prerequisite: Music 113 or demonstrated competence approved by the instructor. This course prepares students with limited music training for Music 145 and increases their general music understanding. Emphasis is on rhythmic and melodic training, chord functions, melody, textures, and basic analysis of music. (3 Lec.)

MUS 115 Jazz Improvisation (2)

(Common course number MUSI 1263)

The art of improvisation is introduced. Basic materials, aural training, analysis, and common styles are presented. This course may be repeated for credit. (1 Lec., 2 Lab.)

MUS 117 Piano Class I (1)

(Common course number MUSI 1181)

This course is primarily for students with no piano background. It develops basic musicianship and piano skills. This course may be repeated for credit. (2 Lab.)

MUS 118 Piano Class II (1)

(Common course number MUSI 1182)

Prerequisite: Music 117 or demonstrated competence approved by the instructor. The study of piano is continued. Included are technique, harmonization, transposition, improvisation, accompanying, sight reading, and performing various styles of repertoire. This course may be repeated for credit. (2 Lab.)

MUS 119 Guitar Class I (1)

(Common course number MUSI 1192)

This course is primarily for students with limited knowledge in reading music or playing the guitar. It develops basic guitar skills. This course may be repeated for credit. (2 Lab.)

MUS 120 Guitar Class II (1)

(Common course number MUSI 1193)

Prerequisite: Music 119 or demonstrated competence approved by the instructor. This course is a continuation of Music 119. Emphasis is on classical guitar techniques and music reading skills. This course may be repeated for credit. (2 Lab.)

MUS 121-143 Applied Music-Minor (1)

This course is open to students enrolled in music theory, ensembles, and other music major and minor courses. It provides private instruction in the student's secondary area and consists of a one-half hour lesson a week. Private music may be repeated for credit. Laboratory fee required. (1 Lec.)

MUS 121 Applied Music-Piano (1)

(Common Course Number MUAP 1169)

MUS 122 Applied Music-Organ (1)

(Common Course Number MUAP 1165)

MUS 123 Applied Music-Voice (1)

(Common Course Number MUAP 1181)

MUS 124 Applied Music-Violin (1)

(Common Course Number MUAP 1101)

MUS 125 Applied Music-Viola (1)

(Common Course Number MUAP 1105)

MUS 126 Applied Music-Cello (1)

(Common Course Number MUAP 1109)

MUS 127 Applied Music-Double Bass (1)

(Common Course Number MUAP 1113)

MUS 128 Applied Music-Flute (1)

(Common Course Number MUAP 1117)

MUS 129 Applied Music-Oboe (1)

(Common Course Number MUAP 1121)

MUS 130 Applied Music-Clarinet (1)

(Common Course Number MUAP 1129)

MUS 131 Applied Music-Bassoon (1)

(Common Course Number MUAP 1125)

MUS 132 Applied Music-Saxophone (1)

(Common Course Number MUAP 1133)

MUS 133 Applied Music-Trumpet (1)

(Common Course Number MUAP 1137)

MUS 134 Applied Music-French Horn (1)

(Common Course Number MUAP 1141)

MUS 135 Applied Music-Trombone (1)

(Common Course Number MUAP 1145)

275 MUS 136 Applied Music-Baritone (1)

(Common Course Number MUAP 1149)

MUS 137 Applied Music-Tuba (1)

(Common Course Number MUAP 1153)

MUS 138 Applied Music-Percussion (1)

(Common Course Number MUAP 1157)

MUS 139 Applied Music-Harp (1)

(Common Course Number MUAP 1177)

MUS 140 Applied Music-Guitar (1)

(Common Course Number MUAP 1161)

MUS 141 Applied Music-Electric Bass (1)

(Common Course Number MUAP 1115)

MUS 143 Applied Music-Drum Set (1)

(Common Course Number MUAP 1158)

MUS 145 Music Theory I (3)

(Common Course Number MUSI 1311)

Prerequisite: Music 113 and 114 or demonstrated competence approved by the instructor. This course is designed for music majors and minors. Emphasis is on notation, cadences, classification of diatonic triads, scales, and modes. It is recommended that students enrolled in Music 161 enroll in this course. (3 Lec.)

MUS 146 Music Theory II (3)

(Common Course Number MUSI 1312)

Prerequisite: Music 145 or demonstrated competence approved by the instructor. This course focuses on part-writing and harmonization with triads and their inversions. Also included is a chord vocabulary expanded to include materials from the common practice period as well as contemporary periods. It is recommended that students enrolled in Music 162 enroll in this course. (3 Lec.)

MUS 147 Synthesizer Class I (1)

Prerequisite: Music 117 or prior keyboard experience. This course is an entry-level performance course designed to teach students the basic theoretical concepts and performance skills necessary to perform on synthesizers. (3 Lab.)

MUS 148 Synthesizer Class II (1)

Prerequisite: Music 147 or prior music synthesizer experience. This course is a continuation of Music 147. This course emphasizes the rehearsal and performance of commercial music styles. FM synthesis is introduced and a variety of programmable equipment is surveyed including drum machines, sequencers, digital samplers and computer software. (3 Lab.)

MUS 150 Chorus (1)

(Common Course Number MUSI 2143)

Prerequisite: Demonstrated competence approved by the instructor. A wide variety of music representing the literature of the great eras of music history is studied and performed. This course may be repeated for credit. (3 Lab.)

MUS 151 Voice Class I (1)

(Common Course Number MUSI 1183)

This course is for non-voice majors. It presents the principles of breathing, voice production, tone control, enunciation, and phrasing in two group lessons a week. This course may be repeated for credit. (2 Lab.)

MUS 152 Voice Class II (1)

(Common Course Number MUSI 1184)

This course is a continuation of Music 151. It is open to all non-voice majors. Emphasis is on solo singing, appearance in studio recital, stage deportment, and personality development. Two group lessons are given a week. This course may be repeated for credit. (2 Lab.)

MUS 153 Digital Music Production (3)

(Common Course Number COMM 2303)

Prerequisite: One semester of music theory and keyboard or demonstrated competence approved by the instructor. This course is designed to introduce major/non-major music students to the MIDI technology as an extension of the music theory/keyboard curriculum. Various MIDI devices, computer hardware, and computer software will be explored. (2 Lec., 1 Lab.)

MUS 154 Digital Music Production (3)

Prerequisite: Successful completion of Music 153 or demonstrated competence approved by the instructor. This course is a continuation of Music 153 and will present advanced concepts in music production. (2. Lec., 1 Lab.)

MUS 155 Vocal Ensemble (1)

(Common Course Number MUSI 1143)

Prerequisite: Demonstrated competence approved by the instructor. Activities include study and performance of specialized choral literature suitable for more advanced students. (3 Lab.)

MUS 156 Madrigal Singers (1)

(Common Course Number MUSI 1152)

A group of vocalists read and perform literature for small ensembles. Membership is by audition with the appropriate director. This course may be repeated for credit. (3 Lab.)

MUS 160 Band (1)

(Common Course Number MUSI 1237)

Prerequisite: Demonstrated competence approved by the instructor. The band studies and performs a wide variety of music in all areas of band literature. This course may be repeated for credit. (3 Lab.)

MUS 161 Musicianship I (1)

(Common Course Number MUSI 1116)

Prerequisite: Music 113 and 114 or demonstrated competence approved by the instructor. Keyboard skills and aural skills (including sight-singing and ear training) are developed. It is recommended that students enrolled in Music 145 enroll in this course. (3 Lab.)

MUS 162 Musicianship II (1)

(Common Course Number MUSI 1117)

Prerequisite: Music 161. This course is a continuation of Music 161. It is recommended that students enrolled in Music 146 enroll in this course. (3 Lab.)

MUS 166 History Of Jazz/Rock Music (3)

(Common Course Number MUSI 1310)

The study of social and musical influences on Jazz/Rock music and the influence of Jazz/Rock Music on society and the music industry. (3 Lec.)

MUS 170 Orchestra (1)

(Common Course Number MUSI 1123)

Prerequisite: Demonstrated competence approved by the instructor. Experience is provided in performing and reading orchestral literature and in participating in the college orchestra. This course may be repeated for credit. (3 Lab.)

MUS 171 Woodwind Ensemble (1)

(Common Course Number MUSI 1133)

Prerequisite: Demonstrated competence approved by the instructor. A group of woodwind instrumentalists read and perform literature for small ensembles. This course may be repeated for credit. (3 Lab.)

MUS 172 Brass Ensemble (1)

(Common Course Number MUSI 1134)

Prerequisite: Demonstrated competence approved by the instructor. A group of brass instrumentalists read and perform literature for small ensembles. This course may be repeated for credit. (3 Lab.)

MUS 173 Percussion Ensemble (1)

(Common Course Number MUSI 1138)

Prerequisite: Demonstrated competence approved by the instructor. A group of percussion instrumentalists read and perform literature for small ensembles. This course may be repeated for credit. (3 Lab.)

MUS 174 Keyboard Ensemble (1)

(Common Course Number MUSI 1132)

Prerequisite: Demonstrated competence approved by the instructor. A group of keyboard instrumentalists read and perform literature for small ensembles. This course may be repeated for credit. (3 Lab.)

MUS 175 String Ensemble (1)

(Common Course Number MUSI 1139)

Prerequisite: Demonstrated competence approved by the instructor. A group of string instrumentalists read and perform literature for small ensembles. This course may be repeated for credit. (3 Lab.)

MUS 176 Symphonic Wind Ensemble (1)

(Common Course Number MUSI 1140)

Prerequisite: Demonstrated competence approved by the instructor. In the symphonic wind ensemble, students study and perform stylistic literature of all periods. This course may be repeated for credit. (3 Lab.)

MUS 177 Chamber Ensemble (1)

(Common Course Number MUSI 1151)

Prerequisite: Demonstrated competence approved by the instructor. A group of chamber instrumentalists or vocalists read and perform literature for small ensembles. This course may be repeated for credit. (3 Lab.)

MUS 180 Audio Production For Voice (2)

This course is designed to introduce students to audio production as it relates to the human voice. Topics include physiology of the voice, technical skills for the studio singer and speaker, jingle copywriting, and studio and sound support production. The course concludes with individually produced advertising jingles. (1 Lec., 2 Lab.)

MUS 181 Lab Band (1)

(Common Course Number MUSI 2237)

Prerequisite: Demonstrated competence approved by the instructor. Students study and perform various forms of commercial music, such as jazz, pop, avant-garde, and fusion. Student arranging, composing, and conducting are encouraged. This course may be repeated for credit. (3 Lab.)

MUS 184 Jazz Ensemble (1)

(Common Course Number MUSI 1125)

Prerequisite: Demonstrated competence approved by the instructor. The jazz ensemble rehearses and performs a variety of jazz styles. This course may be repeated for credit. (3 Lab.)

MUS 189 Computerized Music Production I (2)

This course serves as an introduction to computer-based music production. Areas covered include basic operation of synthesizers, sequencers, music scoring programs, and synthesizer editing programs. (2 Lec., 2 Lab.)

MUS 190 Survey Of Recording (2)

This descriptive course includes an introduction to audio recording. This introduction includes the nature of sound, operation of recording equipment, session procedures, studio techniques, simultaneous recording, and multi-track recording. (2 Lec.)

MUS 191 Survey Of Recording Laboratory (1)

Prerequisite: Successful completion of or concurrent enrollment in Music 190. This course parallels Music 190 and provides students with laboratory experiments in the operation of recording equipment, session procedures, and audio techniques. The course also includes acoustic and electronic theory. (3 Lab.)

MUS 192 Music In America (3)

American music and musicians from early times to the present are surveyed. Various styles and periods are covered. Religious, folk, jazz, rock, musical theatre, and contemporary developments are included. (3 Lec.)

MUS 193 Improvisation (3)

The creation of spontaneous melodic and harmonic ideas and the translation of these ideas into notation are emphasized. Using scales and modes, the instrumentalist improvises on the student's major instrument. The vocalist uses scat singing techniques. Analysis of transcribed solos and student transcriptions are included. (3 Lec.)

MUS 194 Jazz Workshop (3)

This course is for the advanced instrumentalist and vocalist. Jazz is performed in recitals and scheduled functions. Discussion, analysis, writing, rehearsing, improvising, and style are emphasized. Articulating, phrasing, and conducting jazz compositions are discussed with guest artists who work and perform with the group periodically. (3 Lec.)

MUS 196 Business Of Music (3)

The world of the music industry is presented. Topics include performing, engineering, producing, music merchandising, music teaching, songwriting, performing rights organizations, demo tapes, resumes, agents and managers, concert promotion and the 1976 Copyright Act. Lecture will be supplemented by consultant and guest panel discussions. (3 Lec.)

MUS 197 Studio Technology (2)

Prerequisites: Music 190 and 191 or demonstrated competence approved by the instructor. This course is an intensive study of the theory of studio, microphone, and multi-track mix down techniques. (2 Lec.)

MUS 198 Studio Technology Laboratory (1)

Prerequisite: Completion of or concurrent enrollment in Music 197 or demonstrated competence approved by the instructor. This course reinforces, by application and demonstration, the theory covered in Music 197. By the end of this course, a student is able to perform the basic operations necessary to operate a multi-track studio. Laboratory fee. (3 Lab.)

MUS 199 Recital (1)

This is an on-campus concert/seminar series designed to provide a laboratory and listening experience as an extension of classroom music studies. Concerts, seminars and workshops are presented by guest artists and lecturers, faculty members and students. This is a one-hour credit course and may be repeated for credit. (2 Lab.)

MUS 203 Composition (3)

(Common Course Number MUSI 1186)

Prerequisites: Music 145 and 146 or demonstrated competence approved by the instructor. This course covers composing in small forms for simple media in a variety of styles. This course may be repeated for credit. (3 Lec.)

MUS 205 Guitar Pedagogy (1)

(Common Course Number MUSI 2192)

Guitar method books are surveyed. Emphasis is on the strengths and weaknesses of each method. Structuring lessons and optimizing each individual teacher-student relationship are also discussed. (2 Lec.)

MUS 217 Piano Class III (1)

(Common Course Number MUSI 2181)

Prerequisite: Music 117 and 118 or demonstrated competence approved by the instructor. This course is a continuation of functional keyboard skills, including harmonization, sight-reading, accompanying styles, improvisation, and technical exercises. It is designed for the music major preparing for the piano proficiency exam, but is also open to any interested student. It is recommended that music majors also study privately. (2 Lab.)

MUS 218 Piano Class IV (1)

(Common Course Number MUSI 2182)

Prerequisite: Music 217 or demonstrated competence of the instructor. This course is a continuation of functional keyboard skills in Music 217 with greater emphasis on advanced harmonization and appropriate technical skills. It is designed as a preparation for the piano proficiency exam for the music major, but is also open to any interested student. It is recommended that music majors also study privately. (2 Lab.)

MUS 221-243 Applied Music-Concentration (2)

This course is open to students enrolled in music theory, ensembles, or other music major and minor courses. It provides private instruction in the area of the student's concentration and consists of one hour of instruction per week. Private music may be repeated for credit. Laboratory fee required. (1 Lec.)

MUS 221 Applied Music-Piano (2)

(Common Course Number MUAP 2269)

MUS 222 Applied Music-Organ (2)

(Common Course Number MUAP 2265)

MUS 223 Applied Music-Voice (2)

(Common Course Number MUAP 2281)

MUS 224 Applied Music-Violin (2)

(Common Course Number MUAP 2201)

MUS 225 Applied Music-Viola (2)

(Common Course Number MUAP 2205)

MUS 226 Applied Music-Cello (2)

(Common Course Number MUAP 2209)

MUS 227 Applied Music-Double Bass (2)

(Common Course Number MUAP 2213)

MUS 228 Applied Music-Flute (2)

(Common Course Number MUAP 2217)

MUS 229 Applied Music-Oboe (2)
(Common Course Number MUAP 2221)

MUS 230 Applied Music-Clarinet (2)
(Common Course Number MUAP 2229)

MUS 231 Applied Music-Bassoon (2)
(Common Course Number MUAP 2225)

MUS 232 Applied Music-Saxophone (2)
(Common Course Number MUAP 2233)

MUS 233 Applied Music-Trumpet (2)
(Common Course Number MUAP 2237)

MUS 234 Applied Music-French Horn (2)
(Common Course Number MUAP 2241)

MUS 235 Applied Music-Trombone (2)
(Common Course Number MUAP 2245)

MUS 236 Applied Music-Baritone (2)
(Common Course Number MUAP 2249)

MUS 237 Applied Music-Tuba (2)
(Common Course Number MUAP 2253)

MUS 238 Applied Music-Percussion (2)
(Common Course Number MUAP 2257)

MUS 239 Applied Music-Harp (2)
(Common Course Number MUAP 2277)

MUS 240 Applied Music-Guitar (2)
(Common Course Number MUAP 2261)

MUS 241 Applied Music-Electric Bass (2)
(Common Course Number MUAP 2215)

MUS 243 Applied Music-Drum Set (2)
(Common Course Number MUAP 2258)

MUS 245 Music Theory III (3)
(Common Course Number MUSI 2311)
Prerequisite: Music 145 and 146 or demonstrated competence approved by the instructor. This course is a continuation of the study of music theory. It includes the materials of modulation, larger forms, and thematic development, and more advanced analysis. It is recommended that students enrolled in Music 271 enroll in this course. (3 Lec.)

MUS 246 Music Theory IV (3)
(Common Course Number MUSI 2312)
Prerequisite: Music 245 or demonstrated competence approved by the instructor. This course is a continuation of the topics developed in Music 245. The preceding materials are expanded to include melody, harmony, tonality, and the formal processes of 20th century music. It is recommended that students enrolled in Music 272 enroll in this course. (3 Lec.)

MUS 251-270 Applied Music-Major (3)
This course is primarily for music performance majors and is open to students enrolled in music theory, ensembles, or other music major and minor courses. It provides private instruction in the area of the student's major instrument and consists of one hour of instruction per week. Laboratory fee. (1 Lec.)

MUS 251 Applied Music-Piano (3)
(Common Course Number MUAP 2369)

MUS 252 Applied Music-Organ (3)
(Common Course Number MUAP 2365)

MUS 253 Applied Music-Voice (3)
(Common Course Number MUAP 2381)

MUS 254 Applied Music-Violin (3)
(Common Course Number MUAP 2301)

MUS 255 Applied Music-Viola (3)
(Common Course Number MUAP 2305)

MUS 256 Applied Music-Cello (3)
(Common Course Number MUAP 2309)

MUS 257 Applied Music-Double Bass (3)
(Common Course Number MUAP 2313)

MUS 258 Applied Music-Flute (3)
(Common Course Number MUAP 2317)

MUS 259 Applied Music-Oboe (3)
(Common Course Number MUAP 2321)

MUS 260 Applied Music-Clarinet (3)
(Common Course Number MUAP 2329)

MUS 261 Applied Music-Bassoon (3)
(Common Course Number MUAP 2325)

MUS 262 Applied Music-Saxophone (3)
(Common Course Number MUAP 2333)

MUS 263 Applied Music-Trumpet (3)
(Common Course Number MUAP 2337)

MUS 264 Applied Music-French Horn (3)
(Common Course Number MUAP 2341)

MUS 265 Applied Music-Trombone (3)
(Common Course Number MUAP 2345)

MUS 266 Applied Music-Baritone (3)
(Common Course Number MUAP 2349)

MUS 267 Applied Music-Tuba (3)
(Common Course Number MUAP 2353)

MUS 268 Applied Music-Percussion (3)
(Common Course Number MUAP 2357)

MUS 269 Applied Music-Harp (3)
(Common Course Number MUAP 2377)

MUS 270 Applied Music-Guitar (3)
(Common Course Number MUAP 2361)

MUS 271 Musicianship III (1)

(Common Course Number MUSI 2116)

Prerequisite: Music 161 and 162 or demonstrated competence approved by the instructor. Keyboard and aural skills (including sight-singing and ear training) are developed. It is recommended that students enrolled in Music 245 enroll in this course. (3 Lab.)

MUS 272 Musicianship IV (1)

(Common Course Number MUSI 2118)

Prerequisite: Music 271 or demonstrated competence approved by the instructor. This course is a continuation of Music 271. It is recommended that students enrolled in Music 246 enroll in this course. (3 Lab.)

MUS 289 Computerized Music Production II (2)

Prerequisites: Music 189 or demonstrated competence approved by the instructor. This course is an intensive study of computer-based music production. Areas covered include advanced sequencing, computer-based generation of musical scores, synchronization of sequencers with other media, and advanced synthesizer concepts. (2 Lec., 2 Lab.)

MUS 292 Arranging/Orchestration (3)

The knowledge of ranges and the ability to transpose for instruments, to write for voices, and to plan and execute an arrangement is developed. Standard copying techniques, chord voicing, large ensemble writing and combo writing, and use of strings (simulated by string synthesizer) are also included. (3 Lec.)

MUS 293 Independent Study (3)

This course is for advanced work in music and is designed to meet specific needs of the student. On approval of the instructor and division chairperson, the student prepares and executes a written contract (proposal for learning). Credit is given upon completion of all aspects of the contract. This course may be repeated for credit. (3 Lec.)

MUS 296 Recording Studio Practices (3)

Prerequisites: Music 197 and Music 198. The lecture portion of this course concentrates on the artistic and stylistic considerations of audio recording. The laboratory portion translates these considerations into class projects. Laboratory fee. (2 Lec., 3 Lab.)

MUS 297 Studio Production (3)

Prerequisite: Music 296. In this course students produce, engineer, mix, setup, and perform in actual recording sessions. Samples of portfolios may be acquired. Laboratory fee. (2 Lec., 3 Lab.)

MUS 703 Cooperative Work Experience (3)

Prerequisites: Completion of two courses in Music or instructor approval. This course combines productive work experience with academic study. The student, employer and instructor will develop a written competency-based learning plan with varied learning objectives and work experiences. Students must develop new learning experiences each semester. The seminars consist of topics which include job relations, setting and writing job objectives, performance, and observing live performances. (1 Lec., 15 Lab.)

MUS 713 Cooperative Work Experience (3)

Prerequisites: Completion of Music 703. This advanced course combines productive work experience with academic study. The student, employer and instructor will develop a written competency-based learning plan with varied learning objectives and work experiences. Students must develop new learning experiences each semester. The seminars consist of topics which may include observing live performances, observing live recording sessions, equipment operating systems, inventory and stock categories, and pricing. (1 Lec., 15 Lab.)

NURSING

NUR 101 Basic Pharmacology (3)

Prerequisites: Minimum grade of "C" in Biology 120 or 221 and concurrent enrollment in Biology 121 or 222. Registered Nurses or Licensed Vocational Nurses may enroll for refresher purposes. This course will be a comprehensive study of pharmacologic agents utilized by nurses and other health care workers. The focus is on the overall classification and pharmacokinetic properties of that classification. Drugs affecting all body systems are included. (3 Lec.)

NUR 102 Introduction To Pathophysiology (3)

Prerequisites: Biology 120 and concurrent enrollment in Biology 121. This course will provide a basic introduction to pathophysiology of disease processes. The focus of the course will include a systems approach to the development of disease, abnormal physiological responses, clinical manifestations, and some treatment modalities. (3 Lec.)

NUR 144 Nursing I (8)

Prerequisites: Admission to the program and "C" grade or better in Biology 120 or 221, English 101 and MTH 139 or 101 equaling a grade point average of 2.5 or better. Concurrent enrollment in Biology 121 or 222 and Psychology 101. This basic nursing course will serve as a foundation on which four courses will build and expand. Topics include an introduction to nursing as a profession, the nursing process, communication, health teaching, and basic technical skills. Based on an integrated approach, concepts of health, illness, growth and development, basic human needs, the family, stress, pain, and loss are explored in all age groups. Selected clinical experiences will enable the student to begin to assess, analyze, plan, implement, and evaluate nursing care for all age groups. A system of measurements competency is a required component of the pharmacology introduction. Laboratory fee. (4 Lec., 12 Lab.)

NUR 146 Nursing II (9)

Prerequisites: Minimum grade of "C" in Nursing 144, and in all Semester I support courses. Concurrent enrollment in Biology 216 and Psychology 201. This course focuses on the application of the basic principles, concepts, and skills from Nursing 144. Included is medication administration and intravenous fluid therapy. Psychological and physiological stress is further explored with discussion of the nursing care of patients experiencing pregnancy, delivery, including care of the newborn, postpartum, surgery, abnormal cell proliferation, impaired nutrition, and maladaptive behavior in all age groups. Selected clinical experiences including an obstetric rotation continue to focus on the nursing process in caring for patients of all age groups. An application of pharmacology dosage and solution competency is a required component of this course. Laboratory fee. (5 Lec., 13 Lab.)

NUR 147 Nursing II A (5)

Prerequisites: Current Texas LVN license, admission to the Associate Degree Nursing Program, and "C" grade or better in Biology 120 or 221, English 101, and Math 139 or 101 equaling a grade point average of 2.5 or better. Additional prerequisites include Biology 121 or 222, 216, Psychology 101, 201 with a minimum grade of "C". Licensed Vocational Nurses will take this course in place of Nursing 144 and 146. This course will include assessment of the student's theoretical, attitudinal, and psychomotor skills. Content will focus on the change in role from LVN to RN, communication, application of the nursing process, and maintenance of homeostasis. Specific areas of emphasis include problems of fluid and electrolytes, inflammation/immune response, abnormal cell proliferation, nutrition, pregnancy, birth, the neonate, and psychosocial aspects. Upon successful completion of this course, the student will be granted 12 hours of equivalency for Nursing 144 and 146. Laboratory fee. (4 Lec., 3 Lab.)

NUR 201 Special Topics: Applied Management In Health Care Settings (3)

Prerequisite: Sophomore level in nursing. The focus of this course will be on management theory as applied to health care settings. Topics include: management theory, leadership characteristics, group dynamics, health care organizational structures, the planning process, change, budgeting, evaluation, staffing, and applied concepts. (3 Lec.)

NUR 202 Special Topics: Geriatric Care (3)

Prerequisite: Sophomore level in nursing. This course will focus on the special care needs of the older adult. Topics will include an overview of the physical, psychological, and social changes associated with aging, geriatric assessment skills, and health care intervention in institutional and non-institutional settings. (3 Lec.)

NUR 203 Practicum: Care Of The Psychiatric Patient (3)

Prerequisite: Nursing 244 or Registered Nurse. This elective practicum will focus on increasing clinical skills in applying the nursing process to the client in the psychiatric setting. Seminar topics will include assessment skills, treatment modalities, and the evaluation for effectiveness of prescribed therapeutic strategies. Health maintenance, discharge planning, and the role of the registered nurse on the mental health care team will also be included. (1 Lec., 6 Lab.)

NUR 204 Specific Topics: Home Health Care Nursing (3)

Prerequisite: Sophomore level or Registered Nurse. This course will assist the nurse in making the transition from hospital-based nursing to nursing practice in the home health care setting. Content of the course includes changes in the health care setting; coping with change; and management, supervision, and communication skills; as well as special problems found in the home setting. Documentation of care and legal issues of nursing care in the home are emphasized. (3 Lec.)

NUR 244 Nursing III (4)

Prerequisites: August admission: minimum grade of "C" in Nursing 146, and in all required Semester II support courses. January admission: minimum grade of "C" in Nursing 250, and in all required Semester III support courses. This course emphasizes the application of the nursing process to the care of patients experiencing crisis, and patients exhibiting severely impaired behavior. Selected clinical experiences include a psychiatric rotation. Nursing 250 precedes Nursing 244 in the January admission curriculum plan. Laboratory fee. (6 Lec., 15 Lab.)

NUR 250 Nursing IV (9)

Prerequisites: August admission: minimum grade of "C" in Nursing 244. January admission: minimum grade of "C" in Nursing 146. Concurrent enrollment in Speech Communication 101. This course emphasizes a conceptual approach to care of patients in all age groups with complex health care needs pertaining to immobility, problems of moderately impaired oxygen exchange, immunological/inflammatory response, and elimination. Selected clinical experiences focus on application of the nursing process with emphasis on priority setting. A pharmacology application competency is a required component of this course. Laboratory fee. (5 Lec., 12 Lab.)

NUR 258 Nursing V-Care Of Patients With Complex Illnesses (9)

Prerequisites: August admission: Minimum grade of "C" in Nursing 250. January admission: Minimum grade of "C" in Nursing 244. Concurrent enrollment in an approved elective course. This course emphasizes conceptual approaches to the care of patients with complex illnesses which often involve multiple body systems. Problems of sensory deprivation and overload, severely impaired oxygen exchange, and severe fluid and electrolyte imbalance are addressed. Weekly clinical experiences focus on the management of care for these patients, using the nursing process, and emphasizing decision making and priority setting. A supervised clinical practicum provides an opportunity for students to apply knowledge gained from this course at the end of the semester. A pharmacology application competency is a required component of the course. Laboratory fee required. (4 Lec., 15 Lab.)

NUR 259 Nursing V - A Role Transition (1)

Prerequisites: Minimum grade of "C" in Nursing 250. Concurrent enrollment in Nursing 257. This seminar focuses on role transition and current issues affecting the practice of nursing. Topics will include decision making in nursing, principles of management, work organization, processes of communication and change theory. (1 Lec.)

NUTRITION**NTR 101 Principles of Nutrition (3)**

This is an introduction to human nutrition. Topics will include classes, sources, and function of nutrients, digestion and absorption, and metabolism with applications to normal and therapeutic nutritional needs. (3 Lec.)

OFFICE TECHNOLOGY**OFC 103 Speedwriting Theory (4)**

Prerequisites: Credit or concurrent enrollment in Office Technology 172 or demonstrated competence approved by the instructor. The principles of speedwriting are introduced. Included is the development of the ability to read, write, and transcribe speedwriting notes. Basic spelling, grammar, and punctuation rules are reviewed. Laboratory fee. (3 Lec., 2 Lab.)

OFC 106 Speedwriting Dictation And Transcription (4)

Prerequisites: Office Technology 103. Principles of speedwriting are applied to build dictation speed and transcription rate. Special attention is given to the review of grammar, spelling, and punctuation rules. Laboratory fee. (3 Lec., 2 Lab.)

OFC 143 Contemporary Topics In Office Technology (1)

Prerequisites: Demonstrated competence approved by the instructor. This course emphasizes current topics of interest in office technology fields. Realistic solutions to problems relevant to the needs of industry are presented. This course may be repeated for credit with different emphasis up to six hours. (1 Lec.)

OFC 144 Contemporary Topics In Office Technology (2)

Prerequisites: Will vary based on topics covered and will be annotated in each semester's class schedule. Current developments in the rapidly changing field of office technology are studied. (2 Lec.)

OFC 145 Contemporary Topics In Office Technology (3)

Prerequisites: Will vary based on topics covered and will be annotated in each semester's class schedule. Current developments in the rapidly changing field of office technology are studied. (3 Lec.)

OFC 150 Automated Filing Procedures (3)

Prerequisite: Office Technology 172 or demonstrated competence approved by the instructor. This course introduces the basic principles and procedures of records storage and control. Topics include records storage methods; procedures for the operation and control of manual and automated storage systems; rules for indexing; and principles for the selection of records equipment and supplies. (2 Lec., 2 Lab.)

OFC 159 Beginning Shorthand (4)

Prerequisite: Credit or concurrent enrollment in Office Technology 172 or demonstrated competence approved by the instructor. The principles of Gregg Shorthand are introduced. Included is the development of the ability to read, write, and transcribe shorthand outlines. Knowledge of the mechanics of English is also developed. Laboratory fee. (3 Lec., 2 Lab.)

OFC 160 Office Calculating Machines (3)

This course focuses on the development of skills in using electronic calculators. Emphasis is on developing the touch system for both speed and accuracy. Business math and business applications are included. Laboratory fee. (3 Lec.)

OFC 162 Office Procedures (3)

Prerequisites: Office Technology 173 or concurrent enrollment or demonstrated competence approved by the instructor. This course bridges the gap between the basic skills courses and current office practices. Topics include records management, electronic filing, reprographics, mail, telephone usage, financial transactions, and interpersonal relations. (3 Lec.)

OFC 166 Intermediate Shorthand (4)

Prerequisites: Office Technology 159 and Office Technology 172 or demonstrated competence approved by the instructor. The principles of Gregg Shorthand are studied. Emphasis is on increased speed dictation, accuracy in typing from shorthand notes, and beginning techniques of transcription skills. Also included are oral reading, speed building, and grammar. Office Careers 166 is equivalent to Office Technology 187, 188, and 189. Laboratory fee. (3 Lec., 2 Lab.)

OFC 167 Legal Terminology And Transcription (3)

Prerequisites: Office Technology 173 and Office Technology 185 or concurrent enrollment or demonstrated competence approved by the instructor. Legal terms are the focus of this course. Included are the spelling and use of legal terms and Latin words and phrases. Intensive practice is provided in building speed and accuracy in the transcription of legal terms. Laboratory fee. (3 Lec.)

OFC 172 Beginning Typing (3)

This course is for students with no previous training in typing. Fundamental techniques in typing are developed. The skills of typing manuscripts, business letters, and tabulations are introduced. Office Technology 172 is equivalent to Office Technology 176, 177, and 178. Laboratory fee. (2 Lec., 3 Lab.)

OFC 173 Intermediate Typing (3)

Prerequisites: Office Technology 172 or demonstrated competence approved by the instructor. Typing techniques are developed further. Emphasis is on problem-solving. Increasing speed and accuracy in typing business forms, correspondence, and manuscripts are also covered. Laboratory fee. (2 Lec., 3 Lab.)

OFC 176 Keyboarding (1)

This course is for students with no previous training in typing. The course introduces the typewriter parts. Alphabetic keys, numeric keys, and symbol keys are covered. Fundamental techniques are refined, and speed is developed. Laboratory fee. (1 Lec., 1 Lab.)

OFC 179 Office Information Systems Concepts (2)

Prerequisite: Office Technology 172. This course introduces information/word processing and describes its effect on traditional office operations. Basic information/word processing principles, concepts, terminology and advantages of word processing systems are introduced. This course does not include the operation of a wordprocessor or microcomputer. (2 Lec.)

OFC 182 Introduction To Word Processing (1)

Prerequisites: Office Technology 173 and Office Technology 179 or concurrent enrollment. This course introduces the fundamental techniques required in the operation of word processing software. Basic concepts of electronic storage and retrieval involved in creating, printing, centering, and revising documents are introduced. May be repeated for credit using different emphasis. Laboratory fee. (2 Lab.)

OFC 183 Keyboarding For Speed And Accuracy (1)

This course provides intensive practice drills for developing speed and accuracy on one-, three-, and five-minute writings. May be taken concurrently with Intermediate Typing or Advanced Typing Applications. May be repeated for credit. Laboratory fee. (2 Lab.)

OFC 185 Basic Machine Transcription (1)

Prerequisites: Office Technology 173 or concurrent enrollment. This course introduces the basic equipment, techniques, and skills required to transcribe recorded business information into mailable documents. Emphasis is placed on grammar, punctuation, and spelling skills required in word processing operations. Automated equipment and audio transcription machines are used. Laboratory fee. (1 Lec., 1 Lab.)

OFC 190 Principles Of Word Processing (4)

Prerequisites: Office Technology 173 or concurrent enrollment. This course introduces word processing and describes its effect on traditional office operations. An understanding of basic word processing principles and fundamental techniques required in the operation of word processing and transcription equipment are introduced. Emphasis is placed on grammar, punctuation, and spelling skills required in word processing operations. Office Technology 190 is equivalent to Office Technology 179, 182, and 185. Laboratory fee. (3 Lec., 3 Lab.)

OFC 192 Office Machines I (1)

Business mathematical skills needed to operate office calculators are reviewed. Speed and accuracy skills using ten-key touch are developed. Laboratory fee. (1 Lec.)

OFC 231 Business Communications (3)

Prerequisites: Office Technology 172 or demonstrated competence approved by the instructor and English 101. This practical course includes a study of letter forms, the mechanics of writing and the composition of various types of communications. A critical analysis of the appearance and content of representative business correspondence, proposals, and reports is made. (3 Lec.)

OFC 266 Advanced Shorthand (4)

Prerequisites: Office Technology 166 and Office Technology 173 or demonstrated competence approved by the instructor. Emphasis is on building dictation speed. Producing mailable, typed transcriptions under timed conditions is also stressed. Vocabulary and extensive production work capabilities are developed. Laboratory fee. (3 Lec., 2 Lab.)

OFC 273 Advanced Typing Applications (2)

Decision-making and production of all types of business materials under timed conditions are emphasized. A continuation of skill development and a review of typing techniques are also stressed. Accuracy at advanced speeds is demanded. Laboratory fee. (1 Lec., 2 Lab.)

OFC 274 Legal Secretarial Procedures (3)

Prerequisite: Completion of, or concurrent enrollment in, Office Technology 167, or demonstrated competence approved by the instructor. This course focuses on procedures of the legal secretary. Topics include reminder and filing systems, telephone usage, dictation and correspondence, the preparation of legal documents, and the court system. Client contacts, use of law library, research techniques, timekeeping, billing, bookkeeping, and ethics are also covered. Ways to obtain a position as a legal secretary are described. (3 Lec.)

OFC 282 Word Processing Applications (1)

Prerequisites: Office Technology 190 or 182 and completion of or concurrent enrollment in Office Technology 185. This course is designed for students who have a basic knowledge of word processing. Advanced word processing concepts and machine functions are developed. Special emphasis is placed on producing mailable documents. May be repeated for credit using different emphasis. Laboratory fee. (2 Lab.)

OFC 283 Specialized Software I (1)

Prerequisites: Office Technology 282 or demonstrated competence approved by the instructor. Current information/word processing technology is presented. Specialized applications are performed using automated equipment which the student has previously mastered. Applications may include graphics, math functions, spreadsheets, databases, desk top publishing, and the use of other software packages. Microcomputers will be used in this course. May be repeated for credit using different emphasis/equipment. Laboratory fee. (2 Lab.)

OFC 284 Specialized Software II (1)

Prerequisite: Office Technology 283 or demonstrated competence approved by the instructor. Current information/word processing technology is presented. Specialized applications are performed using automated equipment that the student has previously mastered. More advanced applications may include graphics, math functions, spreadsheets, databases, and desk top publishing. This course may be repeated for credit using different emphasis/equipment. (2 Lab.)

OFC 285 Applied Machine Transcription (1)

Prerequisites: Office Technology 173 or 190 and Office Technology 185 or demonstrated competence approved by the instructor. This course is designed for students with basic skills in machine transcription. Emphasis is placed on increasing accuracy and speed in the timed transcription of recorded information. Composing and dictating business communications are introduced. Laboratory fee. (1 Lec., 1 Lab.)

OFC 703 Cooperative Work Experience (3)

Prerequisites: Completion of two courses in the Office Technology program or instructor approval. This course combines productive work experience with academic study. The student, employer and instructor will develop a written competency-based learning plan with varied learning objectives and work experiences. Students must develop new learning objectives each semester. Students must complete three objectives and work a minimum of 15 hours per week for a total of three credit hours. This seminar consists of orientation, setting/writing job objectives, interpersonal skills, career interest/aptitude test and evaluation, time management, career planning, and exit seminar. (1 Lec., 15 Lab.)

OFC 704 Cooperative Work Experience (4)

Prerequisites: Completion of two courses in the Office Technology program or instructor approval. This course combines productive work experience with academic study. The student, employer and instructor will develop a written competency-based learning plan with varied learning objectives and work experiences. Students must complete four objectives and work a minimum of 20 hours per week for a total of four credit hours. This seminar consists of orientation, setting/writing job objectives, interpersonal skills, career interest/aptitude test and evaluation, time management, career planning, and exit seminar. (1 Lec., 20 Lab.)

OFC 713 Cooperative Work Experience (3)

Prerequisites: Completion of two courses in the Office Technology program or instructor approval. This course combines productive work experience with academic study. The student, employer and instructor will develop a written competency-based learning plan with varied learning objectives each semester. Students must complete three objectives and work a minimum of 15 hours per week for a total of three credit hours. This seminar consists of orientation, setting/writing job objectives, stress management, Certified Professional Secretary, communication skills, job search, professional image, and exit seminar. (1 Lec., 15 Lab.)

OFC 714 Cooperative Work Experience (4)

Prerequisites: Completion of two courses in the Office Technology program or instructor approval. This course combines productive work experience with academic study. The student, employer and instructor will develop a written competency-based learning plan with varied learning objectives and work experiences. Students must develop new learning objectives each semester. Students must complete four objectives and work a minimum of 20 hours per week for a total of four credit hours. This seminar consists of orientation, setting/writing job objectives, stress management, Certified Professional Secretary, communication skills, job search, professional image, and exit seminar. (1 Lec., 20 Lab.)

OFC 803 Cooperative Work Experience (3)

Prerequisites: Completion of previous Office Technology 703 or 704 and 713 or 714. This course combines productive work experience with academic study. The student, employer and instructor will develop a written competency-based learning plan with varied learning objectives and work experiences. Students must develop new learning objectives each semester. Students must complete three objectives and work a minimum of 15 hours per week for a total of three credit hours. This seminar consists of orientation, setting/writing job objectives, and independent study of business topics. (1 Lec., 15 Lab.)

OFC 804 Cooperative Work Experience (4)

Prerequisites: Completion of previous Office Technology 703 or 704 and 713 or 714. This course combines productive work experience with academic study. The student, employer and instructor will develop a written competency-based learning plan with varied learning objectives and work experiences. Students must develop new learning objectives each semester. Students must complete four objectives and work a minimum of 20 hours per week for a total of four credit hours. This seminar consists of orientation, setting/writing job objectives, and independent study of business topics. (1 Lec., 20 Lab.)

OUTBOARD ENGINE**OE 144 Outboard Engine Service Principles (4)**

The principles of operation and failure analysis of two- and four-cycle engines are covered. The principles of basic electricity as applied to outboard engines are also covered. Laboratory fee. (120 Contact Hours)

OE 145 Outboard Engine Tune-Up (4)

The tune-up procedures for outboard engines including ignition service, carburetion theory and service, and complete adjustment procedures are included in this course. Laboratory fee. (120 Contact Hours)

OE 146 Outboard Engine Powerhead Overhaul (4)

This course includes overhaul procedures for outboard powerheads. Laboratory fee. (120 Contact Hours)

OE 147 Outboard Engine Lower Unit Overhaul (4)

The theory of operation, service, and overhaul procedures for manual, hydraulic, and electric shift lower units are covered. Laboratory fee. (120 Contact Hours)

OE 148 Outboard Engine Electrical Systems (4)

The theory of operation and trouble-shooting procedures for outboard engine ignition and charging systems and accessories are covered in this course. Laboratory fee. (120 Contact Hours)

OE 723 Cooperative Work Experience (3)

Prerequisite: Completion of two courses in the Outboard Marine Engine Mechanics program or instructor approval. This course combines productive work experience with academic study. The student, employer and instructor will develop a written competency-based learning plan with varied learning objectives and work experiences. Students must develop new learning objectives each semester. The seminar consists of topics which include job interview and job application techniques, job site interpersonal relations, employer expectations of employees and service repair liability. (1 Lec., 15 Lab.)

PATTERN DESIGN**PDD 151 Pattern Drafting I (3)**

The principles of drafting and draping basic patterns for collars, skirts, bodices, and sleeves are presented. Cutting out garments is also included. Laboratory fee. (2 Lec., 4 Lab.)

PDD 152 Pattern Drafting II (3)

Prerequisite: Pattern Design 151. Drafting and draping basic patterns for separates and dresses are covered. Laboratory fee. (2 Lec., 4 Lab.)

PDD 153 Pattern Drafting III (3)

Prerequisite: Pattern Design 152. Techniques are developed for drafting and draping patterns for the apparel industry. Laboratory fee. (2 Lec., 4 Lab.)

PDD 254 Pattern Drafting IV (3)

Prerequisite: Pattern Design 153. Advanced techniques are developed for drafting and draping patterns for misses and junior sizes. The student will be introduced to the computer to draft patterns. Laboratory fee. (2 Lec., 4 Lab.)

PDD 255 Pattern Drafting V (3)

Prerequisite: Pattern Design 254. Techniques are developed for drafting and draping patterns for junior and misses daytime and dressy dresses. The student will complete patterns on the computer. Laboratory fee. (2 Lec., 4 Lab.)

PDD 256 Pattern Drafting VI (3)

Prerequisite: Pattern Design 255. Techniques are developed for drafting and draping patterns for misses and junior sportswear. Computer pattern design will be explored. Laboratory fee. (2 Lec., 4 Lab.)

PDD 257 Pattern Drafting VII (3)

Prerequisite: Pattern Design 256. Techniques are developed for drafting and draping patterns for misses and junior tailored garments. Advanced computer pattern design will be explored. Laboratory fee. (2 Lec., 4 Lab.)

PDD 702 Cooperative Work Experience (2)

Prerequisite: Completion of one Pattern Design course or instructor approval. This course provides practical work experience with a Dallas manufacturer or related apparel business. Areas of specialization are sample cutting and pattern making - areas of relationship pertaining to fashion. The student, employer and instructor develop a written competency-based learning plan with varied learning objectives and work experience. Seminar sessions each semester consist of resumes, changing jobs, films on fashion, and building self-esteem. (1 Lec., 10 Lab.)

PDD 703 Cooperative Work Experience (3)

Prerequisite: Completion of one Pattern Design course or instructor approval. This course provides practical work experience with a Dallas manufacturer or related apparel business. Areas of specialization are sample cutting and pattern making - areas of relationship pertaining to fashion. The student, employer and instructor develop a written competency-based learning plan with varied learning objectives and work experience. Seminar sessions each semester consist of resumes, changing jobs, films on fashions, and building self-esteem. (1 Lec., 15 lab.)

PDD 704 Cooperative Work Experience (4)

Prerequisite: Completion of one Pattern Design course or instructor approval. This course provides practical work experience with a Dallas manufacturer or related apparel business. Areas of specialization are sample cutting and pattern making - areas of relationship pertaining to fashion. The student, employer and instructor develop a written competency-based learning plan with varied learning objectives and work experience. Seminar sessions each semester consist of resumes, changing jobs, films on fashions, and building self-esteem. (1 Lec., 20 Lab.)

PHILOSOPHY**PHI 101 Introduction To Philosophy (3)**

(Common Course Number PHIL 1301)

The fundamental problems in philosophy are surveyed. Methods to deal with the problems are discussed. Ancient and modern views are examined as possible solutions. (3 Lec.)

PHI 103 Critical Thinking (3)

This course is designed to improve students' critical thinking ability. Students will both analyze and construct arguments. Elementary deductive forms, common fallacies, and inductive reasoning are considered. (3 Lec.)

PHI 105 Logic (3)

(Common Course Number PHIL 2303)

The principles of logical thinking are analyzed. The methods and tools of logic are applied to real-life situations. Fallacies, definitions, analogies, syllogisms, Venn diagrams, and other topics are discussed. (3 Lec.)

PHI 202 Introduction To Social And Political Philosophy (3)

The relationships of philosophical ideas to the community are presented. Emphasis is on concepts of natural rights, justice, education, freedom, and responsibility. (3 Lec.)

PHI 203 Ethics (3)

(Common Course Number PHIL 2306)

The classical and modern theories of the moral nature of the human are surveyed. Alternative views of responsibilities to self and society are posed. Ethical issues and their metaphysical and epistemological bases are vivified. Emphasis is on applying ethical principles in life. (3 Lec.)

PHI 207 History Of Ancient Philosophy (3)

(Common Course Number PHIL 2316)

The history of philosophy from pre-Socratic times to the Renaissance is examined. Connections are made between the pre-Socratics, Plato, and Aristotle; Stoicism, Epicureanism, and Scholasticism are considered. (3 Lec.)

PHI 208 History Of Modern Philosophy (3)

(Common Course Number PHIL 2317)

The history of philosophy from the Renaissance through the 19th century is examined. Emphasis is on continental rationalism, British empiricism, Kantian metaphysics and epistemology, and the Hegelian system as it relates to 20th century philosophies. The historical relationship between these schools of thought is explored. (3 Lec.)

PHOTOGRAPHY

PHO 110 Introduction To Photography And Photojournalism (3)

Photography and photojournalism are introduced. Topics include the general mechanics of camera lenses and shutters and the general characteristics of photographic films, papers, and chemicals. Darkroom procedures are presented, including enlarging, processing, contact printing, and exposing films and papers. Artificial lighting is introduced. Laboratory fee. (2 Lec., 4 Lab.)

PHO 111 Advanced Photography And Photojournalism (3)

Prerequisite: Photography 110 or demonstrated competence approved by the instructor. Techniques learned in Photography 110 are refined. Emphasis is on photographic communication. Laboratory fee. (2 Lec., 4 Lab.)

PHO 122 Commercial Photography I (3)

Prerequisites: Photography 110 and 111 or demonstrated competence approved by the instructor. Commercial or contract photography is studied. Field, studio, and darkroom experiences for various kinds of photography are discussed. Social, portrait, studio, fashion, publicity, landscape, and product photography, as well as portfolio development, are included. The use of natural and artificial lighting is covered. Laboratory fee. (2 Lec., 4 Lab.)

PHO 123 Commercial Photography II (3)

Prerequisites: Photography 110 and 111 or demonstrated competence approved by the instructor. This course is a continuation of Photography 122. Publicity, architectural, interior, and advertising photography are included. The latest equipment, papers, films, and techniques are explored. Exchanges may be made with sample clients, employers, studios, and agencies. Laboratory fee. (2 Lec., 4 Lab.)

PHO 207 Photography For Publications (3)

Prerequisites: Photography 110 and 111 or demonstrated competence approved by the instructor. This course is designed for the student who is interested in journalistic editing, publications photography, and graphic arts procedures. It encourages skills in all three areas and prepares the student for a broad job market that includes photojournalism, printing, editing, composing, and general copy preparation. Students who enroll in this course should have a background in journalism, photography, and graphic arts and be of sophomore standing. Laboratory fee. (2 Lec., 4 Lab.)

PHO 215 Special Photographic Topics And Problems (3)

Prerequisites: Photography 110 and 111 or demonstrated competence approved by the instructor. This course of study addresses special photographic topics or problems that may result from technological advances and particular student and/or instructor interests and/or expertise. Topics may include special interest areas such as architectural, landscape, wedding, environmental portraiture and audiovisual slide-with-sound productions. The course will be narrow in scope to provide for in-depth study of the particular topic and may employ visiting instructors with specialized expertise. This course may be repeated for credit. (2 Lec., 4 Lab.)

PHYSICAL EDUCATION

PEH 100 Lifetime Sports Activities (1)

(Common Course Number PHED 1100)

Beginning level skills in various lifetime sports are presented as well as rules, etiquette, safety, strategy, offensive and defensive elements, and conditioning activities where appropriate. Physical Education 100 may be repeated for credit when students select different activities. Laboratory fee. (3 Lab.)

PEH 101 Health For Today (3)

(Common Course Number PHED 1304)

Emphasis is placed on relating course content to lifestyle to foster a better understanding of the major health issues of today. Current issues include, but are not limited to: emotional health, chemical use and abuse, human sexuality, major diseases, physical fitness, nutrition, aging, death and dying. (This course is offered on campus and may be offered via television.) (3 Lec.)

PEH 103 Beginning Casting And Angling (1)

(Common Course Number PHED 1101)

This course will include the fundamentals of fly casting, bait casting, spinning and spin casting. This course covers basic knowledge and understanding of angling techniques and concepts, and will include several tackle crafts. (3 Lab.)

PEH 104 Beginning Soccer (1)

(Common Course Number PHED 1102)

Course content emphasizes the basic playing skills of both indoor and outdoor soccer at the beginner level, as well as rules, strategies, safety, offensive and defensive patterns of play, and competitive activities. Laboratory fee. (3 Lab.)

PEH 105 Shooting and Firearm Safety (1)

(Common Course Number PHED 1103)

Course content includes fundamentals of shooting, gun safety and principles of reloading. This course includes personal safety associated with hunting and sport shooting. (3 Lab.)

PEH 109 Outdoor Recreation (3)

(Common Course Number PHED 1336)

Outdoor recreation and organized camping are studied. Both the development of these activities and present trends are covered. (3 Lec.)

PEH 110 Community Recreation (3)

(Common Course Number PHED 1337)

This course is primarily for students majoring or minoring in health, physical education, or recreation. The principles, organization, and function of recreation in American society are covered. (3 Lec.)

PEH 112 Beginning Softball (1)

(Common Course Number PHED 1104)

Course content includes the basic playing skills of softball at the beginner level, as well as rules, strategies, safety, offensive and defensive elements, and competitive activities. These common elements will be applied to fast pitch, slow pitch, and coed softball. Laboratory fee. (3 Lab.)

PEH 113 Beginning Racquetball (1)

(Common Course Number PHED 1105)

Basic racquetball skills, rules and strategies are taught and class tournaments are conducted. Laboratory fee. (3 Lab.)

PEH 114 Beginning Badminton (1)

(Common Course Number PHED 1106)

Course content emphasizes the basic playing skills of badminton at the beginner level, as well as rules, strategies, safety, offensive and defensive elements, and competitive activities. Each of the above elements will be applied to the singles, doubles, and mixed-double games. Laboratory fee. (3 Lab.)

PEH 115 Physical Fitness (1)

(Common Course Number PHED 1164)

Students are introduced to health related concepts and activities for the purpose of gaining knowledge and skills necessary to evaluate personal fitness level and to develop a personal lifelong fitness program. Activities include, but are not limited to: aerobics, circuit training, muscular development flexibility, agility exercises, weight training and body composition. Laboratory fee. (3 Lab.)

PEH 116 Intramural Athletics (1)

(Common Course Number PHED 1107)

Intramural competition in a variety of activities is offered for men and women. Individual and team competition are offered. Laboratory fee. (3 Lab.)

PEH 117 Beginning Archery (1)

(Common Course Number PHED 1108)

The beginning level skills of target and field shooting and bow hunting are emphasized. History, rules of competition, preparation and care of equipment and safety are included. Equipment is furnished. Laboratory fee. (3 Lab.)

PEH 118 Beginning Golf (1)

(Common Course Number PHED 1109)

Course content emphasizes the basic skills involved in club selection, golf course analysis, shot selection and execution of the golf swing. Rules, scoring, handicapping, and etiquette are included. Equipment is furnished. Laboratory fee. (3 Lab.)

PEH 119 Beginning Tennis (1)

(Common Course Number PHED 1110)

This course emphasizes the acquisition of beginning level skills in the execution of forehand strokes, backhand strokes, the serve, and the volley. Rules, strategies of the singles and doubles games, etiquette, safety, and competitive activities are included. Equipment is furnished. Laboratory fee. (3 Lab.)

PEH 120 Beginning Bowling (1)

(Common Course Number PHED 1111)

Basic bowling skills at the beginner level as well as rules, strategies, safety, scoring and competitive activities are emphasized. All classes are conducted at an off-campus bowling lane. Lane fee. Laboratory fee. (3 Lab.)

PEH 121 Folk Dance (1)

(Common Course Number PHED 1112)

Participation is provided in a variety of folk dances from other lands. The study of cultural backgrounds and costumes is included. Laboratory fee. (3 Lab.)

PEH 122 Beginning Gymnastics (1)

(Common Course Number PHED 1113)

Beginning level skills in both men's and women's all-around gymnastic events are emphasized. Men's events include horizontal bar, pommel horse, rings, vaulting, floor exercise, and parallel bars. Women's events include floor exercise, vaulting, balance beam, and uneven parallel bars. Basic tumbling skills are also included. All appropriate events will be incorporated into a beginner's level routine. Laboratory fee. (3 Lab.)

PEH 123 Beginning Swimming (1)

(Common Course Number PHED 1114)

This course is designed to teach a non-swimmer or a shallow water swimmer to become a safe and efficient deep water swimmer. After the development of sufficient skills to perform a modified crawl stroke, the elementary back stroke, survival floating, jumping into deep water, leveling off and changing directions, swimmers will be able to swim in deep water. Laboratory fee. (3 Lab.)

PEH 124 Social Dance (1)

(Common Course Number PHED 1115)

This course is for students who have limited experience in dance. Ballroom and social dancing are offered. Included are fundamental steps and rhythms of the fox-trot, waltz, tango, and recent dances. "Country" dancing includes the two-step, cotton-eyed Joe, square dance, and other dances. Laboratory fee. (3 Lab.)

PEH 125 Conditioning Exercise (1)

(Common Course Number PHED 1116)

This course focuses on understanding exercise and its effect on the body. Cardiovascular endurance, muscular strength, endurance and flexibility are improved through a variety of conditioning activities. Laboratory fee. (3 Lab.)

PEH 127 Beginning Basketball And Volleyball (1)

(Common Course Number PHED 1117)

Basic basketball and volleyball skills are taught. Rules, game strategies and competitive activities are included. Laboratory fee. (3 Lab.)

PEH 129 Modern Dance (1)

(Common Course Number PHED 1118)

This beginning course is designed to emphasize basic dance technique, body alignment and placement, floor work, locomotor patterns, and creative movement. Laboratory fee. (3 Lab.)

PEH 131 Weight Training And Conditioning (1)

(Common Course Number PHED 1119)

Instruction in weight training and conditioning techniques are stressed. Emphasis is placed on muscular strength and endurance. Laboratory fee. (3 Lab.)

PEH 132 Self-Defense (1)

(Common Course Number PHED 1120)

Various forms of self-defense are introduced. The history and philosophy of the martial arts are explored. The student should progress from no previous experience in self-defense to an adequate skill level covering basic self-defense situations. Both mental and physical aspects of the arts are stressed. Uniform required. Laboratory fee. (3 Lab.)

PEH 133 Jogging for Fitness (1)

(Common Course Number PHED 1121)

Development and improvement of physical fitness through jogging is emphasized. Fitness concepts and jogging skills will be introduced. Laboratory fee. (3 Lab.)

PEH 134 Outdoor Education (1)

(Common Course Number PHED 1122)

Knowledge and skills in outdoor education and camping are presented. Planned and incidental experiences take place, including a week-end camp-out. Laboratory fee. (3 Lab.)

PEH 135 Walking For Fitness (1)

(Common Course Number PHED 1123)

This course is designed for the student who desires cardiovascular fitness by means of a low impact method. Maximum physical fitness is achieved by vigorous walking. The heart rate is elevated to the appropriate target zone for peak conditioning. An extensive warm-up and cool down increases joint and muscle flexibility. (3 Lab.)

PEH 137 Aerobic Dance (1)

(Common Course Number PHED 1124)

This course emphasizes the development of cardiovascular endurance by utilizing choreographed routines which may combine basic dance patterns with walking, jogging, jumping, etc. Individual fitness levels are accommodated by the intensity of the workout. Laboratory fee. (3 Lab.)

PEH 142 Divemaster (2)

Prerequisite: Physical Education 228 or demonstrated competence approved by the instructor and current CPR and First Aid certification. This course is designed for the advanced diver who seeks additional training as an instructional assistant responsible for the organization, teaching and safety of scuba divers. Students who successfully complete this course will receive divemaster certification. Laboratory fee. (1 Lec., 2 Lab.)

PEH 143 Aquatic Fitness (1)

(Common Course Number PHED 1125)

This course is designed to promote fitness through the use of water-related activities compatible with a pool environment. Emphasis is placed on water resistant exercises, lap swimming utilizing various kicks and strokes, relays, and a variety of aquatic games. Laboratory fee. (3 Lab.)

PEH 144 Introduction To Physical Education (3)

(Common Course Number PHED 1301)

This course is for students majoring in physical education and is designed for professional orientation in physical education, health, and recreation. The history, philosophy, and modern trends of physical education are surveyed. Topics include teacher qualifications, vocational opportunities, expected competencies, and skill testing. (3 Lec.)

PEH 145 Cycling (1)

(Common Course Number PHED 1126)

Development of cycling skills and improvement of physical fitness through cycling are emphasized. Fitness concepts, riding technique, safety, routine maintenance and repair of the cycle are fundamental topics of this course. Laboratory fee. (3 Lab.)

PEH 146 Triathlon Fitness (1)

(Common Course Number PHED 1127)

This course includes an individualized program of walking, running, cycling, swimming, and weight training. From these activities, the student and instructor will design a fitness program to improve total body fitness, strength, endurance and self-image. Laboratory fee. (3 Lab.)

PEH 147 Sports Officiating I (3)

(Common Course Number PHED 1308)

This course is for students who choose officiating for an avocation and who want to increase their knowledge and appreciation of sports. Sports covered in this course are football, basketball, and other sports as appropriate. Students are expected to officiate intramural games. (2 Lec., 2 Lab.)

PEH 148 Sports Officiating II (3)

(Common Course Number PHED 1309)

This course is for students who choose officiating for an avocation and who want to increase their knowledge and appreciation of sports. Sports covered in this course are softball, track and field, baseball, and other sports as appropriate. Students are expected to officiate intramural games. (2 Lec., 2 Lab.)

PEH 149 Canoeing/Kayaking (1)

(Common Course Number PHED 1128)

This course is designed to teach the students knowledge and appreciation of basic white water canoeing/kayaking skills so they can actively engage in these activities throughout their lives. A weekend river trip is included in this course. Laboratory fee. (3 Lab.)

PEH 150 Backpacking/Rock Climbing (1)

(Common Course Number PHED 1129)

This course is designed to teach the students basic skills, knowledge and appreciation of backpacking and rock climbing to the extent that they can actively engage in these activities throughout their lives. A weekend backpacking trip is included in the course. Laboratory fee. (3 Lab.)

PEH 200 Lifetime Sports Activities II (1)

(Common Course Number PHED 1130)

Intermediate and intermediate/advanced skills in a variety of lifetime sports are presented. Students participate in a selected sport. Physical Education 200 may be repeated for credit when students select different activities. Laboratory fee. (3 Lab.)

PEH 204 Intermediate Soccer (1)

(Common Course Number PHED 1131)

Prerequisite: Demonstrated competence approved by the instructor. Basic skills and techniques are refined beyond the beginner level. Analysis and practice of strategies, safety, offensive and defensive patterns of play and competitive activities are covered. Course emphasis is placed on the development and preparation for participation on an intercollegiate team. Equipment is furnished. (3 Lab.)

PEH 212 Intermediate Softball (1)

(Common Course Number PHED 1132)

Prerequisite: Demonstrated competence approved by the instructor. Emphasis is placed on game strategy, base coaching, preparing a lineup, conducting drills, and performance on hitting, catching, and throwing. Laboratory fee. (3 Lab.)

PEH 213 Intermediate Racquetball (1)

(Common Course Number PHED 1133)

Prerequisite: Demonstrated competence approved by the instructor. This activity course is designed for students seeking to advance their racquetball skill level. The course content covers advanced shot execution, strategy, and the doubles game. Emphasis is placed on improved skill and strategy. Laboratory fee. (3 Lab.)

PEH 215 Intermediate Physical Fitness (1)

(Common Course Number PHED 1134)

Prerequisite: Demonstrated competence approved by the instructor. Basic skills and techniques of fitness-related activities are developed beyond the beginner level. Laboratory fee. (3 Lab.)

PEH 217 Intermediate Archery (1)

(Common Course Number PHED 1135)

Prerequisite: Demonstrated competence approved by the instructor. Course content includes refinement for basic archery skills and competitive target shooting and field archery. Equipment is furnished. Laboratory fee. (3 Lab.)

PEH 218 Intermediate Golf (1)

(Common Course Number PHED 1136)

Prerequisite: Demonstrated competence approved by the instructor. Basic skills and techniques are refined beyond the beginner level. Analysis and practice of the golf swing, swing theory and methods, strategy, and actual golf course playing are emphasized. Equipment is furnished. Green fees. Laboratory fee. (3 Lab.)

PEH 219 Intermediate Tennis (1)

(Common Course Number PHED 1137)

Prerequisite: Demonstrated competence approved by the instructor. Emphasis is placed on refinement of basic skills and specialty shots. Competitive activities in singles, doubles and mixed doubles will be included. Equipment is furnished. Laboratory fee. (3 Lab.)

PEH 220 Intermediate Bowling (1)

(Common Course Number PHED 1150)

This course is designed for students seeking improvement in the lifetime sport of bowling. The course covers a review of history, etiquette, care and selection of equipment, rules and scoring. Additional information will be provided on handicapping, league play, variation of grips, spot bowling and alley textures. Laboratory fee. (3 Lab.)

PEH 222 Intermediate Gymnastics (1)

(Common Course Number PHED 1139)

Prerequisite: Demonstrated competence approved by the instructor. Basic tumbling and the all-around events for men and women will be emphasized at the intermediate performance level. Course emphasis is placed on the development, preparation and presentation of gymnastic routines. Laboratory fee. (3 Lab.)

PEH 223 Intermediate Swimming (1)

(Common Course Number PHED 1140)

Prerequisite: Demonstrated competence approved by the instructor. The correct performance of the crawl, elementary back stroke, side and breast strokes will be emphasized. Some speed and endurance swimming will be required. Laboratory fee. (3 Lab.)

PEH 225 Scuba Diving (2)

Prerequisite: Demonstrated competence approved by the instructor. This course includes instruction in the proper use of equipment, safety, physiology and open water diving. Students completing course requirements receive certification through one of several major accredited associations. Equipment rental fee. Laboratory fee. (1 Lec., 2 Lab.)

PEH 226 Advanced Life Saving (1)

(Common Course Number PHED 2155)

Prerequisite: Demonstrated competence approved by the instructor. Successful completion of this course qualifies students for the Red Cross Advanced Life Saving Certificate. Laboratory fee. (3 Lab.)

PEH 228 Advanced Open Water Scuba (2)

Prerequisite: Physical Education 225 or appropriate certifying agency entry level certificate or 10 log book hours. Instruction will include the introductory knowledge and skill development in the open water environment for the student to participate in underwater investigation, deep diving, search and light salvage, and limited visibility/night diving. Safety, special equipment, dive planning and dive buddy procedures will be covered. Upon successful completion of the course, the student will receive advanced open water certification through a qualified certifying agency. Laboratory fee. (1 Lec., 2 Lab.)

PEH 231 Intermediate Weight Training (1)

(Common Course Number PHED 1141)

Prerequisite: Demonstrated competence approved by the instructor. Skills and instruction in weight training techniques are developed beyond the beginner level. Laboratory fee. (3 Lab.)

PEH 232 Intermediate Self-Defense (1)

(Common Course Number PHED 1142)

Prerequisite: Demonstrated competence approved by the instructor. Students will be introduced to intermediate forms of defense and combinations of self defense methods. Emphasis is on practical application of self defense movements. Uniform required. Laboratory fee. (3 Lab.)

PEH 233 Intermediate Jogging (1)

(Common Course Number PHED 1143)

Prerequisite: Demonstrated competence approved by the instructor. Improvement of physical fitness through jogging is developed beyond the beginner stage. A higher level of fitness is expected. Laboratory fee. (3 Lab.)

PEH 234 Water Safety Instructor (2)

(Common Course Number PHED 2255)

Prerequisite: Current Advanced Life Saving Card. The principles and techniques for instructors in water safety and life saving classes are covered. Completion of the course qualifies the student to test for certification by the Red Cross as a water safety instructor. A uniform is required. Laboratory fee. (1 Lec., 2 Lab.)

PEH 235 Walking For Physical Fitness (1)

(Common Course Number PHED 1144)

Prerequisite: Demonstrated competence approved by the instructor. Students participate in a low impact exercise walking program beyond the beginning level. Laboratory fee. (3 Lab.)

PEH 236 The Coaching Of Football And Basketball (3)

(Common Course Number PHED 1321)

The skills and techniques of coaching football and basketball are presented. Included are the history, theories, philosophies, rules, terminology, and finer points of the sports. Emphasis is on coaching techniques. (2 Lec., 2 Lab.)

PEH 237 Intermediate Aerobic Dance (1)

(Common Course Number PHED 1145)

Prerequisite: Demonstrated competence approved by the instructor. This course emphasizes the development of cardiovascular endurance through a combination of walking, jogging, jumping, etc. Individual fitness levels are developed beyond the beginner level. (3 Lab.)

PEH 239 Intermediate Basketball (1)

(Common Course Number PHED 1146)

Prerequisite: Demonstrated competence approved by the instructor. Basic skills and techniques are refined beyond the beginner level. Analysis and practice of shooting, passing, dribbling, team play, strategies, and competitive play covered. Course emphasis is placed on the development and preparation for participation on an intercollegiate team. Equipment is furnished. Laboratory fee. (3 Lab.)

PEH 240 Intermediate Volleyball (1)

(Common Course Number PHED 1147)

Prerequisite: Demonstrated competence approved by the instructor. Basic skills and techniques are refined beyond the beginner level. Analysis and practice of the forearm pass, setting, spiking, serving, team play, strategies, and competitive play are covered. Course emphasis is placed on the development and preparation for participation on an intercollegiate team. Equipment is furnished. Laboratory fee. (3 Lab.)

PEH 241 Intermediate Baseball (1)

(Common Course Number PHED 1148)

Prerequisite: Demonstrated competence approved by the instructor. Basic skills and techniques are refined beyond the beginner level. Analysis and practice of hitting, fielding, pitching, team play, and competitive play are emphasized. Baseball history and interpretation of the rules are also covered. Course emphasis is placed on the development and preparation for participation on an intercollegiate team. Equipment is furnished. Laboratory fee. (3 Lab.)

PEH 245 Intermediate Cycling (1)

(Common Course Number PHED 1149)

Prerequisite: Demonstrated competence approved by the instructor. Improvement of physical fitness through cycling is developed beyond the beginner stage. A higher level of fitness is expected. Laboratory fee. (3 Lab.)

PEH 257 Advanced First Aid And Emergency Care (3)

(Common Course Number PHED 1306)

This course covers the theory and practice in advanced first aid and emergency care. Various aspects of safety education also are included. The course content has been selected from nationally recognized organizations in safety education and first aid. (3 Lec.)

PHYSICAL FITNESS TECHNOLOGY**PFT 101 Exercise Science (3)**

This course is a survey of scientific principles, methodologies, and research as applied to exercise and physical fitness. The emphasis is on physiological responses and adaptations to exercise. Basic elements of kinesiology, biomechanics, and motor learning are addressed. An introduction to the physical fitness industry is included. (3 Lec.)

PFT 120 Fitness And Exercise Testing I (4)

Techniques for conducting physical fitness assessments are studied. Tests of cardio-respiratory fitness, muscular strength and endurance, joint flexibility, body composition, and pulmonary capacity are included. The course includes an introduction to electrocardiography. Safety guidelines and precautions are emphasized. Equipment use and maintenance are covered. (3 Lec., 3 Lab.)

PFT 130 Basic Nutrition (3)

This survey course presents an overview of essential food nutrients. Methods for evaluating nutritional claims and guidelines for establishing nutritionally sound diets are covered. The concepts of caloric intake and energy expenditure in relationship to exercise are explored. Personal computer programs for nutritional analysis and nutritional counseling are introduced. (3 Lec.)

PFT 140 Physical Fitness Theory And Instruction (4)

Prerequisite: Physical Fitness Technology 120 or demonstrated competence approved by the instructor. Five health-related components of physical fitness are studied: cardiorespiratory endurance, muscular strength, muscular endurance, flexibility, and body composition. The theoretical bases underlying physical fitness and instructional techniques for fitness development are covered. Methods for leading an exercise session, including recruitment, design, instruction, and evaluation are studied. Safety and injury prevention are emphasized. Equipment use and maintenance are covered. (3 Lec., 3 Lab.)

PFT 200 Instruction In Lifestyle Change (3)

Health risk appraisals and their application to lifestyle change are covered. The components of weight control, smoking cessation, and stress management programs and the principles of exercise adherence are studied. Techniques in behavior modification, motivation, teaching, and counseling are addressed, and behavior change as lifestyle change is emphasized. The use of personal computer and audiovisual programs for health risk appraisal and lifestyle change instruction is included. (2 Lec., 3 Lab.)

PFT 212 Exercise Programming (3)

The scheduling and implementation of physical fitness classes, recreational activities, and competitive events are studied. Non-exercise programming and programming for special populations are also included. The design of safe, enjoyable activities is emphasized. (3 Lec.)

PFT 220 Fitness And Exercise Testing II (4)

Prerequisite: PFT 120 or demonstrated competence approved by the instructor. This is an advanced course in graded exercise testing. Various exercise testing protocols for determining cardiorespiratory fitness are covered. Basic electrocardiography is studied, including abnormalities that would prompt limitation or termination of an exercise tolerance test. Methods for prescribing exercise programs based upon exercise test results are also studied. (3 Lec., 3 Lab.)

PFT 230 Prevention And Care Of Exercise Injury (3)

Prerequisite: Physical Education 257, current Advanced First Aid and CPR Certification, or demonstrated competence approved by the instructor. Methods for the injury-prevention design of the exercise setting and exercise program are covered in this course. The use of physical conditioning techniques to prevent injury, and current exercise fads and myths that promote injury are explored. Methods for injury recognition and evaluation, the on-site care of exercise injuries, and emergency procedures are presented. (2 Lec., 3 Lab.)

PFT 240 Practical Aspects Of The Fitness Industry (3)

This course is a survey of the practical aspects of the physical fitness industry. Topics covered include equipment cost analysis, program marketing, legal issues, policy formation, budgetary planning, and time management. A variety of computer applications and current industry trends are also covered. (3 Lec.)

PFT 250 Psychosocial Aspects Of Sport And Exercise (3)

The social and cultural influences on exercise initiation and exercise adherence are explored. Emphasis is given to the interrelatedness of mental skills and physical skills and the value of sport and exercise for overall well-being. Techniques for maximizing performance are included. (3 Lec.)

PFT 281 Selected Topics In Physical Fitness Technology (1)

This is an elective course designed to deal with specific topics in physical fitness technology. As the topics change, this course may be repeated twice for credit. (1 Lec.)

PFT 283 Selected Topics In Physical Fitness Technology (3)

This is an elective course designed to deal with specific topics in physical fitness technology. As the topics change, this course may be repeated once for credit. (3 Lec.)

PFT 290 Practical Application In Physical Fitness Technology I (1)

Prerequisites: PFT 140. The student serves as an instructional assistant in a physical education activity class. Course objectives are individualized to the student. The student assists in a class from one of the three activity course clusters: Aerobic Activities, Strength Activities, Recreational/Sport Activities. (3 Lab.)

PFT 291 Practical Application In Physical Fitness Technology II (1)

Prerequisite: PFT 290. The student serves as an instructional assistant in a physical education activity class. Course objectives are individualized to the student. The class in which the student assists must be from an activity course cluster (Aerobic Activities, Strength Activities, Recreational/Sport Activities) different from the student's PFT 290 assignment. (3 Lab.)

PFT 703 Cooperative Work Experience (3)

Prerequisites: Completion of two courses in Physical Fitness Technology or instructor approval. This course combines productive work experience with academic study. The student, employer and instructor will develop a written competency-based learning plan with varied learning objectives and work experiences. Students must develop new learning objectives each semester. The seminar consists of orientation to cooperative work experience, writing learning objectives, customer service, team building, problem solving, goal setting, and conflict resolution. (1 Lec., 15 Lab.)

PFT 704 Cooperative Work Experience (4)

Prerequisites: Completion of two courses in Physical Fitness Technology or instructor approval. This course combines productive work experience with academic study. The student, employer and instructor will develop a written competency-based learning plan with varied learning objectives and work experiences. Students must develop new learning objectives each semester. The seminar consists of orientation to cooperative work experience, writing learning objectives, customer service, team building, problem solving, goal setting, and conflict resolution. (1 Lec., 20 Lab.)

PFT 713 Cooperative Work Experience (3)

Prerequisite: Completion of Physical Fitness Technology 703 or 704 or instructor approval. This course combines productive work experience with academic study. The student, employer and instructor will develop a written competency-based learning plan with varied learning objectives and work experiences. Students must develop new learning objectives each semester. The seminar consists of orientation to cooperative work experience, writing learning objectives, customer service, time management, stress management, chemical dependency, and personal wellness. (1 Lec., 15 Lab.)

PFT 714 Cooperative Work Experience (4)

Prerequisite: Completion of Physical Fitness Technology 703 or 704 or instructor approval. This course combines productive work experience with academic study. The student, employer and instructor will develop a written competency-based learning plan with varied learning objectives and work experiences. Students must develop new learning objectives each semester. The seminar consists of orientation to cooperative work experience, writing learning objectives, customer service, time management, stress management, chemical dependency, and personal wellness. (1 Lec., 20 Lab.)

PFT 803 Cooperative Work Experience (3)

Prerequisite: Completion of Physical Fitness Technology 713 or 714 or instructor approval. This course combines productive work experience with academic study. The student, employer and instructor will develop a written competency-based learning plan with varied learning objectives each semester. The seminar consists of orientation to cooperative work experience, writing learning objectives, customer service, job interviews, career goals, work ethics, and professional resources. (1 Lec., 15 Lab.)

PFT 804 Cooperative Work Experience (4)

Prerequisite: Completion of Physical Fitness Technology 713 or 714 or instructor approval. This course combines productive work experience with academic study. The student, employer and instructor will develop a written competency-based learning plan with varied learning objectives each semester. The seminar consists of orientation to cooperative work experience, writing learning objectives, customer service, job interviews, career goals, work ethics, and professional resources. (1 Lec., 20 Lab.)

PHYSICAL SCIENCE

PSC 118 Physical Science (4)

(Common Course Number PHYS 1415)

This course is primarily for non-science majors. It is a study of the basic principles and concepts of physics, chemistry, and nuclear science. The three basic sciences are related to the physical world at an introductory level. Laboratory fee. (3 Lec., 3 Lab.)

PSC 119 Physical Science (4)

(Common Course Number PHYS 1417)

This course is for non-science majors. It focuses on the interaction of the earth sciences and the physical world. Geology, astronomy, meteorology, and space science are emphasized. Selected principles and concepts are explored. This course is also offered as Earth Science 117. Laboratory fee. (3 Lec., 3 Lab.)

PHYSICS**PHY 111 Introductory General Physics (4)**

(Common Course Number PHYS 1401)

Prerequisite: Two years of high school algebra, including trigonometry, or the equivalent. This course is for pre-dental, biology, premedical, pre-pharmacy, and pre-architecture majors and other students who need a two-semester technical course in physics. Mechanics and heat are studied. Laboratory fee. (3 Lec., 3 Lab.)

PHY 112 Introductory General Physics (4)

(Common Course Number PHYS 1402)

Prerequisite: Physics 111. This course is a continuation of Physics 111. Electricity, magnetism, light, and sound are studied. Laboratory fee. (3 Lec., 3 Lab.)

PHY 117 Concepts In Physics (4)

(Common Course Number PHYS 1405)

This course is for non-science majors. It introduces principles of physics and does not require a mathematical background. Emphasis is on classical mechanics and thermodynamics. Historical developments and their impact on daily life are included. The principle of energy conservation is stressed, and current problems of worldwide energy production are examined. Laboratory fee. (3 Lec., 3 Lab.)

PHY 118 Concepts In Physics (4)

(Common Course Number PHYS 1407)

This is for non-science majors. It introduces principles of physics and does not require a mathematical background. Emphasis is on modern developments in physics. Topics include acoustics, electricity and magnetism, light and the electromagnetic spectrum, atomic physics, and relativity. Laboratory fee. (3 Lec., 3 Lab.)

PHY 131 Applied Physics (4)

Prerequisite: Mathematics 195 or concurrent enrollment in Mathematics 195. This course is primarily for students in technical programs. The properties of matter, mechanics, and heat are introduced. Emphasis is on uses and problem-solving. Laboratory fee. (3 Lec., 3 Lab.)

PHY 132 Applied Physics (4)

Prerequisite: Physics 131. This course is a continuation of Physics 131. Concepts of sound, light, electricity, magnetism, and atomic theory are explained. Laboratory fee. (3 Lec., 3 Lab.)

PHY 201 General Physics (4)

(Common Course Number PHYS 2425)

Prerequisite: Credit or concurrent enrollment in Mathematics 124. This course is designed primarily for physics, chemistry, mathematics, and engineering majors. The principles and applications of mechanics, wave motion, and sound are studied. Emphasis is on fundamental concepts, problem-solving, notation, and units. The laboratory includes a one-hour problem session. Laboratory fee. (3 Lec., 3 Lab.)

PHY 202 General Physics (4)

(Common Course Number PHYS 2426)

Prerequisites: Physics 201 and credit or concurrent enrollment in Mathematics 225. This course presents the principles and applications of heat, electricity, magnetism, and optics. Emphasis is on fundamental concepts, problem-solving, notation and units. The laboratory includes a one-hour problem session. Laboratory fee. (3 Lec., 3 Lab.)

**POSTAL SERVICE
ADMINISTRATION****PSA 110 Introduction To Postal Service (3)**

This course depicts and compares the private, corporate, and government agencies which have been responsible for mail services throughout the world. The current U.S. Postal Organization, mandated by public law, is studied as well as postal philosophy, policies, procedures, rules, regulations, planning, and organization cost control. (3 Lec.)

PSA 120 Mail Processing (3)

Through discussions of mail processing and transportation procedures of the U.S. Postal Service, this course will provide the student with an in-depth view of flow characteristics involved in movement of mail from sender to recipient. The course will also include a study of the systems devised to attain maximum efficiency in mail handling with a minimum of errors. (3 Lec.)

PSA 122 Customer Services (3)

This course provides functional information about mail delivery and collection systems and in-depth information about services provided for postal customers. Included in the course are rural and city delivery/systems, marketing of postal products and service, and techniques of effective public relations. (3 Lec.)

PSA 216 Postal Management (3)

This course will provide an overview of the laws and practices leading to the current labor situation in the postal service. Discussion will focus on the Equal Employment Opportunity Act, the development of labor unions, national and local agreements, grievance procedures and disciplinary action procedures. The student is given an opportunity to apply practical Postal Service and management theories in system analysis, problem solving grids and other tools of management decision making to arrive at solutions of Postal Service problems. (3 Lec.)

PSYCHOLOGY

PSY 101 Introduction To Psychology (3)

(Common Course Number PSYC 2301)

Introduction to Psychology surveys major topics in the study of behavior. Factors which determine and affect behavior are examined. Psychological principles are applied to the human experience. (3 Lec.)

PSY 103 Human Sexuality (3)

(Common Course Number PSYC 2306)

Students may register for either Psychology 103 or Sociology 103 but receive credit for only one of the two. Topics include physiological, psychological, and sociological aspects of human sexuality. (3 Lec.)

PSY 131 Applied Psychology And Human Relations (3)

Psychological principles are applied to human relations problems in business and industry. Topics include group dynamics and adjustment factors for employment and advancement. (3 Lec.)

PSY 201 Developmental Psychology (3)

(Common Course Number PSYC 2314)

Prerequisite: Psychology 101. This course is a study of human growth, development, and behavior. Emphasis is on psychological changes during life. Processes of life from prenatal beginnings through adulthood and aging are included. (3 Lec.)

PSY 202 Applied Psychology (3)

(Common Course Number PSYC 2316)

Prerequisite: Psychology 101. Psychological facts and principles are applied to problems and activities of life. Emphasis is on observing, recording, and modifying human behavior. Some off-campus work may be required. (3 Lec.)

PSY 205 Psychology Of Personality (3)

(Common Course Number PSYC 2316)

Prerequisite: Psychology 101. This course is an introduction to the study of personality. Topics of personality and adjustment will be studied in the context of various personality theories. Emphasis will be on the application of those topics. (3 Lec.)

PSY 207 Social Psychology (3)

(Common Course Number PSYC 2319)

Prerequisite: Psychology 101 or Sociology 101. Students may register for either Psychology 207 or Sociology 207 but may receive credit for only one. Theories of individual behavior in the social environment are surveyed. Topics include the socio-psychological process, attitude formation and change, interpersonal relations, and group processes. (3 Lec.)

QUALITY CONTROL TECHNOLOGY

QCT 121 Introduction To Quality Control (2)

Prerequisite: Credit or concurrent enrollment in Math 195. This course introduces some of the concepts and techniques currently being used by industry to prevent defective products from reaching the consumer. Included are reliability analysis, control charts, inspection and sampling plans. The language, terminology and organization of typical industry quality control functions are studied. Elementary probability and statistics concepts are presented as background. (2 Lec.)

QCT 122 Dimensional Measurement (3)

Prerequisite: Credit or concurrent enrollment in Quality Control Technology 121 or demonstrated competence approved by the instructor. This course provides an opportunity to obtain a practical and theoretical understanding of many types of mechanical and optical measuring devices which are used in dimensional inspection. Laboratory fee. (2 Lec., 2 Lab.)

QCT 220 Physical And Environmental Testing (3)

Prerequisite: Quality Control Technology 121. This course introduces tests and evaluations used on raw materials and fabricated parts. Topics include tensile and hardness testing, metallurgical cross-sectioning, temperature-humidity cycling, and corrosion resistance testing. Laboratory fee. (2 Lec., 2 Lab.)

QCT 227 Nondestructive Evaluation (3)

Prerequisite: Quality Control Technology 122. This course provides a basic background in such areas as industrial radiography, magnetic particle and penetrant inspection, eddy current, and ultrasonic testing. Laboratory fee (2 Lec., 2 Lab.)

QCT 236 Advanced Quality Control Systems (4)

Prerequisite: Quality Control Technology 122. A detailed study is made of the control and information systems and decision procedures necessary to effectively operate the quality control function. Topics and problems include reliability process control, failure analysis, and corrective action systems. A problem-prevention and problem-solving approach is emphasized. (3 Lec., 2 Lab.)

RADIOGRAPHY TECHNOLOGY

RAD 103 Radiographic Positioning And Osteology I (2)

Prerequisites: Minimum grade of "C" or better in all previous Radiologic Sciences courses and support courses. This course is designed to give the student an introduction to the study of basic routine positioning and osteology of various human structures, including the chest, GI tract, biliary tract, urinary system, and reproductive systems. Laboratory fee. (4 Lec., 4 Lab.)

RAD 105 Principles Of Radiographic Exposure I (1)
Prerequisites: Minimum grade of "C" or better in all previous Radiologic Sciences and support courses. Film processing techniques and prime exposure factors will be the main focus of this course. Four radiographic quality factors will be introduced with emphasis on radiographic definition and distortion. Laboratory fee. (2 Lec., 2 Lab.)

RAD 107 Applied Physics I (1)
Prerequisites: Minimum grade of "C" or better in all previous Radiologic Sciences and support courses. An analysis of basic principles related to magnetic fields, induction principles, and transformers is the focus of this course. An analysis of basic radiographic x-ray tubes and rectifiers will also be discussed. Laboratory fee. (2 Lec., 2 Lab.)

RAD 108 Clinical Education Orientation I (1)
This course will introduce the student to an area Radiology department and provide an overview of the various components of the department to include the reception area, processing room, patient transport, and the film filing room. Under supervision of faculty and clinic staff, the student will observe, assist and perform tasks specific to these areas. (4 Lab.)

RAD 111 Radiographic Positioning And Osteology II (2)
Prerequisite: Minimum grade of "C" or better in all previous Radiologic Sciences courses. This course is a continuation of Radiographic Positioning and Osteology I, with focus on the study of the positioning and osteology of the upper extremities, pectoral girdle and lower extremities. Laboratory fee. (4 Lec., 4 Lab.)

RAD 113 Principles Of Radiographic Exposure II (1)
Prerequisites: Minimum grade of "C" or better in all previous Radiologic Sciences and support courses. This course is a continuation of Radiologic Sciences 105 with emphasis on radiographic density and contrast, as well as principles of technic formation and conditions influencing exposure factors. Laboratory fee. (2 Lec., 2 Lab.)

RAD 115 Applied Physics II (1)
Prerequisite: Minimum grade of "C" or better in all previous Radiologic Sciences courses. This course is a continuation of Applied Physics I with emphasis on the analysis of physical principles of interaction of radiation and matter and the production of x-rays. Laboratory fee. (2 Lec., 2 Lab.)

RAD 116 Clinical Education Orientation II (1)
This course is a continuation of Radiologic Sciences 108 and provides the student continued opportunity to observe, assist and perform tasks specific to the Radiology reception desk, film filing room, patient transport and processing room under faculty and staff supervision. (4 Lab.)

RAD 206 Radiographic Positioning And Osteology III (3)
Prerequisite: Minimum grade of "C" or better in all previous Radiologic Sciences courses. This course is a continuation of Radiographic Positioning and Osteology II, with emphasis on the positioning and osteology of the thoracic cage, vertebral column, skull, paranasal sinuses, facial bones, and pelvic girdle. Laboratory fee. (2 Lec., 3 Lab.)

RAD 209 Radiographic Pathology (2)
Prerequisite: Minimum grade of "C" or better in all previous Radiologic Sciences courses. This course provides basic foundation in the pathology of human disease processes. Discussion will include the pathogenesis of disease, symptoms, radiographic diagnostic criteria, and prognosis. (2 Lec.)

RAD 227 Clinical Education I (4)
Prerequisite: Minimum grade of "C" or better in all previous Radiologic Sciences courses. Under supervision of faculty and clinical staff, the student will assist, observe, and perform basic diagnostic radiographic procedures in a clinical setting. Students are assigned to an affiliated hospital radiology department. (24 Lab.)

RAD 228 Principles of Radiologic Exposure III (3)
Prerequisites: Minimum grade of "C" or better in all previous Radiologic Sciences courses. This course is a continuation of Radiologic Sciences 113 with an emphasis on the study of processor quality assurance and quality control, mathematical relationships related to technic formation, and various imaging modalities. Laboratory fee. (2 Lec., 1 Lab.)

RAD 244 Clinical Education II (6)
Prerequisite: Minimum grade of "C" or better in all previous Radiologic Sciences courses. This course is a continuation of Radiologic Sciences 227. Students will be assigned to an affiliated hospital radiology department. (32 Lab.)

RAD 245 Clinical Education III (Externship) (2)
Prerequisite: Minimum grade of "C" or better in all previous Radiologic Sciences courses. This course is a continuation of Radiologic Sciences 224. Students will be assigned to an affiliated hospital radiology department. (39 Lab.)

RAD 246 Clinical Education IV (Externship) (2)
Prerequisite: Minimum grade of "C" or better in all previous Radiologic Sciences courses. This course is a continuation of Radiologic Sciences 245. Students will be assigned to an affiliated hospital radiology department. (39 Lab.)

RAD 251 Radiation Protection And Radiation Biology (2)

Prerequisites: Minimum of "C" or better in all previous Radiologic Sciences and support courses. This course is designed to introduce the student to the application of radiation-limiting devices and techniques utilized in radiography to protect the public from excessive radiation during radiographic examinations. Discussion will include patient and personnel protective measures, as well as various methods to detect and measure radiation. This course will also provide an introduction to the theory of radiobiology. Discussion will focus on the interaction between ionizing radiation and living tissue, with emphasis on fundamental radiological principles. Cellular, systemic, and total body response to radiation from diagnostic technology, nuclear medicine technology, and radiation therapy will be presented. (2 Lec.)

(RAD) See RADIOLOGIC SCIENCES for Other RAD courses

RADIOLOGIC SCIENCES

RAD 104 Introduction To Radiologic Sciences I (3)

Prerequisites: Admission to the Radiologic Sciences program and concurrent enrollment or previous completion of required semester support courses. This course is designed to introduce the student to the field of Radiologic Technology and Diagnostic Medical Sonography. This course will focus on medical ethics, medical terminology, and history of radiology. An orientation to area medical center Radiology Departments for demonstration and observation of radiologic skills will be included. (2 Lec., 1 Lab.)

RAD 106 Introduction To Radiologic Sciences II (3)

Prerequisites: Minimum grade of "C" or better in all previous Radiologic Sciences and support courses and concurrent enrollment and/or previous completion of required semester support courses. This course will focus on basic patient care skills for Diagnostic Radiography/Sonography students. Demonstration of patient care skills will be presented in the laboratory setting. Principles of Medical Imaging, a continuation of Medical Terminology, and visits to affiliated Radiology Departments will be included. (2 Lec., 2 Lab.)

(DMS) See DIAGNOSTIC MEDICAL SONOGRAPHY

(RAD) See RADIOGRAPHY TECHNOLOGY for Other RAD courses

RADIO/TELEVISION

RTV 210 Television Production I (3)

(Common Course Number COMM 1336)

Prerequisite: Journalism 101 or demonstrated competence approved by the instructor. This course introduces the student to station organization, studio operation, and the use of studio equipment. Topics include continuity, camera operation, sound, lighting, and videotape recording. (2 Lec., 3 Lab.)

RTV 211 Television Production II (3)

(Common Course Number COMM 1337)

Prerequisite: Radio/TV 210. This course is a continuation of Radio/TV 210. Emphasis is on the concept and technique of production of television broadcasts in practical situations. (2 Lec., 3 Lab.)

READING

RD 101 College Reading And Study Skills (3)

Comprehension techniques for reading college texts are emphasized. Also included are vocabulary development, critical reading, and rate flexibility. Study skills addressed include listening, note taking, underlining, concentrating, and memory. (3 Lec.)

RD 102 Speed Reading And Learning (3)

Reading and learning skills are addressed. Speed reading techniques and comprehension are emphasized. Learning and memory skills are also covered. (3 Lec.)

REAL ESTATE

RE 130 Real Estate Principles (3)

This course provides an overview of licensing for the real estate broker and salesman, ethics of practice, titles to and conveyancing of real estate, legal descriptions, law of agency, deeds, encumbrances and liens. Distinctions between personal and real property, contracts, appraisal, finance and regulations, closing procedures, and real estate mathematics are also included. Three classroom hours will be devoted to federal, state and local laws governing housing discrimination, housing credit discrimination, and community reinvestment. (3 Lec.)

RE 131 Real Estate Finance (3)

Prerequisite: Real Estate 130 or concurrent enrollment in Real Estate 130 or equivalent. This course covers monetary systems, primary and secondary money markets, sources of mortgage loans, federal government programs and loan applications, processes, and procedures. Closing costs, alternative financial instruments, equal credit opportunity act, community reinvestment act, and state housing agency are also included. (3 Lec.)

RE 133 Real Estate Marketing (3)

Prerequisite: Real Estate 130 or concurrent enrollment in Real Estate 130 or the equivalent. The emphasis of this course is on real estate professionalism and ethics and the satisfaction of all parties. Topics covered include characteristics of successful salesmen, time management, psychology of marketing, listing procedures, advertising, negotiating and closing, financing, and the Deceptive Trade Practices-Consumer Protection Act, as amended, Section 17.01 et seq, Business and Commerce Code. (3 Lec.)

RE 134 Real Estate Appraisal-Commercial (3)

Prerequisite: Real Estate 130 and 131 or the equivalent. This course focuses on commercial principles and methods of appraising. Topics include central purposes and functions of an appraisal, social and economic determinants of value, appraisal case studies, cost, market data and income approaches to value estimates, final correlations, and reporting. (3 Lec.)

RE 135 Real Estate Appraisal-Residential (3)

Prerequisites: Real Estate 130 and 131 or the equivalent. This course focuses on residential principles and methods of appraising. Topics include central purposes and functions of an appraisal, social and economic determinants of value, appraisal case studies, cost, market data and income approaches to value estimates, final correlations, and reporting. (3 Lec.)

RE 136 Real Estate Law (3)

Prerequisite: Real Estate 130 or concurrent enrollment in Real Estate 130 or the equivalent. This course examines the legal concepts of real estate land description, real property rights and estates in land, contracts, conveyances, encumbrances, foreclosures, recording procedures, and evidence of titles. (3 Lec.)

RE 138 Real Estate Law: Contracts (3)

Prerequisite: Real Estate 130 or concurrent enrollment in Real Estate 130 or equivalent. Concepts of general contract law are reviewed as required by the Real Estate License Act. Emphasis is on detailed instructions and hands-on exercises in preparation of all promulgated contract forms. The Real Estate License Act and the working process of the Broker-Lawyer Committee are included. (3 Lec.)

RE 230 Real Estate Office Management/ Brokerage (3)

Prerequisite: Real Estate 130 or demonstrated competence approved by the instructor. This course focuses on knowledge and skills required to manage a real estate office. Topics include law of agency, planning and organization, operational policies and procedures, recruiting, selection and training of personnel, records and control, and real estate firm analysis and expansion criteria. (3 Lec.)

RE 233 Commercial And Investment Real Estate (3)

Prerequisite: Real Estate 130 or demonstrated competence approved by the instructor. Topics include real estate investment characteristics, techniques of investment analysis, time-value of money, discounted and non-discounted investment criteria, leverage, tax shelters depreciation, and applications to property tax. (3 Lec.)

RE 235 Property Management (3)

Prerequisite: Real Estate 130 or demonstrated competence approved by the instructor. This course focuses on the various aspects of managing property. The role of the property manager, landlord policies, operational guidelines, leases, lease negotiations, tenant relations, maintenance, reports, habitability laws, and the Fair Housing Act are included. (3 Lec.)

RE 237 Real Estate Construction (3)

Prerequisite: Real Estate 130 or demonstrated competence approved by the instructor. This course focuses on the evaluation of the condition of real property through study of building architectural styles, phases of construction, and building component systems. These component systems include foundations, frames, exterior and interior finish systems, electrical, plumbing and HVAC systems. The inspection process and identification of latent defects will also be covered. (3 Lec.)

RE 240 Special Problems In Real Estate (1)

This is a special problems study course for organized class instruction in real estate. Examples of topics might include: market analysis and feasibility studies, land economics, international real estate, urban planning and development, tax shelter regulations, international money market, environmental impact and energy conservation. This course may be repeated for credit up to a maximum of three hours of credit. (1 Lec.)

RE 241 Special Problems In Real Estate (3)

This is a special problems study course for organized class instruction in real estate. Examples of topics might include: market analysis and feasibility studies, land economics, international real estate, urban planning and development, tax shelter regulations, international money market, environmental impact and energy conservation. This course may be repeated for credit up to a maximum of six hours of credit. (3 Lec.)

RE 704 Cooperative Work Experience (4)

Prerequisites: Completion of two core Real Estate courses, concurrent enrollment in a core or related course or instructor approval. This course combines productive work experience with academic study. The student, employer and instructor will develop a written competency-based learning plan with varied learning objectives and work experiences. Students must develop new learning objectives each semester. The seminar consists of the development of a personalized on-the-job training plan and discussions with field experts on the application of real estate fundamentals which may include brokerage, marketing, finance, law, property management and appraisal in the residential and commercial real estate sectors. (1 Lec., 20 Lab.)

RE 714 Cooperative Work Experience (4)

Prerequisites: Completion of two core real estate courses and Real Estate 704, enrollment in a core or related course or instructor approval. This course combines productive work experience with academic study. The student, employer and instructor will develop a written competency-based learning plan with varied learning objectives and work experiences. Students must develop new learning objectives each semester. The seminar consists of the development of a personalized on-the-job training plan and continuation of discussions with field experts on the application of real estate fundamentals which may include brokerage, marketing, finance, law, property management and appraisal in the residential and commercial real estate sectors. Seminar topics will build upon and not duplicate learning experience of Real Estate 704. (1 Lec., 20 Lab.)

RELIGION**REL 101 Religion In American Culture (3)**

This course examines the nature of religion in America. It covers important influences from the past and characteristics of current religious groups and movements. Emphasis is on understanding the role of religion in American life. (3 Lec.)

REL 102 Contemporary Religious Problems (3)

Both classic and recent issues are explored. Such topics as the nature of religion, the existence of God, world religions, mysticism, sexuality and religion, and the interpretation of death are included. This course may be offered with emphasis on a specific topic, such as death and dying. (3 Lec.)

REL 105 The History And Literature Of The Bible (3)

This course presents a history and literature of both the Hebrew people during the Old Testament period and the Christian movement during the New Testament period with emphasis upon the origins and development of the religious ideas and institutions of the biblical people. (3 Lec.)

REL 201 Major World Religions (3)

This course surveys the major world religions. Hinduism, Buddhism, Judaism, Islam, and Christianity are included. The history of religions is covered, but the major emphasis is on current beliefs. Other topics may also be included, such as the nature of religion, tribal religion, and alternatives to religion. (3 Lec.)

RESPIRATORY CARE**RES 155 Technology I (4)**

Prerequisites: Admission to the Respiratory Care Program and minimum grade of "C" in required prerequisite courses. Basic respiratory care skills are described, demonstrated, then practiced in the laboratory and hospital setting. Equipment function, maintenance and patient response to therapy are discussed. Therapeutic procedures are generally limited to the noncritical patient. Laboratory fee. (3 Lec., 6 Lab)

RES 157 Technology II (7)

Prerequisites: Minimum grade of "C" in all previous Respiratory Care courses and required support courses. This course is a continuation of Respiratory Care 155. Specific details of the design and function of respiratory therapy equipment are discussed. Procedures will be demonstrated and practiced in the laboratory and clinical setting. Laboratory fee. (3 Lec., 19 Lab.)

RES 159 Structure And Function Of The Cardiopulmonary System (3)

Prerequisites: Admission to the Respiratory Care Program and minimum grade of "C" in required prerequisite courses. This course focuses on the normal anatomy and physiology of the cardiopulmonary system. (3 Lec.)

RES 165 Pathology I (3)

Prerequisites: Minimum grade of "C" in all previous Respiratory Care courses and required support courses. This course provides an in-depth study of disease states related to cardiopulmonary function and the application and interpretation of related diagnostic, evaluation, and therapeutic procedures. (3 Lec.)

RES 166 Pharmacology I (3)

Prerequisites: Minimum grade of "C" in all previous Respiratory Care courses and required support courses. This course introduces the student to the fundamental principles and practices of Respiratory Care pharmacology. Identification, classification, dosage calculation, and principle effects and side effects of cardiopulmonary drugs are discussed. (3 Lec.)

RES 169 Technology III (3)

Prerequisites: Minimum grade of "C" in all previous Respiratory Care courses and required support courses. This course is a continuation of Respiratory Care 157 with introduction of critical patient care procedures. Equipment and procedures utilized in long term ventilatory support of the critically ill patient are emphasized. Laboratory fee. (4 Lec., 25 Lab.)

RES 170 Technology IV (3)

Prerequisites: Minimum grade of "C" in all previous Respiratory Care courses and required support courses. This course is a continuation of Respiratory Care 169 with emphasis on the management of the patient requiring mechanical ventilatory support. Topics such as patient assessment and complications of continuous ventilation are discussed. Laboratory fee. (4 Lec., 25 Lab.)

RES 274 Technology V (6)

Prerequisites: Minimum grade of "C" in all previous Respiratory Care courses and required support courses; concurrent enrollment in Respiratory Care 275 and Biology 216. This course is a continuation of Respiratory Care 170. This course provides instruction in procedures related to the diagnosis and management of diseases and conditions which affect the cardiopulmonary system. Students participate in performance of diagnostic procedures in the laboratory setting and practice management of mechanically ventilated patients in the critical care setting. Laboratory fee. (2 Lec., 20 Lab.)

RES 275 Advanced Pathology/Pharmacology (3)

Prerequisites: Minimum grade of "C" in all previous Respiratory Care courses and required support courses; concurrent enrollment in Respiratory Care 274 and Biology 216. This course provides advanced study in assessment and monitoring of patients with cardiopulmonary diseases. The student is introduced to pharmacologic agents not administered by inhalational methods which may affect the cardiopulmonary system. (3 Lec.)

RES 276 Technology VI (6)

Prerequisites: Minimum grade of "C" in all previous Respiratory Care courses and required support courses; concurrent enrollment in Respiratory Care 277. This course focuses on the assessment and rehabilitation of patients with diseases or conditions that effect the cardiopulmonary system. Problem-solving of clinical situations is emphasized. Laboratory and clinical experience in pulmonary rehabilitation, pediatric/neonatal general and intensive respiratory care will be provided. Laboratory fee. (3 Lec., 18 Lab.)

RES 277 Pathology II (3)

Prerequisites: Minimum grade of "C" in all previous Respiratory Care courses and required support courses. This course provides an in-depth study of fetal lung development and the cardiopulmonary disorders associated with neonates and pediatric patients. (3 Lec.)

SMALL ENGINE**SE 154 Small Engine Service Principles (4)**

This course includes the principles of operation and failure analysis of two and four cycle engines. The principles of basic electricity as applied to small engines are also covered. Laboratory fee. (120 Contact Hours)

SE 155 Small Engine Tune-Up (4)

This course includes the tune-up procedures for small engines including ignition service and carburetion theory and service. Laboratory fee. (120 Contact Hours)

SE 156 Small Engine Two Stroke Overhaul (4)

Overhaul procedures for two stroke engines and drive systems as applied to small engine powered equipment are topics covered in this course. Laboratory fee. (120 Contact Hours)

SE 157 Small Engine Four Stroke Overhaul (4)

This course includes overhaul procedures for four stroke engines, drive systems, and hydraulic systems, as applied to small engine powered equipment. Laboratory fee. (120 Contact Hours)

SE 158 Small Engine Electrical Systems (4)

This course includes the theory of operation and troubleshooting procedures for ignition, charging, and accessory systems as applied to small engine powered equipment. Laboratory fee. (120 Contact Hours)

SE 733 Cooperative Work Experience (3)

Prerequisites: Completion of two courses in the Small Engine Mechanics program or instructor approval. This course combines productive work experience with academic study. The student, employer and instructor will develop a written competency-based learning plan with varied learning objectives and work experiences. Students must develop new learning objectives each semester. The seminar consists of topics which include job interview and job application techniques, job site interpersonal relations, employer expectations of employees and service repair liability. (1 Lec., 15 Lab.)

SOCIAL WORK**SW 101 Orientation To Social Services (3)**

The historical development of social services in our society is surveyed. The student is introduced to concepts of "social welfare" and "social policy" which emphasize the relationship between social policy and delivery of social services. Descriptions of present day social welfare programs in terms of their philosophy, legal base, program policy, and impact on both the target service group and the larger community are presented. Contact with community agencies gives students the opportunity to assess their interest in a helping profession. Cultural diversity and ethical issues are emphasized. (3 Lec.)

SW 105 Basic Interviewing And Counseling Skills (3)

Counseling techniques such as intake interviewing, relationship building, problem identification and resolution are studied. Skill development in the areas of assessment, intervention, prevention and planning are part of the course. Techniques of listening, observing, and recording are practiced. Various therapeutic models are reviewed. Cultural diversity and ethical issues are emphasized. (3 Lec.)

SW 107 Abnormal Behavior (3)

Factors associated with defining and identifying abnormal behavior are explored. The psychological meaning of mental illness in the family and the consequences of seeking help for the mentally ill family member will be covered. Attention will be paid to the social consequences of abnormal behavior. (3 Lec.)

SW 111 Aging In America (3)

Current demographics reflecting the aging of America will be studied. Course objectives focus on understanding people and the aging process. Improving the quality of life for the aging and the effects of discrimination will be emphasized. (3 Lec.)

SW 115 Adolescent Life Cycle (3)

This is the study of the development phase from adolescence through young adulthood. The course will focus on the tasks and goals to be achieved during these stages. Physical and psychological changes, as well as the areas of interpersonal relationships and the individual ability to relate to the social environment, will be studied. An in-depth exploration of certain critical areas of the adolescent period of the life cycle to increase the student's understanding and ability to work with youth will be emphasized. Personality theories for understanding behavior will be presented. (3 Lec.)

SW 201 Introduction To Social Work (3)

An overview of the social work profession that introduces many of the terms, concepts, people and critical events that have shaped the profession are presented. The student obtains an understanding of the reasons social work exists in this society and the purpose of the "Code of Ethics" in preserving social work's professional integrity. The role of the National Association of Social Workers and the Council on Social Work Education in maintaining and strengthening the social work education and standards is examined. Students learn to recognize the importance of human service agencies in fostering or diminishing the quality of services provided and have some empathy for what it is like to be poor or to experience the impact of institutional racism, sexism or ageism. (3 Lec.)

SW 205 Social Policies And Programs For The Aging (3)

The legislative origins of social policies affecting the aging are analyzed. Resources and services for the aging are surveyed. Emphasis is placed on fostering independent living. Concepts of alternate housing, health care, community services, and leisure time activities are presented. (3 Lec.)

SW 209 Life Cycle Of The Aged (3)

The biological, psychological, and social aspects of aging are presented. The objective of the course is to provide a framework for implementing a comprehensive psychosocial diagnosis within a family context and social work intervention based on an understanding of the aged persons, the family, the community and institutional environments. The intergenerational concept and treatment model is introduced. (3 Lec.)

SW 213 Health Status Of The Aged (3)

The course will address the issues of wellness as well as the many illnesses likely to affect the aging. Medical, dental and nursing services are evaluated from an institutional and a community basis. The concepts of home support services, home health care services are studied. Case management which is the coordinating and linking component of the long-term care continuum is studied. (3 Lec.)

SW 217 Special Problems Of Youth (3)

Prerequisite: Social Work 115. The course provides information to the student about the particular problems of youth, examines these problems in some depth, and explains their implications for the worker delivering services to this population. Information about youth serving social institutions of both a preventive and rehabilitative nature is presented. Emphasis is given to issues of chemical abuse and their effects. (3 Lec.)

SW 219 Social Work Methods And Procedures (3)

Prerequisites: Social Work 101 and Social Work 105. Basic social work practices are introduced. The course provides a framework for the development of beginning intervention skills and techniques presented through the problem-solving model. A framework for assessment and for the understanding of the types of problems that arise in the person-situation interaction is developed. Oral and written communications essential for assessment, screening, intervention, client information and referral are studied. Reports, record-keeping, interviewing and counseling techniques are developed. Cultural diversity and ethical issues are emphasized. (3 Lec.)

SW 226 Nursing Home Activity Director Training (4)

The role of the nursing home activity director is the focus of this course. Both the roles of the nursing home and of the activities program are covered. Topics include the nursing home's historical development and relationship to the community, need and resource assessment, specialized knowledge about the aged resident, and interviewing skills. Program planning, working in groups, programming activities, developing an activities department, and therapeutic techniques in the nursing home are also included. (3 Lec., 3 Lab.)

SW 228 Special Topics In Social Services (3)

Special topics in social services are studied. Topics will vary depending on current issues of concern and interest. It may be repeated for credit. (3 Lec.)

SW 229 Group Work Intervention (3)

Prerequisite: Social Work 105. The course examines the various stages of the group work treatment process, emphasizing roles, tasks and possible problem areas. The student will study how groups function, the structure of groups and communication patterns within the group. Observable behavior on an experimental basis is the focus of the course. Students will be given an opportunity to work in a laboratory group, so that they can become sufficiently involved enough to feel and observe the processes while learning to conceptualize them. (3 Lec.)

SW 232 Human Behavior And Social Environment (3)

Human behavior caused by changes in the social environment is the focus of this course. This includes an exploration of interdependence, cultural norms, and group affiliation. (3 Lec.)

SW 703 Cooperative Work Experience (3)

Prerequisites: Completion of two courses in the Social Work program or instructor approval. This course combines productive work experience with academic study. The student, employer and instructor will develop a written competency-based learning plan with varied learning objectives and work experiences. Students must develop new learning objectives each semester. The seminar consists of an orientation to cooperative education, writing learning objectives, role of the on-site supervisor, appropriate on-the-job procedures and time management techniques. The seminar also consists of a review of the cooperative work experience and its effects and advantages to the student. (1 Lec., 15 Lab.)

SW 704 Cooperative Work Experience (4)

Prerequisites: Completion of two courses in the Social Work program or instructor approval. This course combines productive work experience with academic study. The student, employer and instructor will develop a written competency-based learning plan with varied learning objectives and work experiences. Students must develop new learning objectives each semester. The seminar consists of an orientation to cooperative education, writing learning objectives, role of the on-site supervisor, appropriate on-the-job procedures and time management techniques. The seminar also consists of a review of the cooperative work experience and its effects and advantages to the student. (1 Lec., 20 Lab.)

SW 713 Cooperative Work Experience (3)

Prerequisites: Completion of two courses in the Social Work program or instructor approval. This course combines productive work experience with academic study. The student, employer and instructor will develop a written competency-based learning plan with varied learning objectives and work experiences. Students must develop new learning objectives each semester. The seminar consists of learning effective communication skills, identification of academic and community resources, effective intra and interpersonal relationships, identification of effective wellness and prevention programs, and effectively managing financial resources. The seminar also consists of a review of the cooperative work experience and its effects and advantages to the student. (1 Lec., 15 Lab.)

SOCIOLOGY

SOC 101 Introduction To Sociology (3)

(Common Course Number SOCI 1301)

This course is a study of the nature of society and the sources of group life, culture and social conflict. Topics include institutions, social change, processes, and problems. (3 Lec.)

SOC 102 Social Problems (3)

(Common Course Number SOCI 1306)

This course is a sociological study of social problems which typically include: crime, poverty, minorities, deviance, population, and health care. Specific topics may vary from semester to semester to address contemporary concerns. (3 Lec.)

SOC 103 Human Sexuality (3)

(Common Course Number SOCI 2306)

Students may register for either Psychology 103 or Sociology 103 but receive credit for only one of the two. Topics include physiological, psychological, and sociological aspects of human sexuality. (3 Lec.)

SOC 203 Marriage And Family (3)

(Common Course Number SOCI 2301)

Prerequisite: Sociology 101 recommended. Courtship patterns and marriage are analyzed. Family forms, relationships, and functions are included. Sociocultural differences in family behavior are also included. (3 Lec.)

SOC 204 American Minorities (3)

(Common Course Number SOCI 2319)

Prerequisite: Sociology 101 or six hours of U.S. history recommended. Students may register for either History 204 or Sociology 204 but may receive credit for only one. The principal minority groups in American society are the focus of this course. The sociological significance and historic contributions of the groups are presented. Emphasis is on current problems of intergroup relations, social movements, and related social changes. (3 Lec.)

SOC 206 Introduction To Social Work (3)

(Common Course Number SOCW 2361)

The development of the field of social work is studied. Topics include the techniques of social work and the requirements for training in social work. (3 Lec.)

SOC 207 Social Psychology (3)

(Common Course Number SOCI 2326)

Prerequisite: Psychology 101 or Sociology 101. Students may register for either Psychology 207 or Sociology 207 but may receive credit for only one. Theories of individual behavior in the social environment are surveyed. Topics include the socio-psychological process, attitude formation and change, interpersonal relations, and group processes. (3 Lec.)

SOC 209 Selected Topics (3)

(Common Course Number SOCI 2331)

Prerequisite: Sociology 101 or demonstrated competence approved by the instructor. An in-depth study of specific contemporary topics in sociology such as popular culture (including sports, religion and mass media), the military as a social institution, education, medicine, ethnographic film, apartheid, deviance or formal organizations. (3 Lec.)

SOC 210 Field Studies In American Minorities (3)

(Common Course Number SOCI 2320)

Prerequisite: Sociology 101 or Sociology 204. Experience is provided in various minority community centers. Work is under professional supervision in a task-oriented setting. (3 Lec.)

SOC 231 Urban Social Problems (3)

The sociology of social institutions is studied. Topics include urbanization, theories of formation, and the impact of urbanization on the individual. (3 Lec.)

SPANISH**SPA 101 Beginning Spanish (4)**

(Common Course Number SPAN 1411)

The essentials of grammar and easy idiomatic prose are studied. Emphasis is on pronunciation, comprehension, and oral expression. Laboratory fee. (3 Lec., 2 Lab.)

SPA 102 Beginning Spanish (4)

(Common Course Number SPAN 1412)

Prerequisite: Spanish 101 or the equivalent or demonstrated competence approved by the instructor. This course is a continuation of Spanish 101. Emphasis is on idiomatic language and complicated syntax. Laboratory fee. (3 Lec., 2 Lab.)

SPA 201 Intermediate Spanish (3)

(Common Course Number SPAN 2311)

Prerequisite: Spanish 102 or the equivalent or demonstrated competence approved by the instructor. Reading, composition, and intense oral practice are covered. Grammar is reviewed. (3 Lec.)

SPA 202 Intermediate Spanish (3)

(Common Course Number SPAN 2312)

Prerequisite: Spanish 201 or the equivalent or demonstrated competence approved by the instructor. This course is a continuation of Spanish 201. Contemporary literature and composition are studied. (3 Lec.)

SPA 203 Introduction To Spanish Literature (3)

(Common Course Number SPAN 2321)

Prerequisite: Spanish 202 or the equivalent or demonstrated competence approved by the instructor. This course is an introduction to Spanish literature. It includes readings in Spanish literature, history, culture, art, and civilization. (3 Lec.)

SPA 204 Introduction To Spanish Literature (3)

(Common Course Number SPAN 2322)

Prerequisite: Spanish 202 or the equivalent or demonstrated competence approved by the instructor. This course is a continuation of Spanish 203. It includes readings in Spanish literature, history, culture, art, and civilization. (3 Lec.)

SPA 207 Spanish Conversation I (3)

(Common Course Number SPAN 2306)

Prerequisite: Spanish 101 and Spanish 102 or the equivalent. This course is designed to strengthen and improve oral skills in the language. Oral activities focus on current events, cultural, historical and social issues. Audio-visual media are used to explore Hispanic life and society. This course is intended to complement Spanish 201. (3 Lec.)

SPA 208 Spanish Conversation II (3)

Prerequisite: Spanish 201 or the equivalent. This course is designed to further strengthen and improve oral skills in the language. Oral activities will continue to focus on current events, cultural, historical and social issues. Audio-visual media are used to explore Hispanic life and society. This course is intended to complement Spanish 202. (3 Lec.)

SPA 209 Language Practicum in Spanish (3)

Prerequisite: Spanish 101 and Spanish 102 or the equivalent. This course offers a study of the language as it applies to specific purposes, especially business and workplace settings. The emphasis of the course will be on the development of communicative skills within a practical, work-related context. This course is intended to complement Spanish 201 or Spanish 202. (3 Lec.)

SPA 211 Spanish for Business I (3)

Prerequisite: Spanish 201 or the equivalent. This course exposes students to the Spanish language used in business including the terminology and idioms of Spanish business language in special oral and written communication. Emphasis is placed on the structure and content of Spanish business correspondence. Authentic materials are used to give students a contemporary view of business as it is conducted in Hispanic society. This course is not a substitute for Spanish 201 or 202. (3 Lec.)

SPA 212 Spanish for Business II (3)

Prerequisite: Spanish 211 or the equivalent. This course is devoted to the continued development of business language skills with a focus on the accurate use of business vocabulary and business style. Emphasis is on preparing students to function in Spanish in a business setting via practice of receptive and productive linguistic skills. The course also provides training in cross-cultural communication skills and is designed to help students achieve levels of proficiency to meet foreign language needs for business and international trade. This course is not a substitute for Spanish 201 or 202. (3 Lec.)

SPEECH COMMUNICATION**SC 100 Speech Communication Laboratory (1)**

(Common Course Number SPCH 1144)

This laboratory course focuses on students applying speech communication skills through service projects, internships, and leadership activities. This course may be repeated for credit. (3 Lab.)

SC 101 Introduction To Speech Communication (3)

(Common Course Number SPCH 1311)

Theory and practice of speech communication behavior in one-to-one, small group, and public communication situations are introduced. Students learn more about themselves, improve skills in communicating with others, and make formal oral presentations. This course requires college-level skills in reading and writing. (3 Lec.)

SC 105 Fundamentals Of Public Speaking (3)

(Common Course Number SPCH 1315)

Public speaking is introduced. Topics include the principles of reasoning, audience analysis, collection of materials, outlining, and delivery. Emphasis is on the oral presentation of well prepared speeches. (3 Lec.)

SC 109 Voice And Articulation (3)

(Common Course Number SPCH 1342)

Students may register for either Speech Communication 109 or Theatre 109 but may receive credit for only one of the two. The mechanics of speech are studied. Emphasis is on improving voice and pronunciation. (3 Lec.)

SC 110 Speech Communication Workshop (1)

(Common Course Number SPCH 1145)

This laboratory course offers students a wide variety of applied speech communication experiences. This course may be repeated for credit. (2 Lab.)

SC 201 Forensic Workshop (1)

(Common Course Number SPCH 2144)

This course focuses on preparing speeches, readings, and debate propositions. Presentations are made in competition and before select audiences. This course may be repeated for credit. (2 Lab.)

SC 203 Interpersonal Communication (3)

Theories and exercises in verbal and nonverbal communication with focus on interpersonal relationships. (3 Lec.)

SC 205 Discussion And Debate (3)

(Common Course Number SPCH 2335)

Public discussion and argumentation are studied. Both theories and techniques are covered. Emphasis is on evaluation, analysis, and logical thinking. (3 Lec.)

SC 206 Oral Interpretation (3)

(Common Course Number SPCH 2341)

Techniques of analyzing various types of literature are examined. Practice is provided in preparing and presenting selections orally. Emphasis is on individual improvement. (3 Lec.)

SC 208 Group Interpretation (3)

This course offers practical experience in sharing fiction and nonfiction selections with audiences. Various types of literature are studied for group presentation. Emphasis is on selecting, cutting, and arranging prose and poetry, and applying reader's theatre techniques to group performance of literature. (3 Lec.)

SC 209 Business And Professional Communication (3)

Theories and skills of speech communication as applied to business and professional situations will be studied. (3 Lec.)

SUBSTANCE ABUSE

SA 109 Physiology Of Addiction (3)

The course provides an understanding of the historical perspectives of chemical dependency, the terminology used to define the problems of chemical dependency and the types of chemicals used. The pharmacological, physiological, psychological and socio-cultural effects of alcohol, barbiturates, hallucinogens, tranquilizers, prescription drugs and stimulants on the human body will be studied. (3 Lec.)

SA 113 Alcoholism Counseling (3)

Specific counseling approaches used in treating persons labeled as alcoholics will be presented, including simulated individual and group counseling sessions. Students will be exposed to a variety of counseling styles and community and residential treatment programs. (3 Lec.)

SA 203 Alcoholism Treatment Models (3)

Prerequisite: Substance Abuse 109 and Substance Abuse 113. Prevalent approaches to treating alcoholism are studied. Various treatment models (detoxification, halfway houses, aftercare, and other self-help models) are examined. (3 Lec.)

SA 207 Prevention Of Substance Abuse (3)

A developmental approach to the study of alcohol (and other substance) abuse and dependency is presented. Exposure to literature and current trends in understanding and preventing substance addiction will be the focus of the course. (3 Lec.)

SA 211 Family Intervention In Substance Abuse And Dependency (3)

Prerequisites: Social Work 105 and 109. Advanced counseling techniques which emphasize family intervention in treating chemical dependency are provided. The family systems approach is studied; actual counseling and role playing techniques are used. (3 Lec.)

SA 215 Issues in Substance Abuse And Dependency (3)

The American value system and resulting legal implications of addiction are analyzed. Other areas of study include prevention, rehabilitation, and the abuser's problematic relationships. (3 Lec.)

SA 714 Cooperative Work Experience (4)

Prerequisites: Evidence of the completion of the 270 contact hours of approved alcoholism and drug abuse education required by the Texas Certification Board of Alcoholism and Drug Abuse Counselors (TCBADAC). Approval of Program Coordinator and selected TCBADAC approved supervised field work practicum site supervisors. Students completing the necessary course work will be placed with various TCBADAC approved training site providers by the Program Coordinator. During the course, individuals will complete the 300 hours of training in the core function area as prescribed by TCBADAC. The Practicum/Internship requires a minimum of 20 hours per week participation for 15 weeks. The seminar consists of issues covering professional identity, application of knowledge in human behavior, group dynamics, cultural diversity, alcohol and other drugs of abuse, and counseling approaches. (1 Lec., 20 Lab.)

SURGICAL TECHNOLOGY

SGT 140 Medical Terminology (2)

The origin and structure of medical terms are studied. Emphasis is on building a medical vocabulary. (2 Lec.)

SGT 141 Surgical Techniques (8)

Prerequisites: Admission to the Surgical Technology Program, credit or concurrent enrollment in Biology 120 and 121, or Biology 123. This course is an introduction to the operating room. The basic principles of asepsis, sterilization, preparation care of surgical supplies and equipment and ethical- legal implications are studied. Also the basic care and safety of the patient in the operating room are presented. Laboratory fee. (6 Lec., 10 Lab.)

SGT 152 Surgical Procedures (8)

Prerequisites: Minimum grade of "C" in Surgical Technology 140 and 141, credit or concurrent enrollment in Biology 120 and 121, or Biology 123. In this course the student expands the basic principles from Surgical Technology 141 to include specific patient preparation, medications, instrumentation, and complications related to selected surgical procedures. Laboratory fee. (4 Lec., 20 Lab.)

SGT 155 Surgical Pharmacology (2)

This course is designed to introduce students to the principles and practices of pharmacology as applied in the operating room. Topics include weights and measures, dosages and solutions, common routes of administration, and drug classifications. Precautions and safe practices when handling drugs specific to the operating room will also be discussed. (2 Lec.)

SGT 156 Clinical Procedures (6)

Prerequisites: Minimum grade of "C" in all previous Surgical Technology courses and support courses. This course provides the practical clinical experience in the operating room. An effective level of practice and knowledge must be demonstrated by the student in selected surgical procedures. (35 Lab.)

SGT 157 Seminar (1)

Prerequisites: Minimum grade of "C" in all previous Surgical Technology courses and support courses. This course focuses on the issues and special problems that a student will face as a surgical technologist. Included are topics on ethical, legal issues, participation in professional organizations and continuing education. (2 Lec.)

SGT 160 Surgical Procedures For Registered Nurses (8)

Prerequisites: Minimum grade of "C" in Surgical Technology 140 and 141 and current licensure by the Texas State Board of Nurse Examiners. In this course the student expands the principles presented in Surgical Technology 141. Included are specific patient preparation, roles, and legal and ethical responsibilities of operating room nursing. Roles of the registered nurse in pre-operative and postoperative visitation and in complications of surgery are presented. (4 Lec., 20 Lab.)

THEATRE

THE 101 Introduction To The Theatre (3)

(Common Course Number DRAM 1310)

The various aspects of theatre are surveyed. Topics include plays, playwrights, directing, acting, theatres, artists, and technicians. (3 Lec.)

THE 102 Contemporary Theatre (3)

This course is a study of the modern theatre. The historical background and traditions of each style are included. Emphasis is on understanding the social, culture, and aesthetic significance of each style. A number of modern plays are read and selected video tapes are viewed. (3 Lec.)

THE 103 Stagecraft I (3)

(Common Course Number DRAM 1330)

The technical aspects of play production are studied. Topics include shop procedures, the planning and fabrication of scenic elements, and backstage operations. (2 Lec., 3 Lab.)

THE 104 Stagecraft II (3)

(Common Course Number DRAM 2331)

Prerequisite: Theatre 103 or demonstrated competence approved by the instructor. Emphasis is placed on the design process and individual projects. (2 Lec., 3 Lab.)

THE 105 Make-Up For The Stage (3)

(Common Course Number DRAM 1341)

The craft of make-up is explored. Both theory and practice are included. Laboratory fee. (3 Lec.)

THE 106 Acting I (3)

(Common Course Number DRAM 1351)

The theory of acting and various exercises are presented. Body control, voice, interpretation, characterization, and stage movement are included. Both individual and group activities are used. Specific roles are analyzed and studied. (2 Lec., 3 Lab.)

THE 107 Acting II (3)

(Common Course Number DRAM 1352)

Prerequisite: Theatre 106 or demonstrated competence approved by the instructor. This course is a continuation of Theatre 106. Emphasis is on characterization and ensemble acting. (2 Lec., 3 Lab.)

THE 109 Voice And Articulation (3)

Students may register for either Speech 109 or Theatre 109 but may receive credit for only one of the two. Emphasis is on improving voice and pronunciation. (3 Lec.)

THE 110 History Of Theatre I (3)

(Common Course Number DRAM 2361)

Theatre is surveyed from its beginning through the 16th century. The theatre is studied in each period as a part of the total culture of the period. (3 Lec.)

THE 111 History Of Theatre II (3)

(Common Course Number DRAM 2362)

Theatre is surveyed from the 17th century through the 20th century. The theatre is studied in each period as a part of the total culture of the period. (3 Lec.)

THE 112 Beginning Dance Technique In Theatre (3)

(Common Course Number DANC 1345)

Basic movements of the dance are explored. Emphasis is on swing movements, circular motion, fall and recovery, contraction and release, and contrast of literal and abstract movements. Body balance, manipulation of trunk and limbs, and the rhythmic flow of physical energy are developed. (2 Lec., 3 Lab.)

THE 113 Intermediate Dance (3)

(Common Course Number DANC 1346)

Prerequisite: Theatre 112 or demonstrated competence approved by the instructor. Various aspects of dance are surveyed. Topics include the role of dance in total theatre, the evolution of dance styles, and the jazz style. Emphasis is on the flow of movement, body placement, dynamic intensity, level, focus, and direction. (2 Lec., 3 Lab.)

THE 114 Rehearsal And Performance I (1)

(Common Course Number DRAM 1120)

Participation in the class may include any phase of rehearsal and performance of the current theatrical presentation. This course may be repeated for credit. (3 Lab.)

THE 199 Demonstration Lab (1)

Scenes studied in various theatre classes are demonstrated to show contrast and different styles. This course may be repeated for credit. (1 Lab.)

THE 201 Television Production I (3)

Station organization, studio operation, and the use of studio equipment are introduced. Topics include continuity, camera, sound, lights, and videotape recording. (2 Lec., 3 Lab.)

THE 202 Television Production II (3)

Prerequisite: Theatre 201. This course is a continuation of Theatre 201. Emphasis is on the concept and technique of production in practical situations. (2 Lec., 3 Lab.)

THE 205 Scene Study I (3)

(Common Course Number DRAM 2351)

Prerequisites: Theatre 106 and 107. Emphasis is on the study, rehearsal and performance of selected scenes of various periods and styles. (2 Lec., 3 Lab.)

THE 207 Scene Study II (3)

(Common Course Number DRAM 2352)

Prerequisite: Theatre 205. This course is a continuation of Theatre 205. Emphasis is on individual needs of the performer and the various styles of production. (2 Lec., 3 Lab.)

THE 208 Introduction To Technical Drawing (3)

Basic techniques of drafting are studied. Isometrics, orthographic projections, and other standard procedures are included. The emphasis is on theatrical drafting, including ground plans, vertical sections, construction elevations, and spider perspective. (2 Lec., 3 Lab.)

THE 209 Lighting Design (3)

The design and techniques of lighting are covered. Topics include instrumentation, electricity, control and practical experience. (2 Lec., 3 Lab.)

THE 210 Rehearsal And Performance II (2)

(Common Course Number DRAM 1221)

Participation in the class may include any phase of rehearsal and performance of the current theatrical presentation. This course may be repeated for credit. (6 Lab.)

THE 211 Broadcasting Communications I (3)

Basic techniques of television and video performance are introduced. (3 Lec.)

THE 212 Broadcasting Communications II (3)

Prerequisite: Theatre 211 or demonstrated competence approved by the instructor. This course is a continuation of Theatre 211. Emphasis is on radio and television as mass media and practical applications in both radio and television. (3 Lec.)

THE 236 Theatre Workshop (3)

(Common Course Number DRAM 1323)

A course in theatre with emphasis on performance techniques in musical and repertory theatre with practical performance experience. This course may be repeated for credit. (2 Lec., 3 Lab.)



VETERINARY TECHNOLOGY

VT 113 Medical Terminology (1)

The fundamentals of medical terminology are covered with emphasis on prefixes, suffixes and root words and the meaning of the most commonly used words in medical areas as they apply to the technician in daily practice. (1 Lec.)

VT 114 Introduction To Veterinary Technology (4)

This course is an introduction to employment areas, ethical and professional requirements and basic animal handling and care. Included are a survey of common breeds of livestock, domestic pets, and an outline of sanitation and disease principles. Laboratories provide experience and observation in restraint, behavior, grooming and basic animal nursing practices. Laboratory fee. (3 Lec., 3 Lab.)

VT 115 Introduction To Applied Biology And Biochemistry (4)

This course is an introduction to the basic life sciences with emphasis on the cell, cellular physiology, genetics, basic principles of chemistry and biochemistry. The course will prepare students for later classes in anatomy and physiology and pharmacology. Laboratory fee. (3 Lec., 3 Lab.)

VT 120 Animal Care And Sanitation I (1)

Prerequisite: Veterinary Technology 114. This course covers the common diseases of the canine species, diseases of public health importance, disease transmission and the proper procedures for their prevention. The lab requires the students to help maintain the animals used by the Veterinary Technology program for various courses. Laboratory fee. (1 Lec., 1 Lab.)

VT 121 Veterinary Anatomy And Physiology I (4)

Prerequisite: Veterinary Technology 115. Mammalian life processes and body structure are presented on a comparative basis. A gross study of selected organ systems is made using the dog, cat, horse and cow. Laboratory fee. (3 Lec., 3 Lab.)

VT 122 Animal Behavior (2)

This course is designed to provide students with an understanding of the instincts and life functions of domestic and selected wild animals. Special emphasis is on socialization of the dog, cat and horse and behavioral problems in these species. The human/companion animal bond is also covered in selected areas of the course. (2 Lec.)

VT 131 Veterinary Anatomy And Physiology II (4)

Prerequisite: Veterinary Technology 121. This course is a continuation of Veterinary Technology 121. Laboratory fee. (3 Lec., 3 Lab.)

VT 132 Pharmacology (3)

Prerequisite: Mathematics 139. Various chemicals and drugs used in the veterinary practice are studied. Topics include the measurement of drugs, common routes of administration, proper handling and storage, principles of efficient ordering, dispensing and inventory control. Requirements of narcotic, stimulant and depressant drug control are emphasized. Basic drug categories and their use in relation to disease treatment are outlined. (3 Lec.)

VT 134 Animal Care And Sanitation II (1)

Prerequisite: Veterinary Technology 120. This course covers the common diseases of the feline species, diseases of public health importance, disease transmission and the procedures for prevention. The lab requires the students to help maintain the animals used by the Veterinary Technology program for various courses. Laboratory fee. (1 Lec., 1 Lab.)

VT 135 Clinical Pathology I (5)

Prerequisite: Veterinary Technology 114. Clinical laboratory methods are covered. Topics include internal and external parasites, CBC's, leukocytes in disease and erythrocytes in disease processes. Laboratory emphasis on identification of common parasites, internal and external, blood analysis is undertaken, including preparation of blood smears, differential cell counts, hemoglobin and packed cell volume determinations. Laboratory fee. (3 Lec., 6 Lab.)

VT 136 Equine Reproduction And Management (Elective) (3)

Prerequisite: Demonstrated competence approved by the instructor prior to enrollment. This course will cover the basic principles of equine reproductive physiology, the anatomical basis of reproduction with emphasis on endocrinology. Nutrition and other related areas will be covered as well. The laboratory will also focus on basic handling, training, and husbandry of mares, foals and stallions. Laboratory fee. (2 Lec., 3 Lab.)

VT 211 Anesthetics and Surgical Assistance (4)

Prerequisites: Veterinary Technology 114, 132, and 135. This course introduces commonly employed preanesthetic and general anesthetic agents, their methods of administration, patient monitoring while under the effects of these agents and handling of anesthetic emergencies. Principles and techniques of animal, personnel and instrument preparation for surgery, surgical assisting and post operative care are also emphasized. Laboratory periods involve individual practice in anesthetizing and monitoring animal patients and preparing for assisting the veterinarian during surgery. Laboratory fee. (3 Lec., 4 Lab.)

VT 212 Large Animal Assisting Techniques (4)

Prerequisites: Veterinary Technology 114 and 132. This course covers the skills and knowledge needed to support and assist large animal practitioners. Emphasis is on principles and techniques in basic history, physical exams (T.P.R.), administration of drugs on veterinarian's prescription, bandaging techniques, general husbandry, foot and hoof care, reproductive management assisting and recordkeeping. Laboratory fee. (3 Lec., 4 Lab.)

VT 213 Clinical Pathology II (5)

Prerequisite: Veterinary Technology 135. This is a continuation of Veterinary Technology 135 and will cover blood chemistry analysis, urinalysis, and diagnostic microbiology. Laboratory practice will emphasize the practical aspects of the biochemical profiles, urine determinators and identification of pathogenic organisms. Laboratory fee. (3 Lec., 6 Lab.)

VT 214 Animal Care And Sanitation III (1)

Prerequisite: Veterinary Technology 134. This course covers the common equine diseases of public health importance, disease transmission and the proper procedures for prevention. The lab requires the students to help maintain the animals used by the Veterinary Technology program for various courses. Laboratory fee. (1 Lec., 1 Lab.)

VT 215 Special Projects in Veterinary Technology (Elective) (3)

This course provides for individual study in some special interest area of the student's major field. The study is under the guidance of a specific faculty member who acts as advisor and performance evaluator. At the discretion of the student's advisor, a technical paper may be required together with an oral presentation for student information and discussion. Professional staff members may be invited to any special project presentation to aid in discussion of the topic presented. (3 Lec.)

VT 216 Clinical Seminar (Elective) (2)

This course is designed to allow the student to receive on-the-job instruction from an authorized veterinarian concerning daily routine procedures. (2 Lec.)

VT 220 Animal Care And Sanitation IV (1)

Prerequisite: Veterinary Technology 214. The course covers the common diseases of the bovine species, diseases of public health importance, disease transmission and the proper procedures for their prevention. The lab requires the students to help maintain the animals used by the Veterinary Technology program for various courses. Laboratory fee. (1 Lec., 1 Lab.)

VT 221 Radiographic Principles And Practices (3)

Prerequisite: Veterinary Technology 211 and Mathematics 139. Lectures are used to present the theory behind the production of x-rays, machine operation and maintenance, technique chart development, factors involved in producing diagnostic quality radiographs and radiation safety procedures and precautions. Laboratory sessions focus on techniques and practice in proper positioning of the patient, calculation of correct KV and MAS settings for adequate radiographic exposure, manual processing of exposed radiographic film, quality analysis and film storage and handling. Laboratory fee. (2 Lec., 3 Lab.)

VT 222 Veterinary Nursing (4)

Prerequisites: Veterinary Technology 211, 212 and 213. This course integrates and brings into sharp focus skills, techniques and knowledge acquired in earlier courses. In addition, new material, concepts and methods are presented in the areas of infectious and noninfectious disease, animal nursing, emergency first aid, intensive care techniques, dental problems and prophylaxis and client management and relations. Laboratory fee. (3 Lec., 3 Lab.)

VT 223 Laboratory Animal Medicine (3)

Prerequisite: Veterinary Technology 114 and 211. This course introduces handling, restraint, sexing and uses of common laboratory animal species. Methods of husbandry and management to control or prevent common disease species in each of the species considered. Techniques of rodent anesthesia and surgery are presented and practiced. The purpose, concepts and theory of gnotobiotics and axenic techniques are explained. The ethical differences in functional responsibility occurring between veterinary technicians employed in research institutions as compared to employment in veterinary hospitals are emphasized. Laboratory fee. (2 Lec., 3 Lab.)

VT 224 Exotic And Zoo Animal Medicine (2)

Prerequisite: Demonstrated competence approved by instructor prior to enrollment. This course is designed for students seeking a career working in a zoo or with wildlife. Emphasis will be upon husbandry, disease prevention, sanitation, treatment of injuries and diseases and nutrition. (2 Lec.)

VT 225 Avian And Reptile Medicine (2)

Prerequisite: Demonstrated competence approved by the instructor prior to enrollment. This course is designed for students seeking knowledge on avian and reptile species seen in specialty practices. Emphasis will be on the nutrition, husbandry, diseases and treatment of this particular species. (2 Lec.)

VT 703 Cooperative Work Experience (3)

Prerequisite: Instructor approval. This course is designed to put veterinary technical skills into practice in an instructor approved work station. Students must work directly under the supervision of a veterinarian or a technician while applying skills acquired from previous academic preparation. The student, employer and instructor will develop a written competency based learning plan with specific learning objectives. Seminar topics are designed by the instructor for each class and may include but are not limited to clinical pathology, radiology, surgery, medical records, client relations, pharmacy maintenance, animal behavior, job site interpersonal relations, employer/employee expectations and job application techniques. (1 Lec., 15 Lab.)

VT 704 Cooperative Work Experience (4)

Prerequisite: Instructor approval. This course is designed to put veterinary technical skills into practice in an instructor approved work station. Students must work directly under the supervision of a veterinarian or a technician while applying skills acquired from previous academic preparation. The student, employer and instructor will develop a written competency based learning plan with specific learning objectives. Seminar topics are designed by the instructor for each class and may include but are not limited to clinical pathology, radiology, surgery, medical records, client relations, pharmacy maintenance, animal behavior, job site interpersonal relations, employer/employee expectations and job application techniques. (1 Lec., 20 Lab.)

VIDEO TECHNOLOGY**VFT 101 Introduction To Video Technology (3)**

This course covers the practical selection and application of production supplies and equipment to shooting situations. It further covers the study of the properties of video tape and a variety of video apparatus used in studio and field production. Equipment theory covers the technical aspects of equipment internal operation and application. Laboratory fee. (2 Lec., 2 Lab.)

VFT 103 Television Lighting (3)

This course introduces students to the theory and application of lighting for television production. Topics include basic lighting equipment for studio and location productions and the application of lighting to a variety of production environments. Choices of color, angle, intensity, distribution, and the proper use of lighting control scrim, screens, and gells are emphasized. Laboratory fee. (2 Lec., 3 Lab.)

VFT 106 Video Production I (4)

This course introduces students to video production and provides an opportunity for students to get initial experience as directors, producers, and equipment crew while handling talent, blocking scenes, dealing with composition, lighting, packing, staging, sound, scripting, and sequencing of shots. This course reviews the history of television in looking at site selection, location shots, set discipline, breaks, shooting schedules, and property management. Laboratory fee. (3 Lec., 4 Lab.)

VFT 110 Video Production II (4)

Prerequisite: Video Technology 106 and 108. This course provides training in the operation of the equipment used in television production facilities and remote shooting locations. The course includes camera operations, application of light and sound, technical directing, video recording techniques, silent and soundover applications, switching, special effects, set blocking, and development of the shoot and use of above and below the line personnel. Laboratory fee. (3 Lec., 4 Lab.)

VFT 112 Video Editing And Post Production I (4)

Prerequisite: Video Technology 106. This course provides the theory and practice of video editing through laboratory exercises in the creative and mechanical aspects of editing and visual sweetening. Laboratory fee. (3 Lec., 4 Lab.)

VFT 115 Audio Production (3)

This course introduces students to the fundamentals of audio production. The course focuses on the properties of sound, conversion into electronic signals, mixing, and recording. The application of audio production to television is emphasized. Laboratory fee. (2 Lec., 3 Lab.)

VFT 203 Video Production III (4)

Prerequisite: Video Technology 106 and 110. The advanced application and design of video productions in location and studio shoots are studied. The students are provided opportunities to build on Video Production I and II knowledge in a variety of productions with real deadlines and quality control restrictions. Students will be introduced to a variety of more sophisticated production equipment than used in Video Technology 106 or 110. (2 Lec., 6 Lab.)

VFT 205 Broadcast Engineering I (3)

Prerequisite: Video Technology 101. This course emphasizes the basics of engineering of video productions. It includes the basic alignment of cameras, vectorscopes, waveform monitors, signal and sync generators, time base correctors, the general operation of each and servicing of many other pieces of equipment. It includes audio and video cable and connector identification, construction, and testing. It further covers PAL, SMPTE, SECAM, NTSC, and EIAJ standards. The basics of electricity and electronics are also emphasized in this class. Laboratory fee. (2 Lec., 3 Lab.)

VFT 210 Video Production IV (4)

Prerequisite: Video Technology 202. Students produce a variety in final projects demonstrating mastery of field and studio competence. The process of developing a video portfolio for use of post graduate interviews, polishing production techniques, and developing an individual style are all important parts of the final production course. Laboratory fee. (2 Lec., 6 Lab.)

VFT 213 Video Editing And Post Production II (4)

Prerequisite: Video Technology 203 and 112. This course provides the students with the opportunity to apply advanced editing and post production skills to advanced equipment while producing final portfolio programs. The course incorporates the use of SMPTE time code editing with time base correction and multisource edits. It also provides opportunities for students to visit local post production facilities. Laboratory fee. (2 Lec., 6 Lab.)

VFT 214 Business Aspects Of Video Management (3)

This general business course for video stresses personnel management, production budgeting, staffing, decision-making, portfolio/resume development, interviewing techniques, site selection, contract law, and copyright management. Use of legal and financial advisors, with a variety of business topics related to production companies, use of post houses, professional organizations, taxes, insurance, entrepreneurship, distribution, marketing, and sales will be discussed in depth. (3 Lec.)

VFT 215 Broadcast Engineering II (3)

Prerequisite: Video Technology 205. This course carries forward the concepts taught in Video Technology 205 and provides for detailed application of electricity and electronics theory in the troubleshooting of problems and maintenance of video equipment. Specific problems in control room equipment adjustment and maintenance will be combined with detailed problems on camera, sound, and lighting instrument maintenance. Laboratory fee. (2 Lec., 4 Lab.)

VFT 218 Scriptwriting And Property Management (3)

This course provides instruction in converting books, plays, drama, story, and other properties into video scripts. The course also deals with the management of these properties and the legal responsibility of property manager. (3 Lec.)

VFT 220 Computer Application To Video Production (3)

Students are provided the opportunity to develop skills in producing computer graphics, working with character generators, teleprompters, and a variety of special computer applications to visual enhancement and special effects. Laboratory fee. (2 Lec., 4 Lab.)

VFT 226 Music Video Production (3)

Prerequisite: Video Technology 202. The student will produce a variety of video programs with a music theme and a complementary visual sequence. The process of making music videos will be thoroughly explored including visits to local production houses and application of both original, live, and canned music to visual aesthetics. Laboratory fee. (2 Lec., 4 Lab.)

VFT 232 Broadcast, Cable, And Satellite Technology (3)

This course is designed to provide a working knowledge of control room, distribution, headend, uplink, transmission, and a variety of other signal transfer techniques. Students will study the theory and application of these diverse video operations. (3 Lec.)

VFT 703 Cooperative Work Experience (3)

Prerequisites: Completion of two courses in the Video Technology program or instructor approval. This course combines productive work experience with academic study. The student, employer and instructor will develop a written competency-based learning plan with varied learning objectives and work experiences. Students must develop new learning objectives each semester. The seminar consists of orientation, writing objectives, and work station objectives, how to find a job, resume writing, preparation for the interview, the interview, job interview from the employer's viewpoint, group discussions on experiences of job interviews, interpersonal relationships with supervisor and co-workers. (1 Lec., 15 Lab.)

VFT 704 Cooperative Work Experience (4)

Prerequisites: Completion of two courses in the Video Technology program or instructor approval. This course combines productive work experience with academic study. The student, employer and instructor will develop a written competency-based learning plan with varied learning objectives and work experiences. Students must develop new learning objectives each semester. The seminar consists of orientation, writing objectives, and work station objectives, how to find a job, resume writing, preparation for the interview, the interview, job interview from the employer's viewpoint, group discussions on experiences of job interviews, interpersonal relationships with supervisor and co-workers. (1 Lec., 20 Lab.)

VFT 713 Cooperative Work Experience (3)

Prerequisites: Completion of two courses in the Video Technology program or instructor approval. This course combines productive work experience with academic study. The student, employer and instructor will develop a written competency-based learning plan with varied learning objectives and work experiences. Students must develop new learning objectives each semester. The seminar consists of orientation, writing objectives and work station agreements, review of work station objectives, problem solving in the workplace, role of supervisor and subordinates, building the workplace, role of supervisor and subordinates, building self-esteem, discussion of job site problems, revising existing resume, interpersonal relationships with professionals in the field that the students comes into contact with, and how to gain a professional attitude within the workplace. (1 Lec., 15 Lab.)

VFT 714 Cooperative Work Experience (4)

Prerequisites: Completion of two courses in the Video Technology program or instructor approval. This course combines productive work experience with academic study. The student, employer and instructor will develop a written competency-based learning plan with varied learning objectives and work experiences. Students must develop new learning objectives each semester. The seminar consists of orientation, writing objectives and work station agreements, review of work station objectives, problem solving in the workplace, role of supervisor and subordinates, building self-esteem, discussion of job site problems, revising existing resume, interpersonal relationships with professionals in the field that the student comes into contact with, and how to gain a professional attitude within the workplace. (1 Lec., 20 Lab.)

VISUAL COMMUNICATIONS**VC 110 Introduction To Visual Communications (3)**

Prerequisite: Credit or concurrent enrollment in English 101. Available career options, job descriptions, concept generation, visual and creative thinking are covered in this survey course. Discussions of the role of visual communications in society are also included with emphasis on applied aesthetics and interpretation of images and various forms of visual communications. (3 Lec.)

VC 111 History Of Visual Communications (3)

Prerequisite: Credit or concurrent enrollment in English 101. This survey course provides the student with a visual history of art, with emphasis on visual communications, graphic design, illustration, and the graphic arts. The student will gain an understanding of the way in which visual images are perceived and will be able to place current industry practices in context with past design philosophies. (3 Lec.)

VC 115 Applied Design (3)

Basic concepts of two dimensional design are studied including line, shape, space, direction, variety, repetition, proportion, sequence, unity, and color interaction, systems, and theory. Projects are directed toward graphic design application with emphasis placed on communication of theme through a problem solving approach. (2 Lec., 4 Lab.)

VC 122 Copywriting And Business Communications (3)

Prerequisites: English 101, Visual Communications 110 and 111, or demonstrated competence approved by the instructor. Creative writing techniques for advertising are explored in this class. The student will develop and write headlines and copy for advertising, public relations material, proposals, and business communications. Emphasis is placed on creative aspects of writing and concept development toward advertising and marketing aims. (3 Lec.)

VC 123 Graphic Design And Typography (3)

Prerequisites: Art 110 and 114, Visual Communications 110 and 111 or demonstrated competence approved by the instructor. This studio course develops skills in hand lettering and word spacing, introduces the construction of alphabets, typography, paste-up techniques, and layout formulas and rationales. Emphasis is on typography as a design element. (2 Lec., 4 Lab.)

VC 124 Beginning Illustration (3)

Prerequisites: Art 110 and 114, Visual Communications 110 and 111 or demonstrated competence approved by the instructor. This studio course develops skills in a variety of illustration techniques and styles. Techniques for wet and dry media, methods of developing ideas, and requirements of some reproduction processes are included. Laboratory fee. (2 Lec., 4 Lab.)

VC 125 Portfolio Review (2)

Prerequisites: Art 110 and 114, Visual Communications 110, 111 and concurrent enrollment in Visual Communications 123 or 124 or demonstrated competence approved by the instructor. This seminar class prepares the student for the Freshman Portfolio Review. Proper presentation of work, slides, and information on entering local and national design competitions are covered. This class is prerequisite to all advanced Visual Communications courses. (1 Lec., 2 Lab.)

VC 199 Contemporary Topics In Visual Communications (1)

This course emphasizes current topics of interest relating to the rapidly changing field of visual communications. Topics vary based on emphasis and will be annotated in each semester's class schedule. As topics change, this course may be repeated twice for credit. (1 Lec.)

VC 205 Professional Practices (3)

Prerequisites: Visual Communications 123, 124 and 125 or demonstrated competence approved by the instructor. Open to all interested visual art students with prior approval from the instructor. This course covers resume writing and design, marketing and self-promotion for the artist, networking and interview techniques, copyright laws, contracts and legal matters toward good business practices. Emphasis is on working as an artist in a freelance capacity and/or gaining employment as a staff artist. (3 Lec.)

VC 206 Advanced Graphic Design (3)

Prerequisites: Visual Communications 123 and 125 or demonstrated competence approved by the instructor. This advanced course explores continued development of the fundamentals of graphics design and techniques introduced in Visual Communications 123. Psychology of color, color theories, and more complex design problems are explored. Emphasis is on communication through continuity of design and concept. (2 Lec., 4 Lab.) @TITLE = VC 207 Reprographics (3)

Prerequisites: Visual Communications 123 and 125 or demonstrated competence approved by the instructor. This studio course emphasizes production skills, process camera operation, and the general preparation of artwork for reproduction by commercial printing processes. Advanced layout, mechanical and keyline overlays, printing specifications, process and PMS color systems, and paper and ink selections are covered. Laboratory fee. (2 Lec., 4 Lab.)

VC 208 Advanced Illustration (3)

Prerequisites: Visual Communications 124, 125 and 207 or demonstrated competence approved by the instructor. This advanced course continues development of the fundamentals of illustration and techniques introduced in Visual Communications 124. Acrylic, oil, and airbrush painting techniques are covered. Emphasis is on presentation techniques and the development of individual style. Laboratory fee. (2 Lec., 4 Lab.)

VC 209 Advanced Presentations (3)

Prerequisites: Visual Communications 122, 125 and 206 or demonstrated competence approved by the instructor. This advanced course extends coverage of more complex design concepts presented in Visual Communications 206. Project emphasis is on advertising concepts and includes proper presentation techniques and professional portfolio preparation and presentation. Laboratory fee. (2 Lec., 4 Lab.)

VC 213 Beginning Computer Graphics (4)

Prerequisite: Visual Communications 123, 124 and 125 or demonstrated competence approved by the instructor. The knowledge and skills necessary to utilize the computer as a design and production tool are presented. Areas covered are computer graphics systems and software, industry trends, applications, and design concepts. Laboratory fee. (2.5 Lec., 5 Lab.)

VC 214 Beginning Computer Animation (4)

Prerequisite: Visual Communications 213 or demonstrated competence approved by the instructor. A continuation of Visual Communications 213 with emphasis on computer application in graphic design, illustration, television and film. The knowledge and skills necessary to utilize paint systems, digitizing systems, animation techniques and electronic storyboarding are presented using a variety of hardware and computer graphic software. Laboratory fee. (2.5 Lec., 5 Lab.)

VC 215 Desktop Graphics (4)

Prerequisites: Visual Communications 213 or demonstrated competence approved by the instructor. The knowledge and skills necessary to utilize advanced desktop publishing/presentation software with emphasis on graphic applications is presented. Areas covered are "Desktop Publishing" and related application software, "Desktop Presentations" software and their use in business today. Industry trends, current applications and design problems are addressed. This course may be repeated for credit. Laboratory fee. (2.5 Lec., 5 Lab.)

VC 219 Special Problems In Computer Graphics (3)

Prerequisites: Visual Communication 213 or demonstrated competence approved by the instructor. This is a special problems study course for organized class instruction in computer graphics. Topics may vary based on emphasis and will be annotated in each semester's class schedule. Examples of topics include: MacIntosh Software, IBM Designer Software, etc. This course may be repeated once for credit. Laboratory fee. (2 Lec., 4 Lab.)

VC 290 Design Studio Practicum I (3)

Prerequisites: Sophomore standing and demonstrated competence approved by the instructor. The student serves as a designer, illustrator, computer graphics artist and/or art director in the Brookhaven College Visual Communications Design Studio. Course objectives are individualized to the student. A portfolio is required for approval prior to registration. (8 Lab.)

VC 291 Design Studio Practicum II (3)

Prerequisites: Visual Communications 290 and demonstrated competence approved by the instructor. The student serves as a designer, illustrator, computer graphics artist and/or art director in the Brookhaven College Visual Communications Design Studio. Course objectives are individualized to the student but are different from the student's objectives in Visual Communications 290. A portfolio is required for approval prior to registration. (8 Lab.)

VC 299 Studio Applications In Visual Communications (2)

This course emphasizes current trends in studio applications and techniques relating to the rapidly changing field of visual communications. Topics vary based on emphasis and will be annotated in each semester's class schedule. As topics change, this class may be repeated once for credit. (1 Lec., 2 Lab.)

VC 703 Cooperative Work Experience (3)

Prerequisite: Completion of two courses in Visual Communications and/or instructor approval. This course combines productive work experience with academic study. The student, employer and instructor will develop a written competency-based learning plan with varied learning objectives each semester. The seminar consists of topics which include employer expectations of employees, job site interpersonal relations, tools, and techniques of production in graphic design and illustration. (1 Lec, 15 Lab.)

VC 704 Cooperative Work Experience (4)

Prerequisites: Completion of two courses in Visual Communications and/or instructor approval. This course combines productive work experience with academic study. The student, employer and instructor will develop a written competency-based learning plan with varied learning objectives each semester. The seminar consists of topics which include employer expectations of employees, job site interpersonal relations, tools, and techniques of production in graphic design and illustration. (1 Lec., 20 Lab.)

VC 713 Cooperative Work Experience (3)

Prerequisites: Completion of two courses in Visual Communications and/or instructor approval. This course combines productive work experience with academic study. The student, employer and instructor will develop a written competency-based learning plan with varied learning objectives each semester. The seminar consists of topics which include job quotes, professional resume and portfolio preparation, and art direction responsibilities. (1 Lec., 15 Lab.)

VC 714 Cooperative Work Experience (4)

Prerequisites: Completion of two courses in Visual Communications and/or instructor approval. This course combines productive work experience with academic study. The student, employer and instructor will develop a written competency-based learning plan with varied learning objectives each semester. The seminar consists of topics which include job quotes, professional resume and portfolio preparation, and art direction responsibilities. (1 Lec., 20 Lab.)

VOCATIONAL NURSING**VN 144 Health Maintenance Through The Life Cycle (3)**

Prerequisite: Admission to the Vocational Nursing Program. This course presents the concepts necessary for general health maintenance including normal growth and development; geriatrics; normal nutrition for all ages; mental health principles; and the prevention and control of disease. (3 Lec.)

VN 145 Nursing Process I (3)

Prerequisite: Admission to the Vocational Nursing Program. Nursing process provides the basic concepts that serve as the foundation for other nursing courses. It includes an introduction to the health care delivery system, nursing as a profession, the nursing process, and communication techniques. The course focuses on meeting the basic physical and psychological needs of patients. A Calculation-Conversion Proficiency Test is a required component of this course. (3 Lec.)

VN 152 Nursing Practice (6)

Prerequisite: Admission to the Vocational Nursing Program. This course emphasizes the scientific principles and nursing competency in nursing skills in simulated laboratory situations that prepare the student to meet the basic needs of patients in clinical situations. Selected clinical experiences enable the student to assess, plan, implement, and evaluate nursing care. Laboratory fee. (24 Lab.)

VN 153 Maternal Child Health (8)

Prerequisites: Completion of Vocational Nursing 144, 145, 152 and all support courses with a minimum grade of "C" or better. This course focuses on the theory, principles and nursing skills related to meeting the basic needs of maternity, newborn, and pediatric patients. Laboratory fee. (7 Lec., 3 Lab.)

VN 156 Nursing Process II (10)

Prerequisites: Completion of Semester I Vocational Nursing courses and also Maternal Child Health for spring admission curriculum plan. This course focuses on the nursing care of patients with various medical, surgical or emotional problems. Drug and diet therapy and clinical skills used in caring for acutely or chronically ill patients are included. Laboratory fee. (8 Lec., 3 Lab.)

VN 157 Nursing Practice II (7)

Prerequisites: Completion of Semester I Vocational Nursing courses and also Maternal Child Health for spring admission curriculum plan. Must be concurrently enrolled in Vocational Nursing 156. This course provides the opportunity for students to use the nursing process and clinical skills to meet the needs of patients experiencing medical, surgical or emotional problems. Supervised practice in the administration of medications is included. (24 Lab.)

VN 158 Maternal Child Health Clinical (4)

Prerequisites: Completion of Vocational Nursing 144, 145, 152 and all support courses with a minimum grade of "C" or better. Concurrent enrollment or completion of Vocational Nursing 153. This course provides clinical experiences focusing on normal prenatal, labor and delivery, postpartum, and newborn nursing care situations. Students also have the opportunity to apply the nursing process to the care of pediatric patients with acute or chronic problems. Laboratory fee. (32 Lab., 6 weeks)

WELDING**WE 101 Basic Welding And Cutting Practices (3)**

This course is for students who need welding on the job, such as in auto body, auto mechanics, or air conditioning. Emphasis is on setting up and using oxyfuel equipment. Cutting up to and including 3/8" mild steel, welding up to and including 1/8" mild steel, and brazing up to and including 16 ga. mild steel are all included. Setting up and using arc welding equipment are also included. Welding 1/4" through 3/8" mild steel in the flat and vertical position using E60's series electrodes is covered. Laboratory fee. (96 Contact Hours)

WE 111 Oxyfuel I (2)

This course gives both theory and practice in basic tools, equipment and processes used in welding and brazing gauge materials. Lab work includes preparation and performance of welded and brazed joints. Laboratory fee. (60 Contact Hours)

WE 112 Oxyfuel II (2)

Prerequisite: Welding 111. This course give both theory and practice in the basic tools, equipment and procedures used in layout, cutting, shaping, forming and the heat treating of metals. Lab work includes the selection and use of fuel gases for heat treating and the setup and usage of semiautomatic and manual cutting equipment. Laboratory fee. (60 Contact Hours)

WE 113 Shielded Metal Arc Welding I (2)

This course gives both theory and practice in the identification and usage of shielded metal arc welding electrodes. Laboratory work includes the use of E60 and E70 series including low hydrogen electrodes primarily in the flat and horizontal position. Laboratory fee. (60 Contact Hours)

WE 114 Shielded Metal Arc Welding II (2)

Prerequisite: Welding 113. This course includes both theory and laboratory work, emphasizing the production and properties of mild steel alloys. Arc welding equipment setup and operation are also included. Laboratory work will include the use of E60 and E70 series electrodes primarily in the vertical and overhead position. Laboratory fee. (60 Contact Hours)

WE 115 Shielded Metal Arc Welding III (4)

Prerequisite: Welding 114. This course gives both the theory and practice in code quality welding. Laboratory work includes passing standard tests according to the American Welding Society and American Society of Mechanical Engineers for certifying procedures for 3/16" - 3/4" thickness range material in all positions. Laboratory fee. (120 Contact Hours)

WE 116 Shielded Metal Arc Welding IV (4)

Prerequisite: Welding 115. This course is designed to introduce the basis of shielded metal arc welding of pipe. Lab work includes welding 3" through 10" schedule 40 mild steel pipe. The vertical, horizontal rolled and fixed using E60 and E70 series electrodes are included. Laboratory fee. (120 Contact Hours)

WE 117 General Metal Layout (3)

Prerequisite: Computer Aided Design 182 or equivalent. This course gives both theory and practice in blueprint reading, welding symbols, layout work and fabrication techniques of metal weldments. Lab work consists of developing shop drawing and fabrication of designed structures. Laboratory fee. (90 Contact Hours)

WE 118 Welding Inspection And Quality Control (4)

Prerequisites: Welding 117 and six credit hours of welding lab courses or equivalent. This course is both theory and practical application of welding codes, processes, testing procedures, testing equipment and weld discontinuities. Lab work emphasis is on inspection and qualification of welds and welding procedures. (120 Contact Hours)

WE 211 Gas Tungsten Arc Welding I (2)

This course gives both theory and practice in the setup and use of gas-tungsten arc welding of plate. Laboratory work will include setting up and using 18 gauge through 3/8" thick mild steel, stainless and aluminum. Welds will be made primarily in the flat and horizontal positions. Laboratory fee. (60 Contact Hours)

WE 212 Gas Tungsten Arc Welding II (2)

Prerequisite: Welding 211 or equivalent. This course gives both theory and practice in the setup and use of gas tungsten arc welding of pipe. Lab work includes the welding of thin wall tubing and schedule 40 pipe. Welding is primarily in the vertical, horizontal rolled and horizontal fixed positions. Laboratory fee. (60 Contact Hours)

WE 213 Gas Tungsten Arc Welding III (4)

Prerequisite: Welding 212 or equivalent. This is an advanced theory and skills course in the use of gas tungsten arc welding of plate and pipe. Lab work will include passing the standard qualification test in a variety of metals in all positions. Laboratory fee. (120 Contact Hours)

WE 214 Gas Metal Arc Welding I (2)

This course gives both theory and practice in the setup and use of gas metal arc welding processes of plate. Lab work will be on setting up and using gas metal arc welding equipment in welding 18 gauge 3/8" thick mild steel, stainless and aluminum, primarily in the flat and horizontal position. Laboratory fee. (60 Contact Hours)

WE 215 Gas Metal Arc Welding II (2)

Prerequisite: Welding 214. This course gives both theory and practice in the setup and use of gas metal arc welding processes of pipe. Lab work includes the welding of schedule 40 mild steel pipe in the vertical, horizontal rolled and fixed positions. Laboratory fee. (60 Contact Hours)

WE 216 Gas Metal Arc Welding III (4)

Prerequisite: Welding 215. This is an advanced theory and skills course in the use of gas metal arc welding of plate and pipe. Lab work will be on passing the standard qualification test in plate and pipe on plate and pipe in a variety of metals and thickness ranges in all positions. Laboratory fee. (120 Contact Hours)

WE 217 Basic Welding Metallurgy (3)

This is a theory type course designed to assist those students in welding and related industries to refresh and extend their knowledge of the behavior of the various fabricating metals during welding. The effects of the joining processes and procedures on the fabrication and service performance of weldments are also considered. Laboratory fee. (90 Contact Hours)

WE 218 Applied Welding Metallurgy (3)

Prerequisites: Welding 217 and six credit hours of welding lab courses. This course is designed to assist the student in improving communication skills with welding engineers and metallurgists. The course includes a study of welding processes and their relationship to and effect upon metals and why they can or cannot be used for certain applications; the theory of heat treating and its many uses; the value of preheat, interpass temperature, and post-heat in welding procedures. This course should increase the student's knowledge of what metals are made of and why they are used for specific industrial applications; to strengthen the knowledge and understanding of the grain structure of metals and the effect that welding processes have on them. Laboratory fee. (90 Contact Hours)

WE 219 Welding Design (3)

Prerequisites: Welding 117 and six credit hours of welding lab courses or equivalent. Concepts in designing products for welding, joint design and selection, weld size determination, welding costs, codes and applications in welding. A design project is chosen and carried to completion using the design team concept. Laboratory fee. (90 Contact Hours)

WE 221 Special Welding Applications (1)

This is a skill development course designed to allow students to program their own specialized objectives under instructional supervision. This will permit the student to upgrade present skills or develop a new skill. This course may be repeated for credit as topics vary. Laboratory fee. (30 Contact Hours)

WE 222 Special Welding Applications (2)

This is a skill development course designed to allow students to program their own specialized objectives under instructional supervision. This will permit the student to upgrade present skills or develop a new skill. This course may be repeated for credit as topics vary. Laboratory fee. (60 Contact Hours)

WE 223 Special Welding Applications (3)

This is a skill development course designed to allow students to program their own specialized objectives under instructional supervision. This will permit the student to upgrade present skills or develop a new skill. This course may be repeated for credit as topics vary. Laboratory fee. (90 Contact Hours)

WE 704 Cooperative Work Experience (4)

Prerequisites: Completion of two courses in Welding Technology or instructor approval. This course combines productive work experience with academic study. The student, employer and instructor will develop a written competency-based learning plan with varied learning objectives and work experiences related to the welding field. The seminar consists of group or individual meetings with the instructor, individualized plans for job-related or self improvement (i.e. preparation of job applications, job interview, job site interpersonal relations, employer expectations of employees), or combinations of both. (1 Lec., 20 Lab.)

WE 714 Cooperative Work Experience (4)

Prerequisites: Completion of two courses in Welding Technology or instructor approval. This course combines productive work experience with academic study. The student, employer and instructor will develop a written competency-based learning plan with varied learning objectives and work experiences related to the welding field. The seminar consists of group or individual meetings with the instructor, individualized plans for job-related or self improvement (i.e. preparation of resumes, changing jobs, supervising subordinates, building self-esteem), or combinations of both. (1 Lec., 20 Lab.)

COMMON COURSE NUMBER INDEX

The following DCCCD courses have been assigned Common Course Numbers (CCN #). The Common Course Numbering scheme is an attempt by a number of Texas colleges and universities to identify similar courses by utilizing the same number in order to facilitate the transfer of courses between and among institutions. A course, however, may transfer even if it does not have a Common Course Number.

ACC	201	...	ACCT	2301
ACC	202	...	ACCT	2302
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AGR	103	...	AGRI	1407
AGR	105	...	AGRI	1419
AGR	107	...	AGRI	1415
AGR	111	...	AGRI	2317
AGR	124	...	AGRI	1327
AGR	203	...	AGRI	2303
AGR	202	...	AGRI	2301
AGR	204	...	AGRI	1311
AGR	205	...	AGRI	1329
AGR	211	...	AGRI	1309
AGR	250	...	AGRI	1413
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ANT	101	...	No CCN #	
ANT	104	...	No CCN #	
ANT	110	...	No CCN #	
ANT	231	...	ANTH	2302
ARC	237	...	No CCN #	
ART	104	...	ARTS	1301
ART	105	...	ARTS	1303
ART	106	...	ARTS	1304
ART	110	...	ARTS	1311
ART	111	...	ARTS	1312
ART	114	...	ARTS	1316
ART	115	...	ARTS	1317
ART	116	...	ARTS	2341
ART	117	...	ARTS	2342
ART	118	...	No CCN #	
ART	119	...	No CCN #	
ART	165	...	ARCH	1403
ART	199	...	ARTS	2143
ART	201	...	ARTS	2323
ART	202	...	ARTS	2324
ART	203	...	No CCN #	

ART	204	...	No CCN #	
ART	205	...	No CCN #	
ART	206	...	No CCN #	
ART	208	...	ARTS	2326
ART	209	...	ARTS	2327
ART	210	...	No CCN #	
ART	215	...	ARTS	2346
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ART	217	...	ARTS	2366
ART	218	...	ARTS	2367
ART	220	...	ARTS	2333
ART	222	...	ARTS	2334
ART	227	...	ARTS	2311
ART	229	...	ARTS	2312
ART	232	...	ARTS	2336
ART	233	...	ARTS	2337
AST	101	...	PHYS	1311
AST	102	...	PHYS	1312
AST	103	...	PHYS	1111
AST	104	...	PHYS	1112
AST	111	...	PHYS	1411
AST	112	...	PHYS	1412
BIO	101	...	BIOL	1406
BIO	102	...	BIOL	1407
BIO	110	...	BIOL	1411
BIO	115	...	BIOL	1408
BIO	116	...	BIOL	1409
BIO	120	...	No CCN #	
BIO	121	...	No CCN #	
BIO	203	...	No CCN #	
BIO	211	...	BIOL	2418
BIO	216	...	BIOL	2420
BIO	218	...	No CCN #	
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BIO	222	...	BIOL	2402
BIO	223	...	BIOL	2306
BIO	226	...	BIOL	2416
BIO	230	...	BIOL	2403
BIO	235	...	No CCN #	
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BUS	143	...	BUSI	1307
BUS	234	...	BUSI	2301
CHI	101	...	CHIN	1411
CHI	102	...	CHIN	1412
CHI	201	...	CHIN	2311
CHI	202	...	CHIN	2312
CHM	101	...	CHEM	1411
CHM	102	...	CHEM	1412
CHM	115	...	CHEM	1413
CHM	116	...	CHEM	1414
CHM	201	...	CHEM	2423

CHM	202	...	CHEM	2425
CHM	203	...	CHEM	2401
CHM	205	...	CHEM	1207
CHM	234	...	CHEM	2402
CJ	130	...	CRIJ	1310
CJ	132	...	CRIJ	1306
CJ	139	...	CRIJ	1307
CJ	140	...	CRIJ	1301
CJ	148	...	CRIJ	2333
CJ	150	...	CRIJ	2334
CJ	232	...	CRIJ	2335
CJ	240	...	CRIJ	2314
CJ	242	...	CRIJ	2322
CJ	244	...	CRIJ	2331
CJ	247	...	CRIJ	2323
CJ	248	...	CRIJ	2328
CJ	250	...	CRIJ	2313
CJ	251	...	CRIJ	2301
COM	131	...	ENGL	2311
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CS	112	...	COSC	2318
CS	121	...	COSC	1317
CS	122	...	COSC	1310
CS	123	...	No CCN #	
CS	211	...	COSC	2325
CS	221	...	COSC	1306
CS	222	...	COSC	2315
DAN	116	...	DANC	1151
DAN	155	...	DANC	1147
DAN	156	...	DANC	1148
DAN	160	...	DANC	2303
DAN	161	...	DANC	1241
DAN	163	...	DANC	1242
DAN	165	...	DANC	1245
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DAN	200	...	DANC	1152
DAN	234	...	DANC	1101
DAN	235	...	DANC	1102
DAN	252	...	No CCN #	
DAN	253	...	No CCN #	
DAN	255	...	DANC	2147
DAN	256	...	DANC	2148
DAN	258	...	DANC	2241
DAN	260	...	DANC	2242
DAN	265	...	DANC	2245
DAN	266	...	DANC	2246
ECO	105	...	ECON	1303
ECO	201	...	ECON	2301
ECO	202	...	ECON	2302
ECO	203	...	ECON	2311

ECY	291	...	GEOL	1305	GRK	102	...	GREE	1312	MTH	124	...	MATH	2513
EGR	101	...	ENGR	1201	GRK	201	...	GREE	2311	MTH	202	...	MATH	1342
EGR	105	...	ENGR	1304	GRK	202	...	GREE	2312	MTH	215	...	MATH	2305
EGR	106	...	ENGR	1305	GVT	201	...	GOVT	2301	MTH	221	...	MATH	2318
EGR	107	...	ENGR	2301	GVT	202	...	GOVT	2302	MTH	225	...	MATH	2414
EGR	201	...	ENGR	2302	GVT	211	...	GOVT	2331	MTH	226	...	MATH	2315
EGR	202	...	ENGR	2332	HD	105	...	No CCN #		MTH	230	...	MATH	2320
EGR	204	...	ENGR	2305	HD	106	...	No CCN #		MUS	103	...	MUSI	1137
EGR	205	...	ENGR	1307	HD	107	...	No CCN #		MUS	104	...	MUSI	1306
EGR	206	...	ENGR	2105	HD	108	...	No CCN #		MUS	105	...	MUSI	1160
EGR	207	...	No CCN #		HST	101	...	HIST	1301	MUS	106	...	MUSI	2161
ENG	101	...	ENGL	1301	HST	102	...	HIST	1302	MUS	107	...	MUSI	2160
ENG	102	...	ENGL	1302	HST	103	...	HIST	2321	MUS	108	...	MUSI	1161
ENG	201	...	ENGL	2322	HST	104	...	HIST	2322	MUS	110	...	MUSI	1308
ENG	202	...	ENGL	2323	HST	105	...	HIST	2311	MUS	111	...	MUSI	1309
ENG	203	...	ENGL	2331	HST	106	...	HIST	2312	MUS	112	...	No CCN #	
ENG	204	...	ENGL	2332	HST	110	...	HIST	2380	MUS	113	...	MUSI	1300
ENG	205	...	ENGL	2326	HST	112	...	HIST	2331	MUS	114	...	No CCN #	
ENG	206	...	ENGL	2327	HST	120	...	HIST	2381	MUS	115	...	MUSI	1263
ENG	209	...	ENGL	2307	HST	204	...	HUMA	2319	MUS	117	...	MUSI	1181
ENG	210	...	ENGL	2314	HST	205	...	HIST	2341	MUS	118	...	MUSI	1182
ENG	215	...	ENGL	2352	HUM	101	...	HUMA	1301	MUS	119	...	MUSI	1192
ENG	216	...	ENGL	2353	HUM	102	...	HUMA	1302	MUS	120	...	MUSI	1193
ES	117	...	No CCN #		JN	101	...	No CCN #		MUS	121	...	MUAP	1169
FR	101	...	FREN	1411	JN	102	...	No CCN #		MUS	122	...	MUAP	1165
FR	102	...	FREN	1412	JN	103	...	No CCN #		MUS	123	...	MUAP	1181
FR	201	...	FREN	2311	JN	104	...	No CCN #		MUS	124	...	MUAP	1101
FR	202	...	FREN	2312	JN	105	...	No CCN #		MUS	125	...	MUAP	1105
FR	203	...	FREN	2303	JN	106	...	No CCN #		MUS	126	...	MUAP	1109
FR	204	...	FREN	2304	JN	202	...	No CCN #		MUS	127	...	MUAP	1113
FR	207	...	FREN	2306	JN	203	...	No CCN #		MUS	128	...	MUAP	1117
FR	208	...	FREN	1310	JN	204	...	No CCN #		MUS	129	...	MUAP	1121
FR	209	...	No CCN #		JPN	101	...	JAPN	1411	MUS	130	...	MUAP	1129
FR	211	...	No CCN #		JPN	102	...	JAPN	1412	MUS	131	...	MUAP	1125
FR	212	...	No CCN #		JPN	201	...	JAPN	2311	MUS	132	...	MUAP	1133
GEO	101	...	GEOL	1403	JPN	202	...	JAPN	2312	MUS	133	...	MUAP	1137
GEO	102	...	GEOL	1404	LAT	101	...	LATI	1411	MUS	134	...	MUAP	1141
GEO	103	...	GEOL	1345	LAT	102	...	LATI	1412	MUS	135	...	MUAP	1145
GEO	201	...	GEOL	2409	LAT	201	...	LATI	2311	MUS	136	...	MUAP	1149
GEO	205	...	No CCN #		LAT	202	...	LATI	2312	MUS	137	...	MUAP	1153
GEO	207	...	GEOL	2407	LS	102	...	No CCN #		MUS	138	...	MUAP	1157
GEO	209	...	No CCN #		MTH	101	...	MATH	1314	MUS	139	...	MUAP	1177
GER	101	...	GERM	1411	MTH	102	...	MATH	1316	MUS	140	...	MUAP	1161
GER	102	...	GERM	1412	MTH	103	...	No CCN #		MUS	141	...	MUAP	1115
GER	201	...	GERM	2311	MTH	109	...	MATH	2312	MUS	143	...	MUAP	1158
GER	202	...	GERM	2312	MTH	111	...	MATH	1324	MUS	145	...	MUSI	1311
GPY	101	...	GEOG	1301	MTH	112	...	MATH	1325	MUS	146	...	MUSI	1312
GPY	102	...	GEOG	2312	MTH	115	...	MATH	1332	MUS	147	...	No CCN #	
GPY	103	...	No CCN #		MTH	116	...	MATH	1333	MUS	148	...	No CCN #	
GPY	104	...	GEOG	1303	MTH	117	...	MATH	1335	MUS	150	...	MUSI	2143
GRK	101	...	GREE	1311	MTH	121	...	MATH	1348	MUS	151	...	MUSI	1183

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 MUS 153 ... COMM 2303
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 MUS 166 ... MUSI 1310
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 MUS 184 ... MUSI 1125
 MUS 199 ... No CCN #
 MUS 203 ... MUSI 1186
 MUS 205 ... MUSI 2192
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 MUS 224 ... MUAP 2201
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 MUS 236 ... MUAP 2249
 MUS 237 ... MUAP 2253
 MUS 238 ... MUAP 2257
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 MUS 243 ... MUAP 2258
 MUS 245 ... MUSI 2311
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MUS 254 ... MUAP 2301
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 PEH 110 ... PHED 1337
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 PEH 113 ... PHED 1105
 PEH 114 ... PHED 1106
 PEH 115 ... PHED 1164
 PEH 116 ... PHED 1107
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 PEH 118 ... PHED 1109
 PEH 119 ... PHED 1110
 PEH 120 ... PHED 1111
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 PEH 122 ... PHED 1113
 PEH 123 ... PHED 1114
 PEH 124 ... PHED 1115
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 PEH 145 ... PHED 1126
 PEH 146 ... PHED 1127
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 PEH 200 ... PHED 1130
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 PEH 226 ... PHED 2155
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 PHI 208 ... PHIL 2317
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 PHO 122 ... No CCN #
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 PHO 215 ... No CCN #
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 PHY 112 ... PHYS 1402
 PHY 117 ... PHYS 1405
 PHY 118 ... PHYS 1407
 PHY 131 ... No CCN #
 PHY 132 ... No CCN #

PHY	201	...	PHYS	2425
PHY	202	...	PHYS	2426
PSC	118	...	PHYS	1415
PSC	119	...	PHYS	1417
PSY	101	...	PSYC	2301
PSY	103	...	PSYC	2306
PSY	131	...	No CCN #	
PSY	201	...	PSYC	2314
PSY	202	...	PSYC	2302
PSY	205	...	PSYC	2316
PSY	207	...	PSYC	2319
RD	101	...	No CCN #	
RD	102	...	No CCN #	
REL	101	...	No CCN #	
REL	102	...	No CCN #	
REL	105	...	No CCN #	
REL	201	...	No CCN #	
RTV	210	...	COMM	1336
RTV	211	...	COMM	1337
SC	100	...	SPCH	1144
SC	101	...	SPCH	1311
SC	105	...	SPCH	1315
SC	109	...	SPCH	1342
SC	110	...	SPCH	1145
SC	201	...	SPCH	2144
SC	203	...	No CCN #	
SC	205	...	SPCH	2335
SC	206	...	SPCH	2341
SC	208	...	No CCN #	
SC	209	...	No CCN #	
SOC	101	...	SOCI	1301
SOC	102	...	SOCI	1306
SOC	103	...	SOCI	2306
SOC	203	...	SOCI	2301
SOC	204	...	SOCI	2319
SOC	206	...	SOCW	2361
SOC	207	...	SOCI	2326
SOC	209	...	SOCI	2331
SOC	210	...	SOCI	2320
SOC	231	...	No CCN #	
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SPA	102	...	SPAN	1412
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SPA	211	...	No CCN #	
SPA	212	...	No CCN #	

THE	101	...	DRAM	1310
THE	102	...	No CCN #	
THE	103	...	DRAM	1330
THE	104	...	DRAM	2331
THE	105	...	DRAM	1341
THE	106	...	DRAM	1351
THE	107	...	DRAM	1352
THE	109	...	No CCN #	
THE	110	...	DRAM	2361
THE	111	...	DRAM	2362
THE	112	...	DRAM	1345
THE	113	...	DRAM	1346
THE	114	...	DRAM	1120
THE	199	...	No CCN #	
THE	201	...	No CCN #	
THE	202	...	No CCN #	
THE	205	...	DRAM	2351
THE	207	...	DRAM	2352
THE	208	...	No CCN #	
THE	209	...	No CCN #	
THE	210	...	DRAM	1221
THE	211	...	No CCN #	
THE	212	...	No CCN #	
THE	236	...	DRAM	1323

TELECOURSES

You may take a variety of college credit courses via television. While the content, credit and transferability of these courses are the same as for similar courses taken on campus, the learning activities may vary with each course. The telecourse program of study includes a textbook, study guide, and possibly some supplemental readings. You may also have writing assignments, lab assignments, discussion sessions and/or field trips.

(ACC) 201 Principles of Accounting I (3)

(Common Course Number ACCT 2301)

This course presents the processes of accounting, and introduces the theory, principles and language of business.

(ANT) 101 Cultural Anthropology (3)

"Faces of Culture" is an introduction to the study of cultures of the world including social, political and religious aspects.

(BUS) 105 Introduction to Business (3)

(Common Course Number BUSI 1301)

"The Business File" is an introduction to the fundamentals of business and how it operates today.

(BUS) 234 Business Law (3)

(Common Course Number BUSI 2301)

"Business and the Law" emphasizes contracts and the legal system. Topics include law of sales, commercial paper, government regulations, employment practices, consumer and environmental practices, giving students a comprehensive overview of law in the world of business.

(CIS) 103 Introduction to Computer Information Systems (3)

"The New Literacy" presents the concepts and applications of computers and data processing in today's computerized world.

(ECO) 201 Principles of Economics I (3)

(Common Course Number ECON 2301)

Designed by some of the nation's top economists, "Economics U.S.A." enables students to learn the principles of modern macroeconomics.

(ECO) 202 Principles of Economics II (3)

(Common Course Number ECON 2302)

Designed by some of the nation's top economists, "Economics U.S.A." further enables the students to learn the principles of modern microeconomics.

(ENG) 101 Composition I (3)

(Common Course Number ENGL 1301)

"The Write Course" is an introduction to college composition that can help you develop effective writing skills.

(ENG) 102 Composition II (3)

(Common Course Number ENGL 1302)

"Read, Write and Research" explores fiction, poetry, drama, film and more as it emphasizes composition skills.

(GVT) 201 American Government I (3)

(Common Course Number GOVT 2301)

"Government By Consent I" helps students understand both U.S. and Texas politics and political processes.

(GVT) 202 American Government II (3)

(Common Course Number GOVT 2302)

"Government By Consent II" examines both U.S. and Texas legislative processes, executive branches, bureaucratic structure and judicial systems.

(HST) 101 History of the United States (3)

(Common Course Number HIST 1301)

"The American Adventure" travels from America's beginning to 1877. Oral histories and diaries are visually enhanced.

(HST) 102 History of the United States (3)

(Common Course Number HIST 1302)

"America: The Second Century" covers the period between the Centennial to the Bicentennial. The course takes a topical approach.

(HUM) 101 Introduction to the Humanities (3)

(Common Course Number HUMA 1301)

"In Our Own Image" focuses on very basic notions about people and our feelings about the arts; creation, effect and criticism.

(MGT) 136 Principles of Management (3)

"The Business of Management" is designed to help you see the manager's point of view when organizing a business.

(PEH) 101 Health for Today (3)

(Common Course Number PHED 1304)

"Here's To Your Health" helps the student define a healthy lifestyle and earn credit in personal health/physical education.

(PSY) 101 Introduction to Psychology (3)

(Common Course Number PSYC 2301)

"Psychology: The Study of Human Behavior" draws upon years of international work in the field of psychology; many universally recognized authorities are interviewed.

(PSY) 201 Developmental Psychology (3)

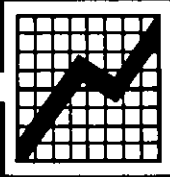
(Common Course Number PSYC 2314)

"The Growing Years" uses dramatizations, experiments and interviews with experts to study the forces that shape human behavior.

(SOC) 101 Introduction to Sociology (3)

(Common Course Number SOCI 1301)

The primary goal of "The Sociological Imagination" is to develop the sociological imagination of students through thought-provoking documentaries and interviews with leading sociologists.



Bill J. Priest Institute for Economic Development

1402 Corinth Street • Dallas, Texas 75215
565-5700

1992-93 PROGRAMS

- Business and Professional Institute
- Business Incubation Center
- Center for Government Contracting
- Dallas Small Business Development Center
- Edmund J. Kahn Job Training Center
- International Business Center
- North Texas-Dallas Small Business Development Center
- Technology Transfer Center



The Bill J. Priest Institute for Economic Development



Dallas SBDC staff members discuss small business options in today's economy.



Job Training Center students work to improve their typing skills.

The Bill J. Priest Institute for Economic Development was created as a combined effort of the Dallas County Community College District and the private business sector to play a significant role in the economic development of Dallas County. The Institute also represents a long-term commitment to providing education and training to the citizens of Dallas County.

Opened in the spring of 1989, the \$9.2 million, 150,000 square foot training complex houses the DCCCD's programs providing services to business and industry. The Institute was named for Dr. Bill J. Priest, founding Chancellor of the Dallas County Community College District in 1965 and primary architect of the District's master educational plan.

The Institute has become a key partner in supporting economic development efforts for the Metroplex. Its distinct, yet inter-related, programs include:

**Business and Professional Institute • Edmund J. Kahn Job Training Center • Business Incubation Center •
Center for Government Contracting • Dallas Small Business Development Center •
North Texas-Dallas Small Business Development Center • International Business Center •
Technology Transfer Center**

BUSINESS & PROFESSIONAL INSTITUTE

The Business and Professional Institute (BPI) provides training, teleconferencing, testing, skills assessment, and many other highly specialized training services — including Total Quality Management — for businesses, government agencies and professional associations. All parameters of BPI contract training can be adjusted to meet a business' special requirements, with cost calculated on an hourly basis.

BPI accounts managers on the DCCCD college campuses address training and education needs of the surrounding business community by utilizing that college's educational resources. BPI field personnel identify customer needs, and then provide a custom-designed training program, for college credit, either at the customer's site of business or on the college campus. Field personnel then oversee the delivery of training and monitor customer satisfaction.

Training is hands-on, competency-based and designed to prepare graduates for entry level jobs with local employers.

Programs are designed for persons interested in retraining or upgrading skills, and for those entering the job market for the first time. All program offerings are employer-directed to meet the job market demands in the metroplex area.

Financial assistance is available for many students through the Job Training Partnership Act. Support services, such as on-site child care, are available for registered students who qualify.



Data Entry is one training program offered by the JTC.

THE EDMUND J. KAHN JOB TRAINING CENTER

The Edmund J. Kahn Job Training Center is committed to offering quality short-term intensive vocational education and training.



A JTC student gets hands-on renovation experience.

WE WANT YOU TO SUCCEED!

If you regret not finishing high school or have ever wished you were trained in a trade or profession so that you could get a more challenging, better-paying job, the Edmund J. Kahn Job Training Center can help you.

Education is the key to success — and education is what the Job Training Center is all about. Our standard of success is the high number of JTC graduates who are placed in training-related positions. When you do complete your training, you will receive a Certificate of Completion.



Instructors work closely with JTC students.

If you wish to continue your studies at one of the Dallas County Community Colleges, some of your course work can be applied towards earning an Associate Degree in Applied Sciences.

Class schedule for training programs:

Classes meet from 8:15 a.m. to 3:20 p.m. Monday through Friday. Our training programs are not just lectures and books — they include hands-on training in your selected job area. You might even work for a small business housed in the same complex as part of your training experience. Programs are individualized to help you train at your level of ability. Most training programs take four to six months to complete.

Enrollment:

To apply for any of the Job Training Center's programs, come by the admissions office on the first floor of the Bill J. Priest Institute for Economic Development to fill out an application. Admissions' hours are 8:30 a.m. to 4 p.m. Monday through Friday. Training courses start monthly throughout the year, so once you are accepted, you won't have to wait long before you can begin training for a new career.

Support services:

Before beginning a job training program, counselors may advise you to enroll in a basic skills/GED Program. They are prepared to assist you in deciding which types of jobs would suit you best and are also available as a source for information on financial aid and assistance with tuition, books, transportation and child care.

The JTC's Placement Office can help you successfully look for and get a job. Placement Specialists provide training in self-directed job search, resume preparation and also offer an internship program. The Job Placement Lab is the source of numerous job vacancy leads and job search materials. Students are provided on-going job search assistance from orientation through successful placement in a training-related employment opportunity.

On-site child care:

One of our most exciting support services for qualifying JTC students is a child care center located within the Institute. Operated by Child Care Dallas, the center can care for up to 30 children. Professional child care in this bright, clean environment allows parents who are job training center students to see their children during class breaks or at lunch time. Referral support is also available for other area child care centers.

The JTC offers training programs in the following areas:

ACCOUNTING/BOOKKEEPING (Accounting Clerk) - Students analyze financial data and maintain records involving accounts receivable, accounts payable and payroll. Students also learn how to operate electronic calculators by touch and type a variety of business letters and forms. Students are exposed to various automated systems including personal computers.

AUTOMOTIVE SERVICE AND REPAIR - Students are introduced to basic service and repair procedures and learn to troubleshoot, diagnose and repair various vehicle systems using test equipment and tools. Chassis and brakes, tune-ups and emissions, transmissions and differentials, air conditioning and heating, and electrical systems are topics covered in this program.

Job titles include: Make-ready Mechanic; Tune-up Specialist; Mechanic's Helper; Parts/Service Assistant; and Front-End Specialist. Mechanic helpers work in automotive service centers, tune-up shops, brake and alignment shops, auto dealerships and gas stations.

DATA ENTRY (Computer Information Processing Operator) - Students input different source documents on key-to-disk equipment and personal computers. Students also retrieve, verify, update and print data; deal with numerous system utilities; delete and allocate data sets; perform search functions; and receive an introduction to DOS, electronic spreadsheets, D-Base, WordPerfect and desktop publishing.

GENERAL OFFICE CLERK - This program provides basic clerical skills training. Emphasis is placed on typing business letters, memoranda and reports. Students will develop speed and accuracy on the typewriter and electronic calculator, and learn personal computer applications for WordPerfect 5.1, Lotus 1-2-3 and Dbase Management software packages. Business communication, interpersonal communication, time management, telephone skills and interviewing techniques will be taught.



Counselors help JTC students with career choices.

WORD PROCESSING OPERATOR - This program provides the fundamental techniques required in producing a variety of business documents using WordPerfect 5.1, Lotus 1-2-3 and Dbase Management software. Such documents include business letters, reports, memoranda and tables. Basic concepts of creating, storing, retrieving, editing and printing are emphasized. Speed and accuracy are stressed. Business communication, interpersonal communication, time management and telephone skills are also taught.

BASIC SKILLS/GED PREPARATION - Students upgrade basic skills through a computer-assisted remedial education and life-coping skills program. This program serves out of school youth and adults age 16 and over who face serious barriers to employment because they are high school dropouts or lack basic skills.

GED instruction is also offered concurrently with skills training if applicants' reading and math skills meet program entry requirements. Enrichment in reading and math is included with all vocational skills training programs.

ENGLISH AS A SECOND LANGUAGE (ESL) - Students receive computer-assisted intensive English instruction in reading comprehension, writing, speaking, and listening skills. As English skills are strengthened, students may work toward attaining the GED, English or Spanish, and entering career training programs.

The Job Training Center was named after Dallas businessman and civic leader Edmund J. Kahn, who believed strongly in the Dallas County Community College District. Through a generous donation, Mrs. Louise Kahn provided funds to build the Job Training Center in memory of her husband, who believed that everyone has abilities and talents and deserves a chance to succeed.

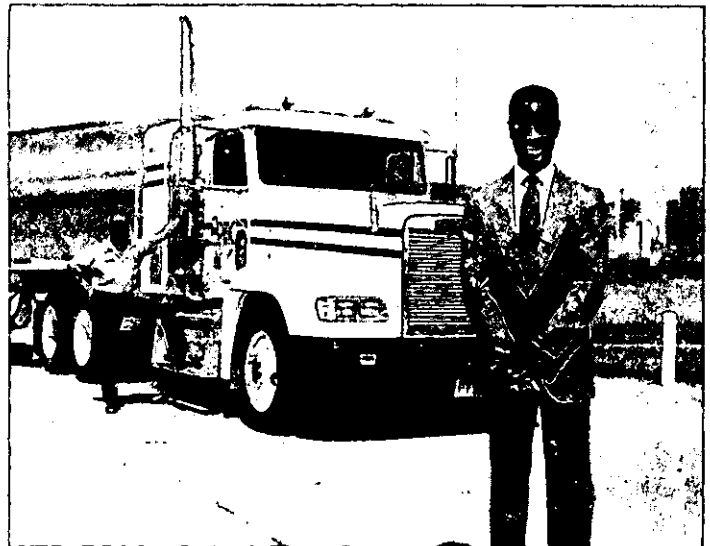
BUSINESS DEVELOPMENT PROGRAMS

The Business Development Programs of the Bill J. Priest Institute for Economic Development focus on specific information and assistance that business owners need in order to strengthen and/or expand their business. In order to provide targeted information and assistance, each Business Development Program has a special emphasis:

The Business Incubation Center (BIC) offers cost-shared support services and a quality environment in which businesses can physically house their operations. A business which houses its offices elsewhere can become an affiliate of the Incubation Center by contracting to use the support services. Affiliates are not required to move on site.

Support services available to BIC occupants include:

- Computer Center
- Clerical Assistance Center
- Copiers
- Covered Parking
- Telephone Message Center
- Mail/UPS/Fax



BIC businesses cover a wide range of fields.

The Center for Government Contracting (CGC) assists businesses that are seeking federal, state, county and municipal contracts. The CGC aids any business that can improve the economic environment of Texas. The CGC provides an on-line computer service of bid sources along with workshops and seminars which cover the basics of doing business with governmental and other public entities.

The Small Business Development Center (SBDC) is currently the largest management assistance program serving the small business sector in the U.S. SBDCs counsel and train business people in management, financing and operating small businesses, providing comprehensive information services and access to experts in a variety of fields.



Dallas SBDC staff members work closely with business owners who house their businesses in the Business Incubation Center.

The North Texas-Dallas Small Business Development Center (NTDSBDC), one of four regional SBDCs in Texas, oversees SBDC activity in 49 counties. It comprises 16 field centers, including the Dallas SBDC, the International Business Center and several satellites.

The Dallas Small Business Development Center (DSBDC) provides a twofold informational program to the business community. Training, via seminars/workshops, features professionals from the business community presenting topics from their areas of expertise, specifically in the areas of business plan development, market planning, and financial and operational management. The Dallas SBDC also provides free, one-on-one counseling.

The Dallas SBDC works with the U.S. Small Business Administration, chambers of commerce, business groups and other entities to provide as complete a set of services as possible to meet the changing needs of the small business community.

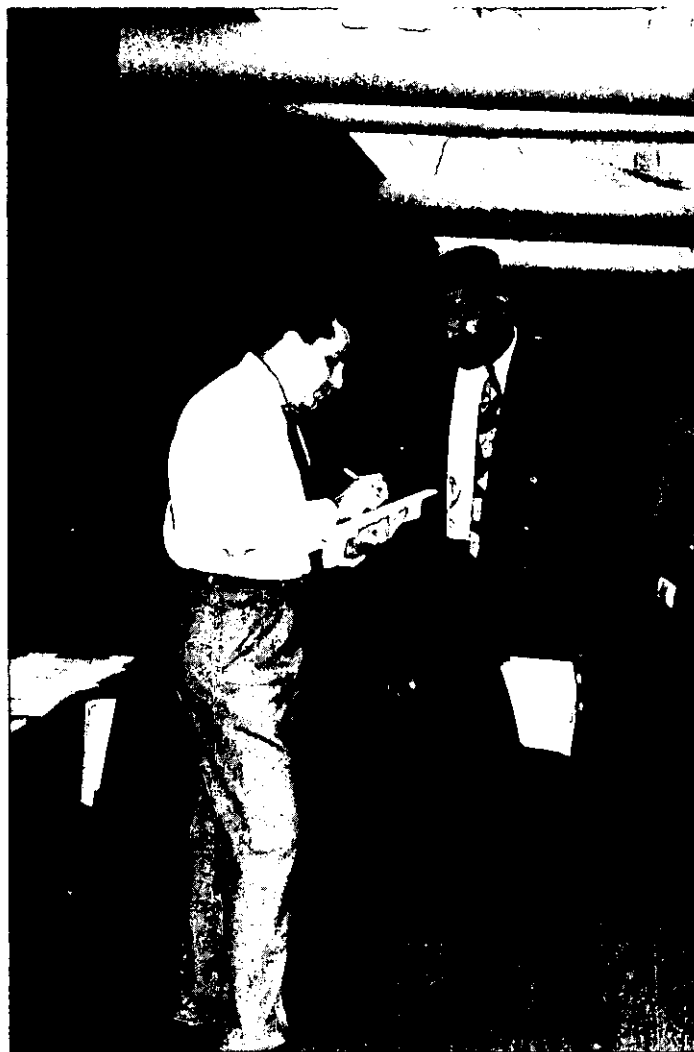


The Technology Transfer Center assists innovators with the inventions process.

The International Business Center (IBC), located in the World Trade Center, 2050 Stemmons Frwy., Suite 150, targets businesses interested in international trade. Through a cooperative effort with the U.S. Department of Commerce, the International Business Center offers seminars, workshops and video training modules on exporting, as well as individual counseling and a wide variety of research materials and referral services.

The Technology Transfer Center (TTC) assists in the commercialization of new and innovative products and processes through the vehicle of technology transfer. The TTC offers a wide variety of seminars covering such topics as intellectual property protection, licensing, new product development strategies, flexible manufacturing, and NASA search resources. Through one-on-one counseling, the Center assists innovators in strategic alliances, licensing for royalties and venturing.

In addition, the TTC contracts assistance from Texas A&M's Engineering Experiment Station to provide information on technical and market feasibility, prototype development and product testing. The Center also assists small manufacturing firms through contracts with the University of Texas at Arlington's Automation & Robotics Research Institute.



The Bill J. Priest Institute for Economic Development — putting education to work for business.

BILL J. PRIEST INSTITUTE FOR ECONOMIC DEVELOPMENT

ADMINISTRATIVE OFFICES AND STAFF

Provost	Glen Bounds	565-5801
Vice Provost of Business Services	Mike E. Howard	565-5717
Director of Resource Development	Suzanne LaChey	565-5716
Director of Public Information	Kristi Day	565-5803

BUSINESS AND PROFESSIONAL INSTITUTE (BPI) 565-5806

Director	Jerry Moreno	565-5808
Assistant Director	Jim Blackwood	565-5804
TQM Coordinator	Janice Downey	565-5811
Accounts Managers:		
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Cedar Valley College	Fina Longoria	372-8240
Eastfield College	Duane Penny	324-7634
El Centro College	Larry Johnson	565-5805
Mountain View College	Janie Thomas	333-8550
North Lake College	Peggy Woods-Felix	659-5392
Richland College	Rebecca Farrow	238-6377
Richland College	MaryAnn Miller	238-6952

CHILD CARE CENTER 565-5751

Director	Etta Smith	565-5752

EDMUND J. KAHN JOB TRAINING CENTER (JTC) 565-5711

Director	Ted Martinez, Jr.	565-5711
Coordinator of Instructional Services	Allen Espree	565-5712
Admissions/Registrar	Mike Henderson	565-5724
Counseling	Donna Ingram	565-5731
Placement Services	Melanie Gill	565-5740

SMALL BUSINESS PROGRAMS

Vice Provost of Small Business Programs	Bonny Franke	565-5851

BUSINESS INCUBATION CENTER (BIC) 565-5851

Coordinator of Business Services	Mark Keeth	565-5853

CENTER FOR GOVERNMENT CONTRACTING (CGC) 565-5842

Director	Vera Tanner	565-5842

DALLAS SMALL BUSINESS DEVELOPMENT CENTER (DSBDC) 565-5836

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Coordinator of Training	Jeff Blatt	565-5825

INTERNATIONAL BUSINESS CENTER (IBC) 653-1777

Director	Beth Huddleston	653-1777
Coordinator of Training	Elizabeth Harris	653-1777

NORTH TEXAS-DALLAS SMALL BUSINESS DEVELOPMENT CENTER (NTDSBDC) 565-5837

Regional Director	Marty Jones	565-5831
Assistant Regional Director	Liz Klimback	565-5837

TECHNOLOGY TRANSFER CENTER (TTC) 565-5822

Director	Ray Bell	565-5852
Coordinator of Training	Pamela Speraw	565-5860

BILL J. PRIEST INSTITUTE FOR ECONOMIC DEVELOPMENT

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