

1985-86 Dallas County Community College District Catalog



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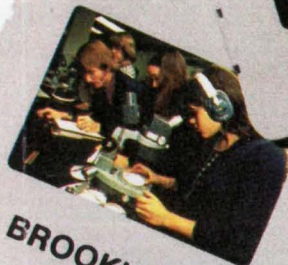
CEDAR VALLEY



NORTH LAKE



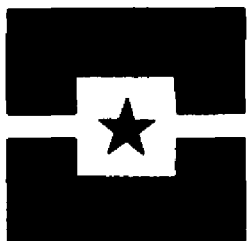
RICHLAND



BROOKHAVEN



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1985-86 Dallas County Community College District Catalog



Brookhaven College
3939 Valley View Lane
Farmers Branch, Texas 75234-5295



Cedar Valley College
3030 North Dallas Avenue
Lancaster, Texas 75134-3799



Eastfield College
3737 Motley Drive
Mesquite, Texas 75150-2099



El Centro College
Main & Lamar Streets
Dallas, Texas 75202-3604



Mountain View College
4849 West Illinois Avenue
Dallas, Texas 75211-6599



North Lake College
5001 N. MacArthur Blvd.
Irving, Texas 75038-3899



Richland College
12800 Abrams Road
Dallas, Texas 75243-2199

Cover design by Brookhaven College Advertising Art Program student, Patti E. Generes.

This catalog contains policies, regulations, and procedures in existence at the time this publication went to press. The District Colleges reserve the right to make changes at any time to reflect current Board policies, administrative regulations and procedures, and applicable State and Federal regulations. This catalog is for information purposes and does not constitute a contract.

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

The Dallas County Community College District is an equal opportunity institution.

1985-86 ACADEMIC CALENDAR

Summer Sessions, 1985

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

May 27	Memorial Day Holiday
May 28	Registration
May 30	Classes Begin
June 4	4th Class Day
June 26	Last Day to Withdraw with "W"
July 3	Final Exams
July 3	Semester Closes

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

July 8	Registration
July 10	Classes Begin
July 15	4th Class Day
August 6	Last Day to Withdraw with "W"
August 13	Final Exams
August 13	Semester Closes

Fall Semester, 1985

August 26	Faculty Reports
August 27-29	Registration Period (varies by campus)
August 30	Faculty Professional Development
September 2	Labor Day Holiday
September 3	Classes Begin
September 6	Friday Only Classes Begin
September 7	Saturday Classes Begin
September 16	12th Class Day
November 7	Last Day to Withdraw with "W"
November 28	Thanksgiving Holidays Begin
December 2	Classes Resume
December 14	Last Day of Classes
December 16-19	Final Exams
December 20	Final Exams for Friday Only Classes
December 21	Final Exams for Saturday Classes
December 21	Semester Closes

Spring Semester, 1986

January 13	Faculty Reports
January 14,15,16	Registration Period (varies by campus)
January 17	Faculty Professional Development
January 17	Friday Only Classes Begin**
January 18	Saturday Classes Begin **
January 20	Classes Begin
January 30	12th Class Day
February 13	District Conference Day
February 14	Faculty Professional Development (TJCTA)
March 10	Spring Break Begins
March 14	Spring Holiday for All Employees
March 17	Classes Resume
March 28	Easter Holidays Begin
March 31	Classes Resume
April 3	Last Day to Withdraw with "W"
May 9	Last Day of Classes
May 10	Final Exams for Saturday Classes
May 12-15	Final Exams
May 16	Final Exams for Friday Only Classes
May 16	Graduation
May 16	Semester Closes

Summer Sessions, 1986

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

May 26	Memorial Day Holiday
May 27	Registration
May 29	Classes Begin
June 3	4th Class Day
June 25	Last Day to Withdraw with "W"
July 2	Final Exams
July 2	Semester Closes

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

July 7	Registration
July 9	Classes Begin
July 10	4th Class Day
August 5	Last Day to Withdraw with "W"
August 12	Final Exams
August 12	Semester Closes

**Friday and Saturday only classes should meet 170 minutes since they only meet 14 times in Spring, 1986

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Dallas County Community College District Board of Trustees



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Chairman



Robert Bettis
Vice Chairman



Don Buchholz



J. D. Hall



Kenneth M. Pace



Pattie T. Powell



James W. Smith



R. Jan LeCroy
Chancellor

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Vice Chancellor of Educational Affairs	Jack Stone
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Assistant to the Chancellor	Jackie Caswell
Director of Development	Carole Shlipak
Legal Counsel	Robert Young
Special Assistant to the Chancellor	Nancy Armes
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Director of Computer Services	Jim Hill
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Director of Facilities Management	Edward Bogard
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Director of Purchasing	Mavis Williams
Director of Resource Development	Bonny Franke-Hill
Director of Student Programs	Richard McCrary
Director of Technical Services	Paul Dumont

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 75,000 students per 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 College and Mountain View College 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.

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 community service 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 17 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

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 handicap. 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 high 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 Public Law 178, 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 a grade of "F".

II. IMPORTANT TERMS

Add: To enroll in additional course(s) after regular registration.

Admission: Formal application and acceptance as a student.

Academic advisor: A member of the college staff who assists students in planning appropriate academic programs.

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.

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

Credit: A unit of measure assigned to each course. See credit hours.

Credit hours: This is normally equal to the number of hours a course meets per week. For example, a three credit hour lecture course will meet three hours per week. Courses involving laboratory time typically meet additional hours. Credit hours are sometimes referred to as semester hours.

Credit/non-credit: Credit classes are those which award academic credit and apply toward a degree. Non-credit classes do neither and are usually offered through Continuing Education.

Campus class schedule: A booklet which is published prior to each semester listing all classes, sections, dates, times, instructors' names, and meeting places and which is used by students to prepare their personal class schedules each semester.

Drop: The act of officially withdrawing from a particular course.

Fee: A charge which the college requires for services or equipment beyond tuition charges.

Elective: A course chosen by the student that is not required for a certificate or degree.

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 campus class schedule for further information.

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

GPA: Grade Point Average

Grade points: See Catalog section entitled ACADEMIC INFORMATION.

Grades: See Catalog section entitled ACADEMIC INFORMATION.

Major: The subject or field of study in which the student plans to specialize. For example, one "majors" in Automotive Technology, Business, etc.

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.

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.

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.

Registration: The official process for enrolling in courses which includes selection of times as well as payment of fees and tuition.

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 5½ weeks.

Technical/occupational courses: Courses which lead to a certificate or two-year 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.

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 officially dropping all courses for which a student is enrolled in a given semester or session.

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

Beginning Freshman

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

- Graduates from an accredited high school or those who have earned a General Education Diploma (G.E.D.), who are 18 years of age or older, and whose high school class has graduated.
- Graduates of an unaccredited high school who are 18 years of age or older.
- Persons who do not hold a high school diploma or G.E.D. (but who are 18 years of age or older and whose high school class has graduated) may be admitted by giving evidence of an ability to profit from college instruction. Such admission will be on a probationary basis.
- High school seniors recommended by their high school principal. The College admits a limited number of students in this category. The students are concurrently enrolled for a maximum of six hours of special study each semester. Students must continue to make normal progress toward high school graduation.

Transfer Students

Transfer applicants are considered for admission on the basis of their previous college record. 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.

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 at any District college will not be readmitted.

Non-Credit Students

Students enrolling for non-credit courses apply through the Office of Career and 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:

- a. complete a personal interview with the international student counselor and receive approval from the college administration,
- b. present TOEFL (Test of English as a Foreign Language) test scores of 525 or higher and take the DCCCD assessment tests,
- c. be proficient in English and provide a letter in their own handwriting indicating educational and vocational plans,
- d. show evidence of sufficient financial support for the academic year by submitting an I-134 (Affidavit of support) Immigration and Naturalization Service document,
- e. 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.
- f. fulfill all admission requirements for international students at least 30 days prior to registration,
- g. enroll as a full-time student (minimum of 12 credit hours),
- h. supply official transcripts for all previous academic work with a minimum "C" average.

Contact the Admissions Office for information.

Application And Admission Procedures

Applications may be submitted any time prior to registration, but applicants should submit materials at least three weeks before registration to insure effective counseling and schedule planning. Earlier application is desirable because the student's place in registration is determined by the date an applicant's admission file is complete. A late place in registration may mean that the student cannot register for some courses because they are already filled.

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) for beginning college students an official high school transcript from the last high school attended; (2) for college transfer students, official transcripts for all previous college work attempted. The college's accrediting agency requires transcripts, and the college uses them in program advisement.

Once the above materials are submitted, the applicant is assigned a place in registration. 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.

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

Laboratory Fee: \$2 to \$8 a semester (per lab).

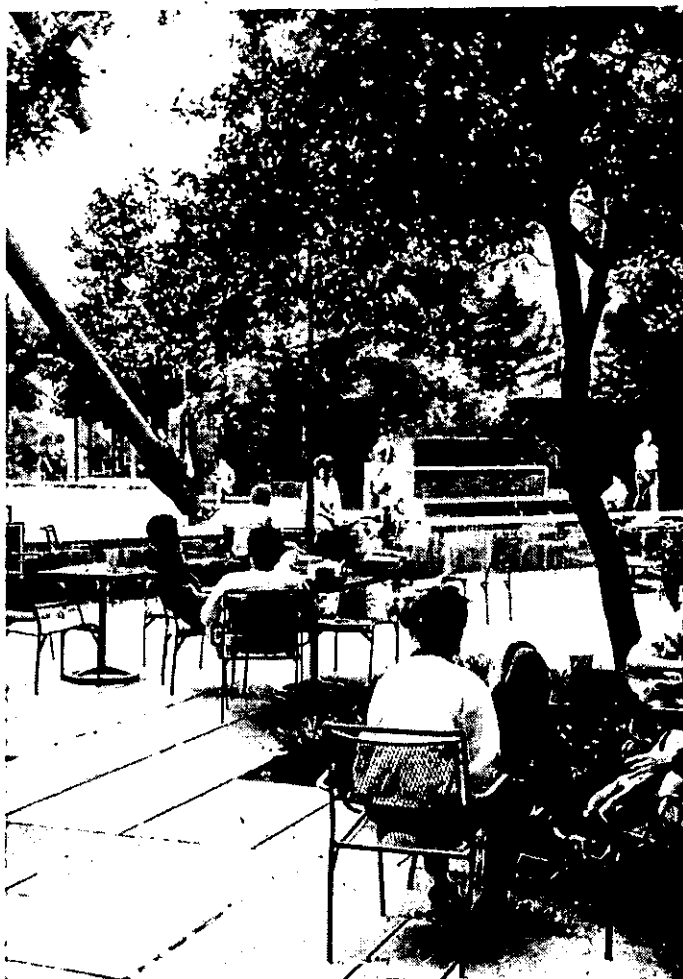
Physical Education Activity Fee: \$5 a semester.

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, except that a student service fee is not charged.

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



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TUITION AND STUDENT SERVICES FEE Fall and Spring Sessions

Semester Credit Hour	Dallas County			Out-of-District			Out-of-State or Country		
	Tuition	Fee	Total	Tuition	Fee	Total	Tuition	Fee	Total
1	\$ 32	\$ 3	\$ 35	\$ 32	\$ 3	\$ 35	\$ 59	\$ 3	\$ 62
2	32	3	35	62	3	65	118	3	121
3	32	3	35	93	3	96	177	3	180
4	40	4	44	124	4	128	236	4	240
5	50	5	55	155	5	160	295	5	300
6	60	6	66	186	6	192	354	6	360
7	70	7	77	217	7	224	413	7	420
8	80	8	88	248	8	256	472	8	480
9	90	9	99	279	9	288	531	9	540
10	100	10	110	310	10	320	590	10	600
11	108	11	119	320	11	331	649	11	660
12	116	12	128	330	12	342	708	12	720
13	124	12	136	340	12	352	767	12	779
14	132	12	144	350	12	362	826	12	838
15	140	12	152	360	12	372	885	12	897
16	148	12	160	370	12	382	944	12	956
17	156	12	168	380	12	392	1003	12	1015
18	164	12	176	390	12	402	1062	12	1074
19	172	12	184	400	12	412	1121	12	1133
20	180	12	192	410	12	422	1180	12	1192

TUITION Summer Sessions

Semester Credit Hour	Dallas County Tuition	Out-of-District Tuition	Out-of-State or Country Tuition
1	\$ 32	\$ 44	\$ 65
2	32	88	130
3	36	132	195
4	48	176	260
5	60	220	325
6	72	264	390
7	78	272	448
8	84	280	506
9	90	288	564

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

A Dallas County resident is one who (1) resides in Dallas County and (2) qualifies as an in-state resident. Texas law defines an in-state resident as an individual "who is employed full-time in Texas for the 12-month period preceding registration." The Dallas County Community College District Board of Trustees has waived the difference in tuition between the out-of-state or out-of-district rates and Dallas County rates for a person and his/her dependents who owns real estate, business or personal, within Dallas County. For information on documents necessary to prove such ownership or dependency, consult the Admissions Office. Classification as a state resident or qualification for a waiver of out-of-state fees applies only to U.S. citizens or permanent resident aliens.

The DCCCD Board of Trustees defines an out-of-district student as (1) a student eighteen (18) years of age or older who resides in a Texas county other than Dallas County or

(2) a student who is less than eighteen (18) years of age whose parents live in a Texas county other than Dallas County. In either case, state residency requirements must be fulfilled (see above).

An out-of-state student is one who has come to Texas from out-of-state within the 12-month period prior to registration. Anyone who enrolls as an out-of-state student is presumed to remain out-of-state as long as the residence of the individual in Texas is for the purpose of attending school. An individual who would have been classified as a resident for the first five of the six years immediately preceding registration, but who resided in another state for all or part of the year immediately preceding registration shall be classified as a resident student.

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.



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	100%
During the first five class days	80%
During the second five class days	70%
During the third five class days	50%
During the fourth five class days	25%
After the fourth five class days	NONE

Summer Semesters

Prior to the first class day	100%
During the first, second or third class day	80%
During the fourth, fifth or sixth class day	50%
After the sixth class day	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	100%
After the twelfth class day	NONE

Summer Session

During the first four class days	100%
After the fourth class day	NONE

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

(5) Mandatory fees shall include, but not be limited to, 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 pro-rated accordingly.

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

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

(9) A student who withdraws from the institution will be assessed a matriculation fee as provided by Coordinating Board regulations.

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.

Assessment Procedures

Assessment is the process of evaluating readiness for certain college courses and the probabilities for success in those courses. Individual assessment of skill levels is an important part of student success in college. Therefore, the District has an assessment process at each of its colleges for entering students.

Information gained from assessment is used to advise students in the selection of courses which can provide the best possible opportunity for academic success. All entering students are required to go through the assessment process prior to advisement and registration for courses. In some cases, ACT or SAT scores less than five years old may

satisfy the assessment requirement. Entering students should arrange to have such scores sent to the appropriate Admissions Office or bring an official score report to the Admissions Office.

Advisement Procedures

To make the educational experience meaningful, the student needs to define personal goals and make selections from among the many educational options available. Academic advisement sessions at each college can provide a framework for informed decision-making on the part of students. The quality of each student's educational and career decisions is directly related to the amount of relevant information available to students and advisors. The assessment program also provides information needed in advisement. In addition to test scores, the advisor needs an evaluation of the student's career plans, including previous educational background, life experiences, motivation, etc. All of this information permits the student and advisor to begin discussions of alternatives and make sound plans for the student's educational experience.

Course Prerequisites

Prerequisites are established for certain advanced courses to help assure that students have sufficient background in the subject area to maximize their probability of success in the course. The College recognizes that certain related life experiences may also provide necessary background for success in these courses. Therefore, the division chairperson is authorized to waive a course prerequisite.

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 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 or credit for a course. An instructor may give an examination if he 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.

Transfer Of Credits

Transfer of credit is generally given for all passing work completed at colleges and universities recognized by a national accrediting agency equivalent to the Southern Association Commission on Colleges. The Registrar's Office evaluates all transfer credit. Transfer students admitted with a grade point deficiency cannot graduate until the deficiency is cleared by earning additional grade points. Credits earned in military service schools or through the U.S. Armed Forces Institute are reviewed by the Registrar and credit granted if applicable.

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, another number is assigned for record keeping.

IV. ACADEMIC INFORMATION

Degree Requirements

The College confers the Associate in Arts and Sciences Degree upon students who have completed all general specific 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.

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.

Associate In Arts And Sciences Degree

Students must have a minimum of 60 credit hours and a grade point average of at least "C" (2.0) to receive the Associate in Arts and Sciences Degree. These 60 hours may be earned at any District college. They must include:

English 101-102 plus an additional six hours of English for a total of 12 credit hours in English.

Eight credit hours in laboratory science (Music majors will substitute Music 101-102 for this requirement.)

12 credit hours of History 101-102 and Government 201-202. No substitutions are allowed. Only three credit hours of history and three credit hours of government may be earned through credit by examination. CLEP credit may not be used to meet this requirement.

Three credit hours in humanities, selected from Theatre 101, Art 104, Music 104, Humanities 101 or Philosophy 102.

A maximum of four physical education activity hours may be counted as credit toward requirements for graduation. Courses numbered 99 and below cannot be included to meet degree or certificate requirements. Music 199, Art 199, and Theatre 199 may not be counted toward the 60 hour minimum.

All students planning to transfer to a four-year institution may complete their four semester requirements in physical education during their freshman and sophomore year. 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 In Applied Arts And Sciences Degree And Certificate Career Programs

Students must have a minimum of 60 credit hours and a grade point average of at least "C" (2.0) to receive the Associate in Applied Arts and Sciences Degree. 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 this catalog for a more detailed explanation. The requirements for certificates are detailed under specific programs listed in the Technical/Occupational Programs section of this catalog. A "C" (2.0) grade point average is required. A maximum of four physical education activity hours may be counted as credit toward graduation. Courses numbered 99 and below may not be included to meet degree or certificate requirements. Music 199, Art 199, and Theatre 199 may not be counted toward the 60-hour minimum.

Procedure For Filing 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 thirty days prior to commencement.

Within five years of initial enrollment a student may graduate according to the catalog requirements in effect at the time of first enrollment or any subsequent catalog provided the requisite courses are still being offered. If a student fails to complete within five years all requirements of the catalog in effect at the time of initial enrollment, then the student may be required to graduate under a later catalog at the discretion of the institution.

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 Registrar or 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 credit hours is the maximum that may be earned in any 12-week summer period.

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 policy 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.) If the student does not withdraw, he/she will receive a performance grade, usually a grade of "F".

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. 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. 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. After that time students receive a performance grade in each course. See "Refund Policy" for possible eligibility for a refund.

Scholastic Standards: Grades And Grade Point Average

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

		Grade Point
Grade	Interpretation	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
$35 \div 12 = 2.93$		

For repeated courses, only the latest grade earned is included in cumulative grade point averages. Transcripts do, however, indicate all work completed in the District, even if the latest grade is lower than a preceding grade. 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 (one with a grade point value) 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 re-enrolls and completes the course requirements, the "WX" remains for the first enrollment; a performance grade is given for the second enrollment. If the student does not complete the course requirements, the "WX" is converted to a performance grade.

09/06/01

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 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 or better. Grade points and hours earned in courses numbered 99 and below are included in computing a student's scholastic standing, but they cannot be used to meet graduation requirements.



Honors

Full-time students who complete at least 12 hours of credit and earn a grade point average of 3.00-3.49 are listed on the College's Honor Roll. Full-time students who complete at least 12 hours of credit and average 3.50-4.00 are placed on the Vice President's Honor List. Part-time students who take six-11 credit hours and maintain a 3.5 or higher grade point average are placed on the Academic Recognition List.

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. Students may be removed from probation when they earn a 2.0 cumulative grade point average. 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.

Grade Reports

A grade report is issued to each student at the end of each semester and gives the grade earned in each course that semester. A transcript is the official record of college work and gives all grades earned throughout the college career. Transcripts are withheld from students who have not met financial or other obligations to the College. (See Student Codes and Expectations: "Financial Transactions with the College.")

Waiving Of Scholastic Deficiency

Any student in an academic transfer program may transfer to a career 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.

Transcripts Of Credit

Upon the written request of a student, the Registrar's Office will send an official transcript to the individual student or to any college or agency named. The transcript may be withheld, however, until the student has settled all obligations with the College.

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 given semester.

Full-time:

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

Learning Resources Center and Library Obligations

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

The library is a place where students can find books 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. It provides books, slides, tapes, reference help, 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.

The media and graphics part of the LRC supports the classroom instructional program and is 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.

V. EDUCATIONAL AND SPECIAL OPPORTUNITIES

Academic Transfer Programs

Students who desire to earn a bachelor's degree may complete freshman and sophomore courses in the DCCCD before transferring to a four-year institution. The academic transfer curriculum is coordinated with four-year colleges and universities to insure the transfer of credits to these schools. However, students must understand that each four-year institution generally establishes its own course requirements for its majors and degrees. Therefore, even in the same major, what one four-year institution requires may differ greatly from the requirements of another four-year institution. Until a student has identified a specific major at a specific four-year institution, it is difficult for an advisor or counselor to provide the very best assistance possible. Students should consult with a DCCCD counselor or adviser and the four-year institution on a regular basis to insure enrollment in courses appropriate to the selected degree or program.

Below is a list of some majors which students can begin within the DCCCD. For specific majors and programs, students should consult with an advisor or counselor.

Accounting
Advertising
Agriculture
American Studies
Anthropology
Architecture
Art
Biochemistry
Biological Sciences
Botany
Business Administration
Business Education
Chemistry
City and Regional Planning
Computer Science
Dentistry
Dietetics
Drama
Economics
Engineering

- English
- Entomology
- Fine Arts
- Dance
- Foreign Languages
- Forestry
- Geography
- Geology
- Finance
- Health Science
- History
- Home Economics
- Industrial Arts
- Industrial Design
- Interior Design
- Journalism
- Law
- Liberal Arts
- Life Science
- Marine Biology
- Marketing
- Mathematics
- Medical Technology
- Medicine (Pre-Med)
- Meteorology
- Microbiology
- Music
- Natural Sciences
- Nursing
- Occupational Therapy
- Oceanography
- Optometry
- Pharmacy
- Philosophy
- Physical Education
- Physical Science
- Physical Therapy
- Physics
- Political Science
- Psychology
- Public Relations
- Radio/Television/Film
- Recreation
- Sociology
- Speech Communications
- Speech Pathology and Audiology
- Theatre
- Telecommunications
- Theology
- Veterinary Medicine
- Urban Studies
- Wildlife Management
- Zoology

The fields of dentistry, law, medicine, optometry, pharmacy, veterinary medicine, and theology generally require graduate study. Students who plan to eventually get a graduate degree in one of these fields or areas should consult with a counselor or advisor about an appropriate undergraduate major.

Students are encouraged to consult the transfer information and resources which are available in the college counseling center. Counseling centers have copies of agreements made between the DCCCD and a number of

four-year institutions in Texas. Counselors and advisors can assist students in interpreting information from university and college catalogs. The number of credit hours which are transferable will vary from institution to institution. Most colleges and universities will accept at least 60 hours in transfer. In addition, some colleges and universities may have specific grade point average requirements for transfer students. IT IS THE RESPONSIBILITY OF STUDENTS TO KNOW ANY SPECIFIC REQUIREMENTS 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.

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 carry college credit leading to a Certificate of Completion or an Associate in Applied Arts and Sciences Degree. These programs are established only after studies verify that employment opportunities will exist at the time the student completes training.

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. They 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 training needs.

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 counseling center has a list of courses available through this method. The examination may be a section of the College Level Examination Program (CLEP), Advanced Placement Exams (CEEB), or a teacher-made test, depending on the course.

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 this 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 shall assess these learning activities and grant equivalent college credit according to the following guidelines:

1. student must be currently enrolled in the College to receive equivalent credit for non-traditional learning.
2. Credit may be granted for non-traditional learning as it relates to specific courses offered by the college assessing the learning 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 experience.
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 Texas Education Agency.
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 a human development course to facilitate the process.

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 may take a variety of college credit courses via television. The schedule of telecourses varies each semester and includes many general education transferable courses. Telecourses are noted in the course description section and in each college class schedule. Content and credit for these courses are the same as for similar courses taken on campus.

Telecourses include the viewing of television programs on KERA/Channel 13 and on cable, plus reading, study guide and writing assignments. Students come to the campus for an orientation session at the beginning of the semester, for one to four discussion meetings, for three or four tests, and for laboratory sessions in computer science courses. These campus visits are normally scheduled for a time convenient to the students. Field trips are required in some courses. Telecourses may be taken in conjunction with on-campus courses. Students may register for telecourses by mail or through the regular on-campus registration process.



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 occupational goal. This work experience takes place at work training stations approved by the College. The employers must be willing to enter into training agreements with the College and the student employee.

Credit for cooperative education during the semester is based on the completion of a minimum of 80 hours of work per semester for each credit to be earned to a maximum of four (4) credits. Attendance at sixteen (16) hours of campus seminars is also required.

To enroll in a cooperative education course, students must have completed at least six semester hours in an occupational major or secured instructor approval, be concurrently enrolled in a course related to a major subject area, and have approval of the instructor.

To participate in a cooperative education course, a student must be employed at a college-approved training station. The college will assist a student in seeking approvable employment.

Additional information regarding cooperative education may be secured from the Cooperative Education Office at each college. The technical/occupational programs having cooperative education are indicated in this catalog.

International Studies

Selected programs combine learning experiences with foreign travel. Some semester abroad programs are also available. This travel-study is under the direct supervision of the faculty. These courses support specific learning objectives, and college credit may be earned by students who successfully meet the objectives.



Human Development

In human development courses, students can learn skills useful in everyday living to promote their personal growth. Much of success and satisfaction in life is dependent on good interpersonal communication skills, making healthy adjustments to our changing society, and pursuing a satisfying career. The human development curriculum gives the student an opportunity to attain and practice skills in these important areas.

These courses are taught by counselors and other qualified instructors. They offer academic credit which transfers to most surrounding four-year institutions. The courses in human development enhance the total curriculum and blend in with the total concept of the community college.

Evening And Weekend College

In dynamic, growing communities such as those encompassing this college, people have continuing educational needs, yet many of them have work schedules and personal involvements which make it impossible for them to attend college during normal daytime hours. For this reason, evening and weekend college courses offer the same broad spectrum of programs available for full-time day students. 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.

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

Continuing education programs are an important element in the concept of the community college. They greatly expand the available opportunities for persons of all ages to participate in college programs and activities. And courses are offered throughout the year to meet a variety of community needs.

Continuing education programs are offered in the following categories:

Continuing education opportunities for individuals who want to broaden their knowledge or learn new skills for different occupational fields.

Cultural and community enrichment studies for groups and individuals seeking to enhance their quality of life.

Personal entertainment and recreation for individuals wishing to explore new activities for personal growth and enjoyment.

Resources for industry, government and professional groups needing to supplement their own training and development programs.

Continuing education programs offer short courses, seminars, workshops, and institutes. The type of course offering is determined by the nature of the material, instructional approach, and needs of the requesting individuals or organizations. Generally there are no entrance requirements or examinations. Some courses may have age restrictions or may require a certain amount of experience for enrollment. Admission is on a first-come, first-served basis. All one need do to register is fill out the form and pay the fee. Classes and activities are held on campus and in a variety of locations throughout the community. Most classes and activities are conducted on weekday evenings, but many are also held on weekdays and weekends.

Continuing education program instructors are professional men and women from the community who have proven experience in their fields. Their objective is to share their knowledge, insight, and experience, and to insure that students acquire a greater perspective of the subject and have a meaningful experience. Although most continuing education courses do not require textbooks, the nature of some special offerings do require the purchase of books or supplies. Students are notified of the need for texts and other materials at the first meeting.

Library privileges are available for continuing education students during the term they are registered. Contact the Continuing Education Office for further information.

Continuing Education Units (CEU'S)

Although no college credit is awarded for continuing education class participation, Continuing Education Units are transcribed for successful completion of most courses. The CEU, by nationwide definition, is "ten contact hours of participation in an organized continuing adult education or extension experience under responsible sponsorship, capable direction, and qualified instruction." The CEU is a means of recording and accounting for the various continuing education activities one accumulates over a period of years.

VI. 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 Resource Office plans and presents programs and activities for the general campus population. Programs often are coordinated with the various instructional divisions to provide students with valuable educational experiences. Many programs and activities are offered to help the student develop life enriching skills. Other programs provide students with interesting and entertaining ways to spend leisure time on campus. The goal of all programs is to facilitate the development of cultured and well-rounded human beings. Student participation in the operation of programs is highly encouraged.

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 appraisals of interest, personality and abilities.
2. Academic advisement to examine appropriate choices

of courses, educational plans, study skills, and transferability of courses.

3. Confidential personal counseling to make adjustment and life decisions about 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 psychological problems.

Tutoring Services

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

Testing And Evaluation 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 national programs.

Health Center

Health is the most fundamental human need, and a high standard of physical and mental health is a basic right of 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 services to community agencies and physicians, free tuberculin skin tests and other screening programs, and programs of interest to students and faculty. Students are encouraged to make an appointment with the nurse to discuss specific health problems. No information on a student's health is released without written permission from the student, except as required by law.

Services for Disabled Students

The Services for Disabled Students Office offers a variety of support services to enable disabled students to participate in the full range of college experiences. Services are arranged to fit the individual needs of the student and include interpreters, notetakers, tutors, mobility assistants, loan of wheelchairs, readers for the blind, and tape recorders. Disabled students should contact the office at least one month before registration. The office will provide students with an orientation session and registration information. For additional information, contact the Services for Disabled Students Office or the Counseling Center.

Student Organizations

Information about participation in any organization may be obtained through the Student Programs 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 athletic teams is voluntary on a non-scholarship basis for students who meet requirements established by the Metro Athletic Conference. 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 staff and encourages participation. For additional information contact the intramural director in the Physical Education Office or the Student Programs Office.

Housing

The College does not operate dormitories of any kind or maintain listings of available housing for students. Students who do not reside in the area must make their own arrangements for housing. Limited housing may be available at Bishop College. Interested persons should contact the Vice President of Students at Bishop.

Campus Security

Campus security is required by state law to "protect and police buildings and grounds of state institutions of higher learning." Because all laws of the state are in full force within the campus community, specially trained and educated personnel are commissioned to protect college property, personal property, and individuals on campus. Security officers are certified peace officers. They have the power to enforce all Texas laws and rules, regulations, and policies of the College, including the Code of Student Conduct.

VII. FINANCIAL AID

Students who need financial aid to attend college can apply for grants, scholarships, loans, or job opportunities. These aid opportunities are provided in the belief that education should not be controlled by the financial resources of students.

Students needing financial assistance are encouraged to complete an application well in advance of registration for the semester they wish to attend. The Financial Aid Needs Analysis Forms of the College Scholarship Service take 8-10 weeks to process. Early application allows the Financial Aid Office to prepare a realistic financial aid package.

Some of the grant, scholarship, loan and job programs available to students are outlined in the following paragraphs. Contact the Financial Aid Office for detailed information about any program and deadlines for applying. Some of the colleges have established priority deadlines for state grants and scholarships.

For financial aid purposes T.V. courses are considered to be the same as correspondence courses by the federal government. Enrollment in T.V. courses may effect your financial aid award, therefore, please contact your financial aid office if you intend to enroll in any of these classes.

Selective Service

Students who are born after December 31, 1959, and who are required under the Military Selective Service Act to register for draft are required to file a statement of compliance. Failure to comply constitutes ineligibility to receive any grants, loans, or work assistance under Title IV of the Higher Education Act of 1965.

Guaranteed Student Loans (GSL):

The Higher Education Act of 1965 provided for student loans from private commercial lending *institutions* agencies such as banks, savings and loan associations, credit unions and insurance companies. As an undergraduate, the student may borrow up to \$2,500 per school year, a maximum of \$12,500 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 and is currently 8% per year simple interest on loans to new borrowers. Borrowers do not pay interest until six months after ceasing at least half-time enrollment. The U.S. Dept. of Education pays to 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 minimum payment will be \$50 per month, and the loan must be repaid within 10 years.

Lenders may charge a 5% 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.

The Higher Education Amendments of 1980 authorized PLUS loans to parents of dependent undergraduate students through the Guaranteed Student Loan Program, and now self-supporting undergraduate and graduate students are, also, eligible for the loan. The interest rate on PLUS loans may vary, because it is dependent on the Treasury bill rates. Parents must begin repaying the loan within 60 days after the loan is made. Self-supporting students, on the other hand, may defer repayment while enrolled in school.

The Financial Aid Office will be able to supply additional information on how to apply for the Guaranteed Student Loan. A new application must be submitted each year.

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 costs of attending college.

All students applying for financial assistance through the College must apply for a Pell Grant. 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 and bring all copies to the Financial Aid Office. The exact amount of the Pell Grant award will depend upon the aid index 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. Students must apply each year.



Supplemental Educational Opportunity Grant (SEOG)

The SEOG program provides assistance for eligible undergraduate students who show financial need, are making satisfactory progress toward their educational goal and are enrolled for at least six credit hours. The maximum award for an academic year is \$2,000; 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. Students must apply each year for the SEOG.

Texas Public Educational Grant (TPEG)

The TPEG program is a state financial aid program to assist students attending state-supported colleges. To be eligible students must show financial need and be making satisfactory progress toward their educational goal. Not more than 10% of the funds may go to nonresident students. 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 is a state program. To qualify, students must enroll for at least six credit hours per semester, make satisfactory progress toward their educational goal, be a Texas resident, and have financial need. Grants are awarded by eligibility on a first-come, first-served basis. Students must apply each year for the TPE-SSIG.

Hinson-Hazlewood College Student Loan Program

The Hinson-Hazlewood College Student Loan Program is a state operated, federally insured student loan program. To qualify, students must enroll on at least a half-time basis (six credit hours in the fall or spring semester), be a Texas resident, and demonstrate financial need. Students must apply for all other types of aid before applying for this loan, and they must apply each year to renew the loan. New students must have applied for and been denied a Texas Guaranteed Student Loan before applying for this loan.

Repayment begins six months after the student ceases to be enrolled for at least one-half the normal course load.

Repayment may extend up to 10 years, but a minimum payment of \$50 a month is required.

Student Employment

The College Work/Study Program is a federal program to assist students through jobs both on and off campus. To be eligible, students must demonstrate financial need, be enrolled in six or more credit hours, and make satisfactory progress toward their educational goal. Students will generally work 20 hours per week.

The Student Employment Program provides some jobs on campus for students who do not meet the financial need requirement of the College Work/Study Program. Students will generally work 20 hours per week.

Social Security Administration

The Social Security Administration has offered benefits to students who met its criteria. However, this program of educational benefits is being phased out so students need to contact the regional Social Security Administration Office regarding eligibility. The Admissions Office on campus acts as liaison between students and the Social Security Administration after eligibility has been established.

Bureau Of Indian Affairs

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

Bureau of Indian Affairs
1100 Commerce - Room 2C44
Dallas, Texas 75202

Vocational Rehabilitation

The Texas Rehabilitation Commission offers assistance for tuition and fees to students who are vocationally handicapped 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.

Veterans' Benefits Program

The Veterans' Benefits Program is coordinated by the Veterans' Affairs 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. When testing indicates that a veteran should enroll in developmental courses such as reading, writing, or math, the student may pursue these courses with no charge to his or her benefits. 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. Violation of these guidelines causes complications in receiving monthly benefits or loss of those benefits.

1. Class attendance is mandatory. Failure to attend class results in suspension from class.
2. 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.
3. A veteran student enrolled in television courses must be pursuing more on-campus credit hours than hours taken by television.
4. A veteran student who has successfully completed credit hours at another college or university must submit a transcript from that college or university before applying for V.A. benefits. The transcript is evaluated and credit granted when applicable.
5. A veteran student must enroll in courses required for a degree program. Information on degree requirements may be obtained from the Registrar's Office.
6. A veteran student who withdraws or who is dropped 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 the catalog.

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

Hazlewood Act

Under the Hazlewood Act certain 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 financial aid. Applications are available at the Financial Aid Office and will take a minimum of eight weeks to process. To apply, students must submit a Hazelwood Act application, a copy of their discharge papers and a Student Aid Report stating ineligibility to the Financial Aid Office!

Handwritten notes:
- in 1st yr
- grad. 1st yr
- 2nd yr
- 3rd yr
- 4th yr



Academic Progress Requirements:

Students who receive financial aid or V.A. benefits are required by government regulations to make measurable progress toward the completion of their course of study. For a detailed description of the requirements, contact the Financial Aid Office.

The Grade Point Average (GPA) Requirement:

1. A student must maintain a 2.0 GPA for each semester or the combined summer sessions for which an award is approved.
2. A new applicant must have a cumulative 2.0 GPA on all credit hours earned from District colleges prior to the semester for which aid is requested.
3. A transfer student from a college outside the District must have a cumulative 2.0 GPA as evidenced by an academic transcript. If no academic transcript is available at the time of the award, aid may be awarded on a probationary basis for one semester only. *may*

Completion Requirement:

1. A student enrolled full-time (12 credit hours or more) must complete a minimum of 9 credit hours for any semester or the combined summer sessions for which funding is received.
2. A student enrolled three-quarter time (9-11 credit hours) or half-time (6-8 credit hours) must complete a minimum of 6 credit hours for any semester or the combined summer sessions for which funding is received.

Failure to Meet the Standards of Academic Progress:

In these provisions, probation or suspension means financial aid probation or suspension, but does not mean academic probation or suspension.

1. Following the first semester in which the above standards of academic progress are not met, the student will be placed on probation for the duration of the next semester of funding.

2. A new applicant with less than a cumulative 2.0 GPA will not have met the standards of academic progress; however, financial aid may be awarded on a probationary basis for one semester only.
3. The student who fails to meet the standards of academic progress during the semester of attendance while on probation will be placed on suspension and denied further funding for one semester or combined summer session.
4. If failure to meet satisfactory progress results in a second suspension from financial aid, the period of such suspension will be twelve months.
5. Following any period of suspension, the student will again be eligible for funding on a probationary basis for one semester or combined summer session.
6. The colleges of the District shall enforce probation or suspension status of any student who transfers from one college to another within the District.

Notification:

A student who is placed on probation or suspension will be notified in writing of the student's status.

Incremental Measurement of Progress:

Academic progress of recipients will be measured three times a year following the Fall and Spring semesters and Summer II session for the entire summer enrollment.

Maximum Time Period for Completion of Educational Objective:

1. Each student receiving financial aid funds will be expected to complete their educational objective or course of study within a reasonable period of time. The maximum hour limit for the District is 75 credit hours.
2. Funding beyond the maximum hour limit may be approved due to mitigating circumstances by the Director of Financial Aid.

Appeal Process:

1. A student, who has been denied financial aid because of a failure to meet any of the criteria of the standards of academic progress, may petition the Director of Financial Aid to consider mitigating circumstances. The Director has discretionary authority to approve the continuation of aid when a student does not otherwise meet the standards of academic progress.
2. A student who has been denied financial aid may make written appeal of the Financial Aid Director's decision to the Vice President of Student Development. The President of the College shall be the final appeal authority.

Effects on Funding:

1. Certain courses not considered for funding are:
 - a. course taken by audit; and
 - b. courses taken outside the degree plan; however, developmental courses, if required as a prerequisite to enable a student to successfully complete a student's educational goal, will be considered for funding.
2. Credit hours earned by a placement test will not be considered for funding.
3. Courses for which a "I" (incomplete), "WX" or "W" (withdrawal) grade is received will not be treated as completed courses.
4. Repeated courses will be considered for funding.

Short-Term Loans

The College offers students short-term loans. Normally, a loan would not exceed tuition, fees, and books, but check with the Financial Aid Office for further details. The loan must be repaid within 60 to 90 days or before the end of the semester in which the money is borrowed.

Job Placement Services

The Placement Office is available to assist any student in job placement, either on or off-campus. Job openings are listed in the Placement Office. The Placement Office also works directly with students and community employers to locate jobs and students qualified to fill them. Career placement assistance is available for students nearing the end of their course of study. In addition to listing full-time career opportunities, the Placement Office also assists students in developing resumes, preparing for interviews, and developing successful job search strategies.

VIII. DALLAS COUNTY COMMUNITY COLLEGE DISTRICT STUDENT RIGHTS AND RESPONSIBILITIES

Synopsals:

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 - b. Scope
 - c. Definitions
2. Acquaintance with Policies, Rules Regulations
3. Campus Regulations
 - a. Basic Standard
 - b. Enumerated Standards
 - (1) Student Identification
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 - (4) Disruptive Activities
 - (5) Alcoholic Beverages
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1. General Provisions

a. Preamble

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. The District's primary concern is the student, each college attempts to provide an environment which views students in a holistic manner encouraging and inviting them to learn and grow independently, stressing the process and the acquisition of skills. Such an environment presupposes both rights and responsibilities. Free inquiry and expression are essential parts of this freedom to learn and of room for growth and development. However, this environment also demands appropriate opportunities and conditions in the classroom, on the campus and, indeed, in the larger community. Students must exercise these freedoms with responsibility. The responsibility to secure and to respect general conditions conducive to the freedom to learn and to grow is shared by all members of the college community. Dallas County Community College District has a duty to develop policies and procedures which provide and safeguard this liberty and this environment. The purpose of this statement is to enumerate the essential provisions for student freedom to learn and grow and the responsibilities which go with these liberties as established by the Dallas County Community college District Board of Trustees.

b. Scope

- (1) This code applies to individual students and states the function of student, faculty, and administrative staff members to the College in disciplinary proceedings.
- (2) The College has jurisdiction for disciplinary purposes over a person who was a student at the time he allegedly violated a board policy, college regulation, or administrative rule.

c. Definitions: In this code, unless the context requires a different meaning:

- (1) "Class day" means a day on which classes before semester or summer session final examinations are regularly scheduled or on which semester or summer session final examinations are given;
- (2) "Vice President of Student Development" means the Vice President of Student Development, his delegate(s) or his representative(s);
- (3) "Director of Student Programs" means the Director of Student Programs, his delegate(s) or his representative(s);
- (4) "Director of Campus Security" means the Director of Campus Security, his delegate(s) or his representative(s);

- (5) "President" means the president of a college of the Dallas County Community college District;
- (6) "Student" means a person enrolled in a college of the Dallas County Community College District, or a person accepted for admission to the College;
- (7) All vice presidents, deans, associate deans, assistant deans, directors, and division chairman of the College for the purposes of this code shall be called "administrators";
- (8) "Complaint" is a written summary of the essential facts constituting a violation of a board policy, college regulation or administrative rule;
- (9) "Board" means the Board of Trustees, Dallas County Community College District;
- (10) "Chancellor" means the Chancellor of the Dallas County Community College District;
- (11) "Major violation" means one which can result in suspension or expulsion from the college or denial of degree;
- (12) "Minor violation" means one which can result in any disciplinary action other than suspension or expulsion from the College or denial of degree.

2. Acquaintance with Policies, Rules, Regulations

The Student Rights and Responsibilities statement is subject to change by action of the Board of Trustees. Each student is expected to be fully acquainted with all published policies, rules, and regulations of the College, copies of which shall be available to each student for review at the offices of the Vice President of Student Development and Student Programs. The College will hold each student responsible for compliance with these policies, rules and regulations. The student is responsible for obtaining published materials to update the items in this statement. Students are also expected to comply with federal, state and local laws. This principle extends to conduct off campus which is likely to have an adverse effect on the College or on the educational process.

3. Campus Regulations

a. Basic Standard: The basic standard of behavior requires a student:

- (1) Not to violate any municipal, state, or federal laws, and
- (2) Not to interfere with or disrupt the orderly educational processes of any college of the Dallas County Community College District.

A student is not entitled to greater immunities or privileges before the law than those enjoyed by other citizens generally.

b. Enumerated Standards: The succeeding regulations describe offenses for which disciplinary proceedings may be initiated, but the College expects from its students a higher standard of conduct than the minimum required to avoid discipline. The College expects all students to obey the law, to show respect for properly constituted authority, to perform contractual obligations, to maintain absolute integrity and a high standard of individual honor in scholastic work, and to observe standards of conduct appropriate for a community of scholars. In short, a student enrolled in the College assumes an obligation to conduct himself in a manner compatible with the College's function as an educational institution.

(1) Student Identification:

- a. Issuance and Use:** I.D. cards will be distributed during the first week of school and will be required for the following events and services: library usage, concerts, lectures, campus movies, use of student center facilities, voting in campus elections, and tickets for campus and community events. All I.D. cards are the property of the College and must be shown on request of a representative of the College. Students are required to be in possession of their I.D. cards at all times and are prohibited from loaning their I.D. cards to any other person for any reason. Likewise, it is prohibited to use any other card except the one issued by the College.
- b. Replacement Cards:** If lost, duplicate I.D. cards may be obtained in the Business Office by payment of a \$4.00 charge.

(2) Use of District Facilities: Each college of the Dallas County Community College District is a public facility entrusted to the Board of Trustees and college officials for the purpose of conducting the process of education. Activities which appear to be compatible with this purpose are approved through a procedure maintained in the Student Programs Office. Activities which appear to be incompatible or in opposition to the purposes of education are normally disapproved. It is imperative that a decision be made prior to an event in order to fulfill the trust of the public. No public facility could be turned over to the indiscriminate use of anyone for a platform or forum to promote random causes. These reasonable controls are exercised by college officials for the use of facilities to ensure the maximum use of the College for the purpose for which it was intended. Therefore, anyone planning an activity at one of the colleges of the Dallas County Community College District which requires space to handle two or more persons to conduct an activity must have prior approval. Application forms to reserve space must be acquired through the Student Programs Office. This office also maintains a statement on procedures for reserving space.

(3) Speech and Advocacy: Students have the right of free expression and advocacy; however, the time, place, and manner of exercising speech and advocacy shall be regulated in such a manner to ensure a orderly conduct, non-interference with college functions or activities, and identification of sponsoring groups or individuals. Meetings must be registered with the Student Programs Office. An activity may be called a meeting when the following conditions prevail at the activity:

- (a) When two or more persons are sitting, standing, or lounging so as to hear or see a presentation or discussion of a person or a group of persons.

(b) When any special effort to recruit an audience has preceded the beginning of discussions or presentations.

(c) When a person or group of persons appears to be conducting a systematic discussion or presentation on a definable topic.

(4) Disruptive Activities: Any activity which interrupts the scheduled activities or processes of education may be classified as disruptive; thus, anyone who initiates in any way any gathering leading to disruptive activity will be violating college regulations and/or state law. The following conditions shall normally be sufficient to classify behavior as disruptive:

(a) Blocking or in any other way interfering with access to any facility of the College.

(b) Inciting others to violence and/or participating in violent behavior, e.g., assault; loud or vulgar language spoken publicly; or any form of behavior acted out for the purpose of inciting and influencing others.

(c) Holding rallies, demonstrations, or any other form of public gathering without prior approval of the College.

(d) Conducting any activity which causes college officials to be drawn off their scheduled duties to intervene, supervise or observe the activity in the interest of maintaining order at the College.

Furthermore, the Vice President of Student Development shall enforce the provisions of the Texas education Code, Section 4.30 (following)

Education Code Section 4.30 provides:

(a) No person or group of persons acting in concert may willfully engage in disruptive activity or disrupt a lawful assembly on the campus or property of any private or public school or institution of higher education or public vocation and technical school or institute.

(b) For the purposes of this section, disruptive activity means

(1) Obstructing or restraining the passage of persons in an exit, entrance, or hallway of any building without the authorization of the administration of the school;

(2) Seizing control of any building or portion of a building for the purpose of interfering with any administrative, educational, research, or other authorized activity;

(3) Preventing or attempting to prevent by force or violence or the threat of force or violence any lawful assembly authorized by the school administration;

(4) Disrupting by force or violence or the threat of force or violence a lawful assembly in progress; or

(5) Obstructing or restraining the passage of any person at an exit or entrance to said campus or property or preventing or attempting to prevent by force or violence or by threats thereof the ingress or egress of any person to or from, said property of campus without the authorization of the administration of the school.

(c) For the purpose of this section, a lawful assembly is disrupted when any person in attendance is rendered incapable of participating in the assembly due to the use of force or violence or due to a reasonable fear that force or violence is likely to occur.

(d) A person who violates any provision of this section is guilty of a misdemeanor and upon conviction is punishable by a fine not to exceed \$200 or by confinement in jail for not less than 10 days nor more than six months, or both.

(e) Any person who is convicted the third time of violating this section shall not thereafter be eligible to attend any school, college, or university receiving funds from the State of Texas for a period of two years from such third conviction.

(f) Nothing herein shall be construed to infringe upon any right of free speech or expression guaranteed by the Constitutions of the United States or the State of Texas.

(5) Drinking of Alcoholic Beverages: Each college of the Dallas County Community College District specifically forbids the drinking of or possession of alcoholic beverages on its campus.

(6) Drugs: Each college of the Dallas County Community College District specifically forbids the illegal possession, use, sale or purchase of drugs, narcotics, or hallucinogens on or off campus.

(7) Gambling: State law expressly forbids gambling of any kind on state property.

(8) Hazing: Each college of the Dallas County Community College District, as a matter of principle and because it is a violation of state law, is opposed to and will endeavor to prevent hazing activities which involve any of the following factors singly or in conjunction:

(a) Any actions which seriously imperil the physical well-being of any student (all walks and all callisthenics are held to be actions which seriously imperil the physical well-being of students and are, therefore, accordingly specifically prohibited).

(b) Activities which are by nature indecent, degrading, or morally offensive.

(c) Activities which by their nature may reasonably be assumed to have a degrading effect upon the mental or moral attitude of the persons participating therein.

The institutional policy is one discouraging all activities incompatible with the dignity of the college student and exercising disciplinary correction over such activities as escape from reasonable control, regulation, and decency. From the institution's point of view, the responsibility for the control of hazing activities, if engaged in by an organization, rests in the elected and responsible officials of the group, as individuals, and in the group as a whole, since it sets and approves the policy to be followed in these matters. It is accordingly recommended that all groups be informed that both their officers and the group as a whole, will be held singularly and collectively responsible for any actions considered to be unreasonable, immoral, and irresponsible within the policy limits detailed above. Individual activity falling in this category shall be disciplinary action.

(9) Academic Dishonesty

(a) The Vice President of Student Development may initiate disciplinary proceedings against a student accused of academic dishonesty.

(b) "Academic dishonesty" includes, but is not limited to, cheating on a test, plagiarism and collusion.

(c) "Cheating on a test" includes:

(i) Copying from another student's test paper;

(ii) Using, during a test, materials not authorized by the person giving the test;

(iii) Collaborating with another student during a test without authority;

(iv) Knowingly using, buying, selling, stealing, transporting or soliciting in whole or part the contents of an unadministered test;

(v) Substituting for another student, or permitting another student to substitute for one's self, to take a test; and

(vi) Bribing another person to obtain an unadministered test or information about an unadministered test.

(d) "Plagiarism" means the appropriation of another's work and the unacknowledged incorporation of that work on one's written work offered for credit.

(e) "Collusion" means the unauthorized collaboration with another person in preparing written work offered for credit.

(10) Financial Transactions with the College

(a) No student may refuse to pay or fail to pay debt he owes to the College.

(b) No student may give the College a check, draft or order with intent to defraud the College.

(c) A student's failure to pay the College the amount due on a check, draft, or order, on or before the fifth class after the day the Business Office sends written notice that the drawee has rightfully refused payment on the check, draft or order, is prima facie evidence that the student intended to defraud the College.

(d) The Vice President of Student Development or designee may initiate disciplinary proceedings against a student who has allegedly violated the provisions of this section.

(11) Other Offenses

(a) The Vice President of Student Development may initiate disciplinary proceedings against a student who:

(i) Conducts himself in a manner that significantly interferes with college teaching, research, administration, disciplinary proceedings or other college activities, including its public service functions, or with other authorized activities on college premises;

(ii) Damages, defaces or destroys college property or property of a member of the college community or campus visitor;

(iii) Knowingly gives false information in response to requests from the College;

(iv) Engages in hazing, as defined by state law and college regulations;

(v) Forges, alters or misuses college documents, records or I.D. cards;

(vi) Violates college policies or regulations concerning parking, registration of student organizations, use of college facilities, or the time, place and manner of public expression;

(vii) Fails to comply with directions of college officials acting in the performance of their duties;

(viii) Conducts himself in a manner which adversely affects his suitability as a member of the academic community or endangers his own safety or the safety of others

(ix) Illegally possesses, uses, sells, or purchases drugs, narcotics, hallucinogens, or alcoholic beverages on or off campus;

(x) Commits any act which is classified as an indictable offense under either state or federal law.

4. Disciplinary Proceedings

a. Administrative Disposition

(1) Investigation, Conference and Complaint

(a) When the Vice President of Student Development Office receives information that a student has allegedly violated a board policy, college regulation, or administrative rule, the Vice President or a subordinate delegated by him shall investigate the alleged violation. After completing the preliminary investigation, the Vice President may:

(i) Dismiss the allegations 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 allegation for use in disciplinary hearings along with a list of witnesses and documentary evidence supporting the allegation.

(b) The President may take immediate interim disciplinary action, suspend the right of a student to be present on the campus and to attend classes, or otherwise alter the status of a student for violation of a board policy, college regulation, or administrative rule, when in the opinion of such official the interest of the College would best be served by such action.

(c) No person shall search a student's personal possessions for the purpose of enforcing this code unless the individual's prior permission has been obtained. Searches by law enforcement officers of such possessions shall be only as authorized by law.

(2) Summons

(a) A student may be summoned to appear in connection with an alleged violation by sending him a letter by certified mail, return receipt

requested, addressed to the student at his address appearing in the Registrar's Office records. It is the student's responsibility to immediately notify the Registrar's Office of any change of address.

- (b) The letter shall direct the student to appear at a specified time and place not less than three class days after the date of the letter. The letter shall also describe briefly the alleged violation and shall state the Vice President of Student Development's intention to handle the allegation as a minor or major violation.
- (c) The Vice President of Student Development may place on disciplinary probation a student who fails without good cause to comply with a letter of summons, or the Vice President may proceed against the student as stated below in the sections of **Disposition** and **Penalties**.

(3) Disposition

- (a) At a conference with a student in connection with an alleged minor or major violation, the Vice President shall advise the student of his rights.
- (b) A student may refuse administrative disposition of the alleged violation and, on refusal, is entitled to a hearing. If a student accepts administrative disposition, he shall sign a statement that he understands the nature of the charges, his right to a hearing. If a student accepts administrative disposition, he shall sign a statement that he understands the nature of the charges, his right to a hearing or to waive the same, the penalty imposed, and his waiver of the right of appeal.
- (c) The Vice President of Student Development shall prepare an accurate, written summary of each administrative disposition and forward a copy to the student (and, if the student is a minor, to the parent or guardian of the student), to the Director of Student Programs and to the Director of Campus Security.
- (d) The Vice President of Student Development may impose disciplinary action as follows:
 - (i) For minor violations, any action authorized by this code in the section on **Penalties** (from 1-8, i.e. Admonition through Suspension of eligibility).
 - (ii) For major violations, any action authorized by this code in the section on **Penalties** (from 1-11, i.e. Admonition through Expulsion).

b. Student Discipline Committee

(1) Composition; Organization

- (a) When a student refuses administrative disposition of either a major or a minor violation, he is entitled to a hearing before the Student Discipline Committee. This request must be made in writing on or before the sixth working day following administrative disposition. The committee shall be composed of equal numbers of students, administrators and faculty of the College. The committee shall be appointed by the president for each hearing on a rotating basis or on a basis of availability.
- (b) The Student Discipline Committee shall elect a chairman from the appointed members. 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 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 Vice President of Student Development shall represent the College before the Student Discipline Committee and present evidence to support any allegations of violations of Board policy, college regulation, or administrative rules. The Vice President of Student Development may be assisted by legal counsel when in the opinion of the Vice President of Student Development the best interests of the student or the College would be served by such assistance.

(2) Notice

- (a) The committee chairman shall by letter notify the student concerned of the date, time and place for the hearing. The letter shall specify a hearing date not less than three (3) nor more than ten (10) class days after the date of the letter. If the student is under 18 years of age, a copy of the letter shall be sent to the parents or guardian.
- (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 Student Discipline Committee may hold a hearing at any time if the student has actual notice of the date, time, and place of the hearing, and consents in writing thereto, and the President, or his designated representative in his absence, states in writing to the committee that, because of extra-ordinary circumstances the requirements are inappropriate.
- (d) The notice shall specify whether the charge or charges are considered minor violations or major violations, shall direct the student to appear before the committee on the date and at the time and place specified, and shall advise the student of the following rights:
 - (i) To a private hearing;
 - (ii) To appear alone or with legal counsel (if charges have been evaluated as a major violation or if the College is represented by legal counsel);
 - (iii) To have his parents or legal guardian present at the hearing;
 - (iv) To know the identity of each witness who will testify against him;
 - (v) To cause the committee to summon witnesses, require the production of documentary and other evidence possessed by the

College, and to offer evidence and argue in his own behalf;

- (vi) To cross-examine each witness who testifies against him;
- (vii) To have a stenographer present at the hearing to make a stenographic transcript of the hearing, at the student's expense, but the student is not permitted to record the hearing by electronic means;
- (viii) To appeal to the Faculty-Student Board of Review, subject to the limitations established by the **Faculty-Student Board of Review** section.
- (e) The Vice President of Student Development may suspend a student who fails without good cause to comply with a letter sent under this section, or, at his discretion, the Vice President of Student Development may proceed with the hearing in the student's absence.

(3) Preliminary Matters

- (a) Charges arising out of a single transaction or occurrence, against one or more students, may be heard together or, either at the option of the committee or upon request by one of the students-in-interest, separate hearings may be held.
- (b) At least three (3) class days before the hearing date, the student concerned shall furnish the committee chairman with:
 - (i) The name of each witness he wants summoned and a description of all documentary and other evidence possessed by the College which he 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 appear with him;
 - (iv) A request for a separate hearing, if any, and the grounds for such a request.
- (c) When the hearing is set under waiver of notice or for other good cause determined by the committee chairman, the student concerned is entitled to furnish the information described in paragraph (b) hereof at any time before the hearing begins.

(4) Procedure

- (a) The hearing shall be informal and the chairman shall provide reasonable opportunities for witnesses to be heard. The College may be represented by staff members of the Vice President of Student Development's Office, legal counsel and other persons designated by the President. The hearing shall be open to the public so long as space is available, but may include the following persons on the invitation of the student:
 - (i) Representatives of the College Council;
 - (ii) A staff member of the college newspaper;
 - (iii) Representatives of the Faculty Association;
 - (iv) Student's legal counsel, and
 - (v) Members of the student's immediate family.
- (b) The committee shall proceed generally as follows during the hearing:
 - (i) The Vice President of Student Development shall read the complaint;
 - (ii) The Vice President of Student Development shall inform the student of his rights, as stated in the notice of hearing;
 - (iii) The Vice President of Student Development shall present the College's case;
 - (iv) The student may present his defense;
 - (v) The Vice President of Student Development and the student may present rebuttal evidence and argument;
 - (vi) The committee will vote the issue of whether or not there has been a violation of board policy, college regulation or administrative rule; if the committee finds the student has violated a board policy, college regulation or administrative rule, the committee will determine an appropriate penalty.
 - (vii) The committee shall inform the student of the decision and penalty, if any;
 - (viii) The committee shall state in writing each finding of a violation of board policy, college regulation or administrative rule, and the penalty determined. Each committee member concurring in the finding and penalty shall sign the statement. The committee may include in the statement its reasons for the finding and penalty.

(5) Evidence

- (a) Legal rules of evidence shall not apply to hearings before the Student Discipline Committee, and the committee may admit and give probative effect to evidence that possesses probative value and is commonly accepted by reasonable men in the conduct of their affairs. The committee shall exclude irrelevant, immaterial and unduly repetitious evidence. The committee shall recognize as privileged communications between a student and a member of the professional staff of the Health Center, Counseling and Guidance Center, or the Office of the Vice President of Student Development 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.
- (b) The committee shall presume a student innocent of the alleged violation until it is convinced by clear and convincing evidence that the student violated a Board policy, college regulation or administrative rule.
- (c) All evidence shall be offered to the committee during the hearing and made a part of the hearing record. Documentary evidence may be

admitted in the form of copies of extracts, or by incorporation by reference. Real evidence may be photographed or described.

(d) A student defendant may not be compelled to testify against himself.

(6) Record

(a) 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 any other materials considered by the committee; and the committee's decisions.

(b) If notice of appeal is timely given as hereinafter provided, the Vice President of Student Development, at the direction of the committee chairman, shall send the record to the Board of Review, with a copy to the student appellant on or before the tenth class day after the notice of appeal is given.

b. Faculty-Student Board of Review

(1) Right to Appeal

(a) In those cases in which the disciplinary penalty imposed was as prescribed in the section on **Penalties**, (6) Restitution through (11) Expulsion, the student may appeal the decision of the Student Discipline Committee, or the decision of the President in an interim action to the Faculty-Student Board of Review. Disciplinary actions taken under the section on **Penalties**, (1) Admonition through (5) Bar against readmission, cannot be appealed beyond the Student Discipline Committee. A student appeals by giving written notice to the Vice President of Student Development on or before the third class day after the day the decision or action is announced. This notice may be informal, but shall contain the student's name, the date of the decision or action, the name of his legal counsel, if any, and a simple request for appeal.

(b) Notice of appeal timely given suspends the imposition of penalty until the appeal is finally decided, but interim action may be taken as authorized under the section on **Disciplinary Disposition** which authorizes the President to take immediate interim disciplinary action.

(2) Board Composition

(a) The President shall appoint Boards of Review to hear appeals under this code. Each such board shall have three faculty representatives and two students appointed by the President in alphabetical rotation from available members, of the review panel.

(b) The review panel shall have twenty-five (25) members, selected as follows:

(i) Fifteen (15) representatives from the faculty, recommended by the President of the Faculty Association and appointed by the President of the College for three-year staggered terms.

(ii) Ten (10) students shall be appointed by the President of the College for one-year terms. Student members must have an overall 2.0 average on all college work attempted at the time of the nomination and must not have a discipline case pending.

(c) The President shall instruct the Board of Review members on student disciplinary policies, rules, and hearing procedures as soon as practicable after the members are appointed.

(3) Consideration of Appeal

(a) The Board of Review shall consider each appeal on the record of the Student Discipline Committee and for the good cause shown, original evidence and newly discovered evidence may be presented.

(b) Upon timely appeal, the President shall select a Board of Review as aforesaid and shall notify the student appellant and the Vice President of Student Development in writing of the time, date, and place of the hearing as determined by the President.

(c) The President will designate one of the members of the Board of Review to serve as chairman.

(d) Appellate hearings will follow the procedure prescribed in this code.

(e) The Board of Review will hear oral argument and receive written briefs from the student appellant and Vice President of Student Development or their representatives.

(f) The Board of Review, after considering the appeal, may affirm the Student Discipline Committee's decision, reduce the penalty determined or otherwise modify the decision of the Student Discipline Committee, or dismiss the complaint.

(g) The Board of Review shall modify or set aside the findings of violation, penalty or both, if the substantive rights of the student were prejudiced because the Student Discipline Committee's finding of facts, conclusions or decisions were:

(i) In violation of a federal or state law, board policy, college regulation, administrative rule, or authorized procedure.

(ii) Clearly erroneous in view of the reliable probative and substantial evidence on the complete hearing; or

(iii) Capricious, or characterized by abuse of discretion or clearly unwarranted exercise of discretion.

(h) The Board of Review may not increase a penalty assessed by the Student Discipline Committee.

(4) Petition for Administrative Review

(a) A student is entitled to appeal in writing to the Board of Trustees through the President, the Chancellor, and the Chairman of the Board. The President shall automatically review every penalty of expulsion.

(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. The President shall automatically review every penalty of expulsion.

(c) A petition for review is informal but shall contain, in addition to the information required, notice of appeal, the date of the Board of Review's action on the student's appeal and his reasons for disagree-

ing with the board's action. A student shall file his petition with the President on or before the third class day after the day the Board of Review announces its action on the appeal. If the President rejects the petition, and the student appellant wishes to petition the Chancellor, he shall file the petition with the Chancellor on or before the third class day after the President 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. They may receive written briefs and hear oral argument during their review.

5. Penalties

a. Authorized Disciplinary Penalties:

The Vice President of Student Development, the Student Discipline Committee, or the Faculty-Student Board of Review may impose one or more of the following penalties for violation of a board policy, college regulation, or administrative rule:

- (1) Admonition
- (2) Warning probation
- (3) Disciplinary probation
- (4) Withholding of transcript or degree
- (5) Bar against readmission
- (6) Restitution
- (7) Suspension of rights or privileges
- (8) Suspension of eligibility for official and non-athletic extracurricular activities
- (9) Denial of degree
- (10) Suspension from the College
- (11) Expulsion from the College

b. Definitions:

The following definitions apply to the penalties provided above:

(1) An "Admonition" is a written reprimand from the Vice President of Student Development to the student on whom it is imposed.

(2) "Warning probation" indicates that 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.

(3) "Disciplinary probation" indicates that 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 such as the following, being intoxicated, misuse of I.D. card, creating a disturbance in or on campus facilities, and gambling.

(4) "Withholding of transcript or degree" is imposed upon a student who fails to pay a debt owed the College or who has a disciplinary case pending final disposition. The penalty terminates on payment of the debt or final disposition of the case.

(5) "Bar against readmission" is imposed on a student who has left the College on enforced withdrawal for disciplinary reasons.

(6) "Restitution" is reimbursement for damage to or misappropriation of property. Reimbursement may take the form of appropriate service to repair or otherwise compensate for damages.

(7) "Disciplinary suspension" may be either or both of the following:

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

(b) Suspension of eligibility for official athletic and non-athletic 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 non-athletic 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 such as the following: having intoxicating beverages in any college facility; destroying state 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.

(8) "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.

(9) "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 non-credit, for scholastic work at or through the College.

(10) "Expulsion" is permanent severance from the College. This policy shall apply uniformly to all of 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.

6. Parking and Traffic

a. Reserved Parking Areas

These reserved areas are designated by signs; all other parking areas are open

and are non-reserved.

- (1) Handicapped persons, college visitors
- (2) Motorcycles

b. Tow Away Areas

- (1) Handicapped persons area
- (2) Fire lanes
- (3) Parking or driving on campus in areas other than those designated for vehicular traffic
- (4) Parking in "No Parking" zone
- (5) Parking on courtyards

c. General Information

- (1) College parking areas are regulated by state, municipal and campus statutes. College campus officers are commissioned to cite violators.
- (2) All vehicles which park on the campus of the College must bear a parking decal emblem. The parking decal may be secured from the College Security Division or during fall and spring registration periods. No fee is charged for the decal.
- (3) Placement of decal emblem:
 - (a) Cars: lower left corner of rear bumper.
 - (b) Motorcycles, motor bikes, etc.: gas tank
- (4) Campus Speed Limits
 - (a) 10 M.P.H. in parking areas
 - (b) 20 M.P.M. elsewhere on campus.

*Unless otherwise posted.
- (5) All handicapped parking must be authorized and handicapped decal displayed on vehicle prior to parking in handicapped reserved areas.

d. Campus Parking and Driving Regulations

- (1) The colleges, acting by and through their Board of Trustees are authorized by state law to promulgate, adopt and enforce campus parking and driving regulations. Campus officers are commissioned police officers, and as such, all traffic and criminal violations are within their jurisdiction.
- (2) The College has authority for the issuance and use of suitable vehicle identification insignia as permits to park and drive on campus. Permits may be suspended for the violation of campus parking and driving regulations.
- (3) The College campus officers have the authority to issue the traffic tickets and summons of type now used by the Texas Highway Patrol. It is the general policy to issue these tickets for violations by visitors and persons holding no college permit. These tickets are returnable to the Justice of Peace Court in which the college is located. Furthermore, the campus officers are authorized to issue campus citations which are returnable to the Department of Safety and Security at the Business Office.
- (4) Under the direction of the College President, the Department of Safety and Security shall post proper traffic and parking signs.
- (5) Each student shall file an application for a parking permit with the Security Office upon forms prescribed by the College.
- (6) These traffic regulations apply not only to automobiles but to motor bikes, motorcycles and ordinary bicycles.

e. Procedures

- (1) All motor vehicles must be parked in the parking lots between the parking lines. Parking in all other areas, such as campus drives, curb areas, courtyards, and loading zones, will be cited.
- (2) Citations may be issued for:
 - (a) Speeding (the campus speed limit is 20 M.P.H. except where posted)
 - (b) Reckless driving
 - (c) Double parking
 - (d) Driving wrong way in one-way lane
 - (e) Parking in "No Parking" lane
 - (f) Improper parking (parts of car outside the limits of a parking space)
 - (g) Parking in wrong area (for example, handicapped or "No Parking" areas)
 - (h) Parking trailers or boats on campus
 - (i) Parking or driving on campus in areas other than those designated for vehicular traffic
 - (j) Violations of all state statutes regulating vehicular traffic
 - (k) Failure to display parking permit
 - (l) Collision with another vehicle or any sign or immovable object
- (3) A citation is notice that a student's parking permit has been suspended. The service charge to reinstate the parking and driving permit must be paid at the Business Office. Failure to pay the service charge will result in the impoundment of a vehicle that is parked on campus and whose decal has been suspended.
- (4) A person who receives a campus citation shall have the right within ten days to appeal in writing to the Vice President of Business, accompanied by whatever reason the person feels that the citation should not have been issued.
- (5) If it becomes necessary to remove an improperly parked vehicle, an independent wrecker operator may be called. The owner of the vehicle will be charged the wrecker fee in addition to the service charge for reinstatement of driving and parking privileges.
- (6) Visitors to campus are also required to follow college regulations.
- (7) The service charge for reinstatement of the parking and driving permit will be \$5.00 per citation.
- (8) Four citations per car during an academic year will result in permanent suspension of parking and driving permit for the balance of that academic year. A new total commences on August 1, of each year. A fee may be assessed for unauthorized parking in an area designated for handicapped persons. (Not to exceed \$200).
- (9) The College is not responsible for the theft of vehicles on campus or their contents.

Student Grievance Procedure

A copy of the Student Grievance Procedure designed to provide students with the opportunity to question conditions which the student believes impede his/her education or instruction is available in the office of the Vice President of Student Development.

Dallas County Community Colleges

Administrative & Faculty Listing



BROOKHAVEN COLLEGE

Brookhaven College, the youngest of the seven colleges of the Dallas County Community College District, is conveniently located in Farmers Branch, only minutes from one of the fastest-growing business communities in the nation. Opened in 1978, Brookhaven College has experienced a phenomenal growth. In response to the booming North Dallas service area, the College proudly provides residents with a wide variety of educational, cultural and recreational experiences.

In order to meet the current needs of the community, Brookhaven College is involved in a \$7 million remodeling and building program. The plans include 77,000 square feet in new construction as well as some 22,500 square feet of extensive remodeling. When the construction is completed in the fall of 1986, the College will have a new testing center, additional classrooms and non-traditional instructional/learning laboratories.

Brookhaven College offers a broad range of credit courses for students who want to pursue a two-year associate degree or a one-to two-year technical/occupational career program; lay the foundation for transfer to a four-year educational institution; gain a new or additional work skill or refresh an old one; or simply explore a field of interest. Curriculum offerings keep the active community in mind and provide a balance of opportunities.

At Brookhaven College a variety of cultural activities are offered students and citizens that enable them to listen, discuss, learn, grow, play and be entertained. The Col-

lege's 750-seat Performance Hall, one of the finest facilities in the area, features students actively participating in five major productions each year. In conjunction with the City of Farmers Branch, the Performing Arts Series annually brings to the campus renowned artists in dance, opera, drama and jazz.

The 200-acre campus is located at 3939 Valley View Lane between Alpha Road and Marsh Lane. The campus design emphasizes outdoor spaces and activities including a 1.8-mile jogging trail which has an 18-station par-course. Landscaping utilizes native Texas plants from various parts of the state.

Brookhaven's outstanding faculty, excellent facilities and innovative programs combine to make an impressive educational package to serve a changing and growing community...a place to spend the day, two years or a lifetime.

Accreditation

The Southern Association of Colleges and Schools

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

Brookhaven 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.

BROOKHAVEN COLLEGE ADMINISTRATION

President	Patsy J. Fulton	620-4803
Vice President of Instruction	Russell Mauch	620-4802
Vice President of Student Development	Joseph R. Sullivan	620-4801
Vice President of Business Services	Brenda L. Floyd	620-4812
Dean, Occupational and Continuing Education	Jo-Ann Killinger	620-4822
Assoc. Dean, Learning Resources Center	Larry M. Wilson	620-4850
Asst. Dean, Continuing Education	Lindle Grigsby	620-4715
Director of Admissions/Registrar	Barbara Burke	620-4702
Director of Counseling	Jacquelyn Tulloch	620-4830
Director of Financial Aid	Kathryn Kelley	620-4110
Director of Health Services/Disabled		
Student Services	Naomi Garrett	620-4195
Director of Public Information	Terri O'Connor	620-4823
Director of Student Programs and Resources	Lou A. King	620-4115
Director of Testing Services	Mariella Read	620-4868
Asst. Director of Continuing Education	Sue Lichten	620-4723
Asst. Director of Student Programs and Resources	Carrie Crawford	620-4117

DIVISION CHAIRPERSONS

Business and Automotive	Marilyn A. Kolesar	620-4160
Communications	Joy A. Babb	620-4770
Fine Arts	Brenda Dillon	620-4730
Human Development and Physical Education	Jacquelyn Tulloch	620-4830
Science and Mathematics	Larry J. Darlage	620-4750
Social Science and Child Development	Eugene H. Gibbons	620-4130

BROOKHAVEN FACULTY AND STAFF

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Louisiana State Univ., B.S.

Brumbach, Mary A. Art/Humanities
Mary Hardin-Baylor College, B.A.; North Texas State Univ., M.A., Ph.D.

Burke, Barbara Director, Admissions/Registrar
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Nelson, Elizabeth A. D. Nursing
St. Olaf College, B.A.; Texas Woman's Univ., M.S.

O'Connor, Terri Director, Public Information
North Texas State Univ., B.S.

Oliveira, Judith E. Director of Business Operations
Has attended Mountain View College; Brookhaven College

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Has attended Eastfield Community College;
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Texas Christian Univ., B.A.; Wichita State Univ., M.S.

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Stephen F. Austin State Univ., B.B.A., M.Ed.

Schuchat, Marjorie	English
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Schuster, Steve	History
Texas Christian Univ., B.A., M.A., Ph.D.; Univ. of Utah, M.S.	
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Concordia Teachers College, B.S.; Arizona State Univ., M.S.	
Shirley, Jack Raymond	Accounting
North Texas State Univ., B.B.A.; Univ. of Dallas, M.B.A.	
Smith, James Patrick	Chemistry
North Texas State Univ., B.S.; Southern Methodist Univ., M.B.A.; North Texas State Univ., Ph.D.	
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Stock, Bob	Physical Education
San Jose State College, B.A.; East Texas State Univ., M.S.	
Strickland, Eva Lorene	English
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Sullivan, Joseph R.	Vice President, Student Development
Holy Cross Seminary, B.A.; Univ. of Wisconsin, M.A.	
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Kansas State Univ., B.S., M.S.	
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Trammell, Deborah	A. D. Nursing
Univ. of Virginia, B.S.N.; Univ. of Texas at Arlington, M.S.N.	
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Chairperson, Physical Education/Human Development Salem College, B.A.; Univ. of Virginia, M.Ed., Ed.D.	
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Univ. of Texas, B.S.N., M.S.N.	
Venza, Stephanie	English
Lamar Univ., B.A.; Univ. of Texas at Austin, M.A.; Univ. of Texas at Arlington, M.A.	
Ward, Marilyn	History
Univ. of Texas at Austin, B.A.; Southern Methodist Univ., M.A.; Univ. of New Mexico, Ph.D.	
Weaver, David L.	Accounting
Oklahoma State Univ., B.S.; North Texas State Univ., M.B.A.	
Weston, Joan Laveson	Sociology
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Wieland, Janice Carole	Communications/Speech
Univ. of Illinois, B.A.; Southern Methodist Univ., M.A.; East Texas State Univ., Ed.D.	
Williams, Gerald	Automotive
East Texas State Univ., B.S.	
Williams, John D.	Counselor/Instructor, Human Development
Louisiana Technical Univ., B.A., M.A.	
Wilson, Larry M.	Associate Dean, Learning Resource Center
East Texas State Univ., B.S., M.Ed.; North Texas State Univ., Ph.D.	
Wood, Jane Roberts	English
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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 to 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 to these, Cedar Valley's technical/occupational programs provide many options for gaining needed 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. An internal courtyard punctuated with flower beds and shade trees provides a hub of activity between the main buildings. The entire campus stretches along the shore of a twelve-acre man-made lake. Functional building design is blended well with the natural impact of sky and water to give the campus a feeling of openness and light. Students can lounge or study on lakeside terraces, and the free use of windows opens classrooms, lounges and eating areas to spacious scenic vistas.

Accreditation

The Southern Association of Colleges and Schools

Institutional Memberships

The American Association of Community and Junior Colleges

The League for 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.

Academic Transfer Program

At Cedar Valley College students may take the first two years of a bachelor's degree and transfer to a four-year senior institution for the remaining two years. If students know the senior institution to which they wish to transfer, a curriculum will be designed which will result in a smooth, trouble-free transfer.

Listed below are many of the possible majors a student may consider:

Agriculture	Political Science
Art	Psychology
Business Administration	Public Administration
Computer Science	Science
Criminal Justice	Sociology
Liberal Arts	Speech
Music	Teacher Education

For students who have not yet chosen a major field of study, but who wish to eventually earn a Bachelor's Degree, the following courses can be used in nearly any major chosen at a later date:

COURSE	CREDIT HOURS
English 101, 102	6
History 101, 102	6
Laboratory Science	8
Social Science Electives	6
Mathematics and/or	
Fine Arts Elective	6
Physical Education	2

CEDAR VALLEY COLLEGE ADMINISTRATION

President	Floyd S. Elkins	372-8250
Vice President of Instruction	James Butzek	372-8242
Vice President of Business Services	Walter N. Beene	372-8228
Dean of Career and Continuing Education	Cecil H. Brewer, Jr.	372-8216
Dean of Educational Resources	Travis Y. Ueoka	372-8149
Director of Business Operations	Bobbie McClung	372-8290
Director of Continuing Education	Rose Gafford	372-8212
Director of Counseling	Gale Frazier	372-8262
Director of Evening Programs	Sheron Johnson	372-8230
Director of Financial Aid/Job Placement	Frank Ellis	372-8280
Director of Information Retrieval/Dissemination Services	Ines Gehrmann	372-8152
Director of Instructional Resources	Theresa Battaglia	372-8147
Director of Physical Plant	Manuel Wigley	372-8186
Director of Public Information	Janet Gifford	372-8258
Director of Safety and Security	Johnny Hullett	372-8286
Director of Special Services	James L. Handy	372-8119
Registrar and Director of Admissions	John Williamson	372-8200

DIVISION CHAIRPERSONS

Business and Social Science	Gerald Stanglin	372-8110
Communications and Humanities	Mary Davidson	372-8120
Math, Science, Physical Education, Animal Medical Technology and Industrial Technology	Mike R. Huddleston	372-8160

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University of Texas at Arlington, B.S., M.A.

Ballance, Donline Director of Health Center
Baylor University, B.S.

Battaglia, Theresa Director of Instructional Resources
Louisiana Tech. University, B.A.; Northeast Louisiana University, M.Ed.

Beecham, Ron Biology
East Texas State University, B.S., M.S.

Beene, Walter N. Vice-President-Business Services
University of Houston, B.S.

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Southwest Missouri State University, B.S.;
North Colorado State University, M.A.

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East Texas State University, M.S., Ph.D.; Certified Technician, N.I.A.S.E.

Brodnax, Randall Art
Northwestern State University, B.A., M.A.

Brown, Jean Billingslee English
Rutgers University, A.B.; Atlanta University, M.A.

Butzek, Jim Vice President of Instruction
Loyola University, B.S.; Illinois Institute of Technology, Ph.D.

Christman, Calvin L. History
Dartmouth College, A.B.; Vanderbilt University, M.A., M.A.T.;
Ohio State University, Ph.D.

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University of Texas at Arlington, M.B.A., M.P.A.

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North Texas State University, B.M.E., M.M.E.

Earle, Brian D. Science
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Germany, Sam Music
Anderson College, B.A.; Western Michigan University, M.M.

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Harlow, Jim Vice President of Student Development
East Texas State University, B.B.A., M.S.

Hester, Ed Automotive Technology Apprenticeship
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Huddleston, Mike Div. Chairperson, Math/Science/PE/AMT/Ind. Tech Division
East Texas State University, B.S., M.S.

Johnson, Sharon Director of Evening Programs
East Texas State University, B.S., M.S.

Lineberry, William L. Animal Medical Technology
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Maxwell, Rick Art
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McClung, Bobbie Director Business Operations
Cedar Valley College, A.A.A.S.

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Paul, Duncan A. Motorcycle, Outboard Marine Engine & Small Engine Mechanics
North Texas State University, B.S.

Pharr, John Business and Retail Management
North Texas State University, B.A., M.S.

Pool, Linda English
Stephen F. Austin State University, B.A.; East Texas State, M.S.

Powell, Joyce English
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East Texas State, Ed.D.

Pratt, John Business Law & Government
Southern Methodist University, J.D., B.A., Texas Law License

Riley, Joel L. Counselor
Bishop College, B.S.; North Texas State University, M.Ed.

Robinson, Eddie Mathematics
Northeast Oklahoma State University, B.S.;
Oklahoma State University, M.S.

Rolling, Lincoln, Jr. History
Sam Houston State University, B.A., M.A.

Schwend, Gordon R. Automotive Technology
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Stone, Ronald G. Mid-Management Coordinator/Business
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Snapp, Webster Data Processing
University of North Florida, B.A.; University of North Carolina, M.S.

Stanglin, Gerald Div. Chairperson, Business/Social Science Division
Abilene Christian University, B.A.; North Texas State University, M.A.

Stewart, M. Kerby, Jr. Music
Texas Christian University, B.F.A.

Sullivan, Tim Anthropology/Sociology/Religion
University of Southern California, B.A.;
Southern Methodist University, M.A.

Ueoka, Travis Y. Dean of Educational Resources
New Mexico Highland University, B.S.; Indiana University, M.S.;
East Texas State University, M.S.L.S., Ed.D.

Winkle, Dave Physical Education
Ball State University, B.S., M.A.

Williams, Bob Agriculture
East Texas State University, B.S., M.S.

Williamson, John W. Director of Admissions & Registrar
Kilgore Junior College, A.A.; East Texas State University, B.S., M.S.

Wilson, Burlene Office Occupations
Oklahoma State University, B.S., M.S.

Wortham, Linda Counselor
Tennessee Technological University, B.S., M.A.;
University of Arkansas, Graduate Study

Wright, David L. Animal Medical Technology
Texas A&M University, B.S., D.V.M.

Yoder, Debby Physical Education
North Texas State University, B.S.; East Texas State University, M.S.

Young, Rebecca Fashion Merchandising
Iowa State University, B.S.; Texas Woman's University, M.S., Ph.D.

Youngblood, Mary Ann English
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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 a member of:
The Southern Association of Colleges and Schools

Institutional Memberships

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

Eastfield 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.

EASTFIELD COLLEGE ADMINISTRATION

President	Eleanor Ott	324-7600
Vice President of Instruction	Jerry Henson	324-7196
Vice President of Student Development	Lee Graupman	324-7610
Vice President of Business Services	Bob Brown	324-7603
Dean, Career and Continuing Education	Lu McClellan	324-7198
Dean, Learning Resources	Beverly Negri	324-7168
Assoc. Dean, Continuing Education	Carolyn Stock	324-7113
Director of Counseling	David Amidon	324-7106
Director of Instructional Resources	Gerald Kozlowski	324-7668
Director of Business Operations	Shirley Floeter	324-7181
Director of Library	Emma Cronin	324-7171
Director of Admissions and Registrar	Bobbie J. Trout	324-7100
Director of Physical Plant	Maurice Lynch	279-9768
Director of Public Information	Sharon Cook	324-7629
Director of Student Programs & Resources	Rita Gleason	324-7185
Director of Financial Aid and Placement	Furman Milton	324-7188
Director of Health Services	Cheri Reyriolds	324-7190
Director of Appraisal Center/CAI Lab	Charles Helton	324-7010
Director, Business & Industry Training Ctr.	Duane Penny	324-7015
Coordinator, Services for Disabled Students	Reva Rattan	342-7032

DIVISION CHAIRPERSONS

Business	Victor Rizzo	324-7116
Communication, Developmental Studies .....	.....	324-7124
Humanities	John Stewart	324-7132
Physical Education and Technology	Wilbur Dennis	324-7140
Science/Math/Egr/Tech	Edward Ruggiero	324-7143
Social Science and Human Services	Richard Cinclair	324-7156

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Arnold, Jackie Auto Body
Study, East Texas State University, Paris Junior College, General Motors

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University of Texas at Austin, Syracuse University,
University of Colorado; University of Hawaii, Stanford University

Bowers, James Developmental Reading
Arizona State University, B.A., M.A.

Bradshaw, Curt Jazz
Northern Iowa, B.S.; North Texas State University, M.M.

Bradshaw, Patti J. Child Development, Dir. of Co-op Ed.
North Texas State University, B.S., M.Ed.

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Brown, Bob Vice President of Business Services
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Further study: University of Texas at Dallas

Brown, Emmett D. Counseling
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Naval School of Photography

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Post-doctoral, Texas University, North Texas University,
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State University of New York College at Buffalo, B.A.;
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Kings College, B.A.; University of Notre Dame, M.A., Ph.D.;
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Brock University, Ontario

Carpenter, Robert W. Accounting
North Texas State University, B.B.A., M.B.A.; C.P.A. State of Texas;
Further study: North Texas State University,
Western State College of Colorado

Carr, Laura V. Training Paraprofessionals for the Deaf Program
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Further study: Texas State University

Carter, James Damon Automotive Technology
Southern Methodist University, NIASE;
Further study: General Motors Training Center

Cate, Franklin M. History
East Texas State University of Virginia, M.A.;
Further study: University of Texas, Vanderbilt University

Choate, Charles T. Journalism
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Further study: San Francisco State University,
East Texas State University

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Arlington State College, B.S.; East Texas State University, M.S.;
North Texas State University, Ed.D.

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Southern Methodist University, B.B.A., M.B.A.;
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North Texas State University, University of Texas at Arlington

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Further study: Louisiana State University

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Further study: East Texas University

Dale, Charles W. Electronics
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Further study: North Texas State University

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Further study: East Texas State University

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Rutgers University, B.A.; Drexel University, M.S.L.;
Further study: North Texas State University

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Further study: East Texas State University

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University of South Florida, B.A.; University of Alberta, M.F.A.;
Further study: Paul Mann's Acting Workshop, New York City

Etheredge, John W. Counseling
Baylor University, B.A., M.S.; Further study: University of Houston,
Baylor University, Texas A&M University

Ewing, George E. Drafting
North Texas State University, B.S., M.S.; University of Arkansas, Ed.D.

Felder, Bob Economics
Sam Houston State University, B.A., M.A.

Flickner, Robert E. Physical Education
Bethel College, B.S.; Kansas University, M.S.

Floeter, Shirley Director Business Operations
University of Texas, Dallas, B.S.

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North Texas State University, B.A.;
Southern Methodist University, M.F.A.;
Further study: North Texas State University

Fontaine, Oliver J. Mathematics
Tillotson College, B.S.; University of Denver, M.A.

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El Centro, A.A.; North Texas State University, B.A.;
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College of Notre Dame, B.A.; University of Santa Clara, M.A.;
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Further study: Fresno State College, San Francisco State College

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Hamilton, Hance H. Chemistry
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Hegar, E. Alylene Psychology
Texas Tech University, B.A.; North Texas State University, M.Ed., Ed.D.

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Further study: East Texas State University

Henrickson, Marja Spanish
El Centro College, A.A.; North Texas State University, B.A., M.A.;
Further study: East Texas State University, Texas Tech University

Henry, Robert Physical Education
Southern Methodist University, B.A.; University of Illinois, M.S.;
Further study: University of Texas State University,
East Texas State University, Texas Tech University, Texas A&M University

Henson, Jerry C. Vice President of Instruction
Hardin-Simmons University, B.A.;
Southwestern Baptist Theological Seminary, B.D.; Baylor University, Ph.D.

Herd, Clarence W. Automotive Technology
East Texas State University, B.A.;
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Hill, H. Rayburn Government
Paris Junior College, A.A.; East Texas State University, B.S., M.S.;
Further study: University of Oklahoma, East Texas State University

Hinkle, John L. English
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Further study: Baylor University, East Texas State University

Holloway, Ralph Director of Telecommunications
Amarillo College, A.A.; Hardin-Simmons University, B.A.;
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Further study: University of Texas at Austin, East Texas State University

Holman, Morris H. History
East Texas State University, B.A., M.A.;
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Hughes, W. Tim, Jr. History, Government
Henderson State Teachers College, B.S.E.; George Peabody College for
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East Texas State University, University of the Americas,
Texas A&M University

Hutchins, Michael E. Drafting
East Texas State University, B.S., M.S., Ed.D.

Jeffus, Larry Welding
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University of Iowa, B.A., M.A.

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Karner, Albert M. Air Conditioning and Refrigeration
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Kirkpatrick, James Michael Drafting
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North Texas State University, M.Ed., Ed.D.

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Latham, Jim Auto Body
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Further study: East Texas State University, Texas A&M University

Lopez, Frank Mathematics
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EL CENTRO COLLEGE

El Centro College opened its doors in 1966, the first campus of the Dallas County Community College District. Centrally located in downtown Dallas, El Centro shares the excitement and challenge offered by a vibrant urban setting and plays a vital role in the educational and cultural atmosphere of the area.

El Centro interacts with the downtown environment to make education come alive. In the halls of government, corporate office suites, retail shops and communications and banking centers, students can observe the working world of this growing and prosperous city. Additionally, many downtown workers take advantage of El Centro's convenient location to brush up on job skills, work toward a career change or simply enjoy one of the College's non-credit, continuing education courses, like cooking or conditioning exercise.

El Centro places a great deal of value on offering people opportunities to meet a wide range of goals. There is no typical student. Students are of all ages and come from all walks of life. Their common goal is to use the rich educational resources at El Centro to fulfill individual needs for growth.

El Centro is an exciting place to be. Offering theatre and ballet performances, lunch hour forums and lectures by visiting authors and celebrities of national renown, it is an integral part of the numerous cultural experiences available in downtown Dallas.

The Campus

El Centro College covers a two-square-block site in the West End Historic District of downtown Dallas. It is bounded by Main, Lamar, Elm and Market streets. The campus gained wide attention for making use of a nine-story, turn-of-the-century department store renovated to accommodate classroom space, student center and offices. Today, the campus architecturally combines the historic and the modern with a new 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

The Southern Association of College and Schools

Institutional Memberships

The American Association of Community and Junior Colleges

The Association of Texas Colleges and Universities

The League for Innovation in the Community College

El Centro 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.

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President	Ruth Shaw	746-2010
Acting Vice President of Instruction	Glen Bounds	746-2019
Vice President of Student Development	Mike Rooney	746-2017
Acting Vice President of Business Services	Bob Brown	746-2015
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Dean of Health Occupations	Kay Eggleston	746-2269
Associate Dean, Career and Continuing Education	Judy Pouncey	746-2147
Associate Dean, Allied Health	Mike Laman	746-2271
Associate Dean, Nursing	Carol Speyerer	746-2265
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Director of Business Operations	Charlene Lee	746-2044
Director of Counseling	Bettie Tully	746-2067
Director of Evening Programs	Shirl Wilson	746-2157
Director of Financial Aid	Guadalupe Valdez	746-2199
Director of Job Training Center	Marshall Holman	746-2152
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O'Neal, Kay A.D. Nursing
Texas Christian Univ., B.S.N.; Univ. of Texas at Arlington, M.S.N.

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The Dance Theatre of Harlem

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Screen Actors Guild; American Guild of Variety Artists

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Pratt Institute, B.S.

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Orange Memorial School of Radiologic Technology, R.T. (R), A.R.R.T.

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California State Univ. at Los Angeles, B.A., M.A.

Wilder, Beatrice V.T. A.D. Nursing
Dillard Univ., B.S.N.; Texas Woman's Univ., M.S.N.

Wilson, Doris P. Office Careers
Prairie View A&M Univ., B.S.; Teachers College, Columbia Univ., M.A.

Wilson, Shirl Dir. of Evening Programs
Eastfield College, A.A.; Abilene Christian Univ., B.S.

Witherspoon, Joseph Ray Dean, Career and Continuing Ed.
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Wyckoff, Jean B. Director, Health Center
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Young, Lee Interior Design
Univ. of Oklahoma, B. Arch., M.B.A.

Young, Lois J. Vocational Nursing
Baptist Hospital School, R.N.

Zerwekh, JoAnn A.D. Nursing
Univ. of Arizona, B.S.N.; Univ. of Texas at Arlington, M.S.N.

Zimmermann, George A. Data Processing
Fordham Univ., B.S.; Univ. of Texas at Dallas, M.A.S.

MOUNTAIN VIEW COLLEGE

In southwestern Dallas County, Mountain View College is the community learning center for thousands of people. The second of seven colleges in the Dallas County Community College District, Mountain View opened in the fall of 1970. It is located at 4849 West Illinois Avenue in the southwestern section of Oak Cliff in Dallas and 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 they may prepare for a career in an occupational or technical area. Many students attend Mountain View to train for advancement in their present employment or to train for an entirely new career opportunity. Non-credit courses also are available for people of all ages to gain personal enrichment, cultural awareness or to participate in productive leisure time activities.

The Mountain View student body is composed of people of all ages and all backgrounds. The College represents a cross section of the community which it serves. This rich opportunity to interact with many varied people 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 that gives 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. Footpaths and stone terraces provide a beautiful area to walk, study or relax. An enclosed pedestrian bridge spans the ravine, giving easy access to all parts of the campus and providing a beautiful architectural focal point to the College.

Accreditation

Mountain View College is a member of:
The Southern Association of Colleges and Schools

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
Vice President of Business Service	Ralph Hall	333-8705
Vice President of Instruction	Linda Stegall	333-8710
Vice President of Student Development	John Nelson	333-8696
Evening Administrator	Dick Smith	333-8610
Dean, Career & Continuing Education	Don Perry	333-8755
Dean, Educational Resources	Jim Corvey	333-8664
Director of Admissions/Registrar	Don Gentsch	333-8600
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Director of Cooperative Education	Jim Kavalier	333-8612
Director of Counseling	Donna Richards	333-8606
Director of Financial Aid	Wilma Robinson	333-8688
Director of Health/Disabled Student Services	Donna Richards	333-8699
Director of Public Information	Sharron Colburn	333-8678
Director of Student Programs & Resources	Guy Gooding	333-8685

DIVISION CHAIRPERSONS

Business	Tom Goza	333-8616
Communications and Technology	David Wickham	333-8624
Aviation/Fine Arts/Physical Education	Ann Cunningham	333-8632
Science and Mathematics Technology	Clifford Miller	333-8649
Social Science and Technology	William F. Mugleston	333-8656

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Univ. of Texas, Arlington, B.B.A.; North Texas State Univ., M.B.A.	
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Univ. of Havana, Cuba, B.A.; Texas Woman's Univ., M.A.	
Battles, Fred	Physical Education
Kilgore Jr. College, A.A.; Baylor Univ., B.S., M.S.; North Texas State Univ., Ed.D.	
Bean, Al	Government/Psychology
Baylor Univ., B.A.; Southern Methodist Univ., M.Ed.; North Texas State Univ., Ed.D.	
Benson, Paul F.	English
Pacific Lutheran Univ., B.A.; Colorado State Univ., M.A.; North Texas State Univ., Ph.D.	
Brown, David L.	Drafting
East Texas State Univ., B.S., M.Ed.	
Brown, Jean W.	Music
Texas Woman's Univ., B.S., M.A.	
Caldwell, Leleonia E.	Reading
Bishop College, B.S.; Southeastern State College, M.Ed.	
Coad, Bruce	English
Wittenburg Univ., B.A.; Univ. of North Carolina, M.A.; Duke Univ., Ph.D.	
Colburn, Sharon	Director, Public Information
Dallas Baptist Univ., B.C.A.	
Cook, E. Wayne	English
Hardin-Simmons Univ., B.A.; Texas Tech Univ., M.A., Ph.D.	
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Univ. of Texas, Austin, B.A.; Our Lady of the Lake College, M.Ed.; Nova Univ., Ed.D.	
Corvey, Sanford James	Dean, Educational Resources
Florida Atlantic Univ., B.A., M.Ed.; State Univ. of New York, Geneseo, M.L.S.	
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Kansas State Univ., B.S., M.A.	
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Baylor Univ., B.S., M.S.	
Curtis, Ed	Aviation Technology
Southeastern Oklahoma State Univ., B.S., A.T.P., Flight Instructor, Ground Instructor, Pilot Examiner	
DeLong, J. Richard	Mathematics
Southern Methodist Univ., B.A.; North Texas State Univ., M.Ed.	
Dershem, Don	Data Processing
Colorado State Univ., B.S.M.E.	
Dexter, Rawlings P.	English
Colorado State Univ., B.A., M.A.	
Dodge, Tom	English
Univ. Texas, Arlington, B.A.; North Texas State Univ., M.A.	
Duvall, Johnny W.	Mathematics
East Texas State Univ., B.S.; Univ. of Illinois, M.A.	
Dye, Arch F.	Engineering Technician
Mountain View College, A.A.S.; Univ. of Texas, Dallas, B.S.	
England, Daniel B.	Drafting
Univ. of Oregon, B.S.; Dallas Seminary, Th.M.; North Texas State Univ., M.F.A.	
Faulkner, Ann	Learning Skills
Univ. of Texas, Austin, B.A., M.A.	
Felty, Larry T.	Art
East Texas State Univ., B.S., M.S.	
Ferguson, Susan French	English
Univ. of Dallas, B.S.; North Texas State Univ., M.A., Ph.D.	
Fletcher, Ann	Counselor
DePaul Univ., B.A.; Univ. of Houston, M.Ed.	
Fulton, Stan	Electronics
Univ. of Arkansas, B.S.E., M.Ed.; East Texas State Univ., Ed.D.	
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East Texas State Univ., B.S., M.S.; Nova Univ., Ed.D.	
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Goss, Raye	Counselor
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Goza, Tom	Chairperson, Business Division
Austin College, A.B.; East Texas State Univ., M.S., Ph.D.	
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Temple Junior College, A.A.; Southwest Texas State Univ., B.S.; North Texas State Univ., M.Ed.	
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Austin College, B.A.; Texas Tech Univ., M.A., Ph.D.	
Grissom, Anne	Speech
Baylor Univ., B.A., M.A.	
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Studies: LaSalle Institute	
Hall, J.	Dance
Studies: Mountain View College; American Univ.; Univ. of Texas, Dallas	
Hall, Ralph G.	Vice President of Business Services
Southeastern State Univ., B.S.	
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Northeastern State College, B.S.; East Texas State Univ., M.Ed.	
Jordan, W. H.	President
North Texas State Univ., B.S., M.Ed., Ed.D.	
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Legg, Larry	Biology
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Ablene Christian Univ., B.A., M.A.	
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Walsh, John Machine Shop
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Wolfe, David J. Journalism
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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 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, complemented by exceptionally well-equipped laboratories, studios and learning centers.

Accreditation

North Lake College is a fully recognized member of:
The Southern Association of Colleges and Schools

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.

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Vice President of Instruction	Glen I. Bounds	659-5240
Vice President of Student Development	Margaret Lewis	659-5242
Vice President of Business Services	Mike Howard	659-5235
Assistant to the President	Walter H. Bowie	659-5363
Asso. Dean of Technical/Occupational Programs	Clifton Weaver	659-5233
Dean of Continuing Education	Robert Bolin	659-5204
Assistant Director, Continuing Education	Nancy Kinsey	659-5203
Dean, Learning Resources Center	Jim Picquet	659-5340
Director of Admissions and Registration	Stephen Twenge	659-5220
Director, Center for Independent Study	Pat Feldman	659-5279
Director of Cooperative Education	Shirley Farrow	659-5370
Director of Financial Aid	Paul Chapman	659-5273
Director of Public Information	David A. Wright	659-5231
Director of Student Programs and Resources	Sharon Beauchamp	659-5307
Director of Special Needs Program	Mary Ciminelli	659-5237
Director, Health Center	Karen Iannucilli	659-5209
Marketing Coordinator	Mary Holdcroft	659-5374
Natatorium Director	Jean Blair	659-5358
Director, Diesel Truck Training Center	Charlie Brannan	634-0319

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Business and Management	Gary Bacon	659-5290
Communications and Humanities	Ora Watson	659-5270
Mathematics and Technology	Grady Grizzle	659-5320
Science and Technology	Bob Agnew	659-5250
Social Science and Physical Education	Martha Hughes	659-5350

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Admissions and Registration	659-5220
Business Office	659-5244
College Information	659-5230
Continuing Education Office	659-5200
Data Center	659-5269
Health Center	659-5209
Library	659-5347
Personnel	659-5246
Physical Plant	659-5310
Placement Office	659-5218
Public Information	659-5231
Safety and Security	659-5300
Wallace Bookstore	258-8250

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Bacon, Gary	Chairperson, Business Management U.S. Military Academy, B.S.; Southern Methodist Univ., M.B.A.; Univ. of Arizona Naval War College, Study
Baen, John	Real Estate Texas A&M Univ., B.S., M.S., Ph.D.
Baty, Ida	Counselor Stephen F. Austin State Univ., B.S., M.S.; Univ. of Northern Colorado, Ed.D.
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Bishop, Joe R.	Electricity North Texas State Univ., B.A.; East Texas State Univ., Study
Blair, Jean Collins	Natatorium Director Texas A&M Univ., B.S.; Michigan State Univ., M.A.
Blakenship, Patsy	Office Careers North Texas State Univ., B.B.A., M.B.E.
Blevins, Larry G.	Electricity Cooke County College, A.A.; Wayland Baptist College, B.S.O.E.
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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 was the fourth of the seven colleges of the Dallas County Community College District enrolling its first students in 1972. It has subsequently become the largest DCCCD college, enrolling more than 14,500 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:

- Adult Resource Center, meeting the needs of older students returning to college through programs such as the popular Everywoman Center
- Career Services, helping students make career decisions and offering placement services for part-time and full-time employment
- Center for Independent Study, offering tutoring services and additional help in developing reading, writing and study skills
- Community Counseling, offering various types of training, counseling and courses to area residents not enrolled in classes

- Continuing Education, offering a variety of services and non-credit courses
- Staff Development Resources, providing training opportunities for business and industry
- Testing Services, including academic, career and psychological areas

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, and a cosmic theatre and planetarium featuring programs for the community. The campus athletic complex includes an outdoor swimming pool and a fitness trail.

Accreditation

The Southern Association of Colleges and Schools

Institutional Memberships

Richland College is a member of:

The American Association of Junior Colleges

The League for Innovation in the Community College

Richland 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.

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Vice President of Business Services	Lee Bacon	238-6205
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Director of Business Operations	Ron Clark	238-6277
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Director of Physical Plant	Wes Hayes	238-6170
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- Price, Jack Randall** Psychology
North Texas State University, B.S., M.S., Ph.D.

Rager, Ernest F. Humanities
North Texas State University, B.M.; University of Illinois, M.S.

Ricks, Gay S. Counselor
East Texas State University, B.S., M.S.

Ritter, John T. Physics
University of Tulsa, B.S.; Illinois Institute of Technology, Ph.D.

Schroeder, Al Computer Science
Southwest Texas State University, B.S.;
Western Michigan University, M.A.; East Texas State University, M.B.A.

Scott, Gregory L. Computer Science
Washington University, B.S., M.S.

Sheffield, Charles Theatre Design
University of Texas, Austin, B.F.A., M.F.A.

Shilling, Gerald Business
Central State University, B.B.A.; University of Dallas, M.B.A.

Shorow, David Economics/Computer Science
Casper College, A.B.S.; Texas Christian University, B.B.A., M.B.A.

Sims, Lyndarae D. Spanish
Florida State University, B.A., M.A.; University of Texas, Austin, Ph.D.

Somero, Debbie Placement Specialist
University of Texas, Dallas, B.A.

Spence, Patricia R. English/Speech/Film
Queens College, C.U.N.Y., B.A.; University of Wisconsin, M.A.

Stacy, Marilyn Counselor
Richland College, A.A.; North Texas State University, B.S.
Texas Woman's University, M.A.

Stanco, Joe Instructional Development
University of Dallas, B.A.; University of Texas, Austin, M.A.

Stanson, John D. Physical Education
State University of New York, Buffalo, B.S.; Texas Tech University, M.S.

Stone, Cynthia Director of Student Programs
Virginia Commonwealth University, B.S., M.S.

Stone, Louis R. Lead Instructor, Physical Education
Abilene Christian University, B.S.E., M.E.

Stout, Dean Real Estate/Accounting
Southwestern State University, B.S.; Oklahoma State University, M.S.;
Texas A&M University, S.O.A.R.S.

Stover, James W. Art
Baylor University, B.F.A.; Columbia University, M.A.

Stupp, William E. English
Pennsylvania State University, B.A., M.A.

Sullivan, Elaine Counselor
Loyola University, B.S., M.S.

Swedlund, Trudi J. English
University of Houston, B.A.; Southern Methodist University, M.A.;
North Texas State University, M.Ed.

Taulbee, Thomas L. Psychology/Sociology
Illinois State University, B.S.; East Texas State University, M.S., Ed.D.

Teagardin, Steffani S. Physical Education
Richland College, A.A.; North Texas State University, B.S.;
East Texas State University, M.S., Ed.D.

Thompson, Donald E. Counselor
State University of New York, Buffalo, B.A.;
North Texas State University, M.Ed., Ph.D.

Tinnin, Joe Psychology
Southern Methodist University, B.A.; Texas Christian University, M.A.

Towles, Lorraine Automated Systems Librarian
Brigham Young University, B.A., M.L.S.

Trickel, John A. American History
University of Tulsa, B.A., M.A.; North Texas State University, Ed.D.

Verett, Gary D. History/Psychology
Abilene Christian College, B.S., M.Ed.;
North Texas State University, Ph.D.

Walker, Glen D. Engineering Technology
University of Oklahoma, B.S.; University of Texas at Dallas, M.A.T.

Walker, John English
Southern Methodist University, B.A.; Wayne State University, M.A.;
Shakespeare Institute, University of Birmingham, Ph.D.

Wallace, Jerry D. Music
Texas Christian University, B.M., M.M.

Warwick, Noreen M. Political Science
El Centro College, A.A.; Southern Methodist University, B.A., M.A.

Watson, B. Warren Speech
Jones University, B.A., M.A.

White, Bill D. Physical Education
Texas Wesleyan College, B.S.; North Texas State University, M.Ed.

Whitfield, Ray Engineering Technology
Texas A&M University, B.S.; North Texas State University, M.Ed.

Wingo, Peggy Dent Data Processing
Oklahoma University, B.S.; Southern Methodist University, M.A.S.

Wood, Hugh G. Western Civics/U.S. History
Western State College, B.A.; University of Colorado, M.A., Ph.D.

Yale, Jean Coordinator, Everywoman Program
Duke University, B.A.; Washington State University, M.Ed.

Yates, Kathryn Government
Midwestern State University, B.A., M.A.

DALLAS COUNTY COMMUNITY COLLEGE DISTRICT

Technical/Occupational Programs Offered On Our Campuses—Spring, 1985

Career Education Programs

	BHC	CVC	EFC	ECC	MVC	NLC	RLC
Accounting Associate	•	•	•	•	•	•	•
Advertising Art	•						
Air Conditioning & Refrigeration—Residential		•	•			•	
Animal Medical Technology		•					
Apparel Design				•			
Architectural Technology				•			
Architectural Drafting				•			
Auto Body Technology	•	•	•				
Automotive Technology Apprenticeship		•					
Automotive Technology	•	•	•				
Aviation Technology					•		
Air Cargo Transport					•		
Aircraft Dispatcher					•		
Airline Marketing					•		
Air Traffic Control					•		
Career Pilot					•		
Fixed Base Operations/Airport Management					•		
Building Trades						•	
Carpentry—Residential & Commercial						•	
Child Development Associate	•	•					
CDA Training Certificate	•	•					
Special Child	•	•					
Administrative	•	•					
Infant-Toddler	•	•					
Commercial Music		•					
Arranger/Composer/Copyist		•					
Music Retailing		•					
Performing Musician		•					
Recording Technology		•					
Construction Management & Technology							•
Criminal Justice				•			

	BHC	CVC	EFC	ECC	MVC	NLC	RLC
Data Processing							
Computer Information Systems	•	•	•	•	•	•	•
Computer Operations Technician				•			
Key Entry/Data Control Operator				•			
Programmer	•	•	•	•	•	•	•
Small Computer Systems Specialist				•			
Diesel Mechanics						•	
Drafting & Design Technology			•	•	•		
Electronics Design Option			•				
Educational Paraprofessional/Assistant							•
Electrical Technology						•	
Electronic Telecommunications			•		•	•	
Electronics Technology			•		•	•	
Avionics					•		
Digital Electronics			•				
Engineering Technology	•				•		•
Electric Power	•				•		•
Electro-Mechanical	•				•		•
Fluid Power	•				•		•
Quality Control	•				•		•
Manufacturing Engineering							•
Mechanical Option							•
Fashion Marketing	•	•					
Financial Management							•
Fire Protection Technology				•			
Food Service				•			
Food Service Operations				•			
School Food Service				•			
Graphic Arts/Communications			•				
Horology					•		
Interior Design				•			
Legal Assistant				•			

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

Career Education Programs

	BHC	CVC	EFC	ECC	MVC	NLC	RLC
Machine Parts Inspection					•		
Machine Shop					•		
Major Appliance Repair		•					
Management Careers							
Administrative Management	•	•	•	•	•	•	•
Mid-Management	•	•	•	•	•	•	•
Purchasing Management			•				
Sales, Marketing & Retail Management	•	•					
Small Business Management		•		•	•		•
Medical							
Associate Degree Nursing				•			
Dental Assisting Technology				•			
Medical Assisting Technology				•			
Medical Laboratory Technology				•			
Medical Transcription				•			
Respiratory Therapy Technology				•			
Surgical Technology				•			
Vocational Nursing				•			
Motorcycle Mechanics		•					
Office Careers							
Accounting Certificate	•	•	•	•	•	•	•
Administrative Assistant	•	•	•	•	•	•	•
General Office Certificate	•	•	•	•	•	•	•
Insurance Certificate							•
Legal Secretary	•	•	•	•	•	•	•
Office Clerical	•	•	•	•	•	•	•
Professional Secretary	•	•	•	•	•	•	•

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

	BHC	CVC	EFC	ECC	MVC	NLC	RLC
Records Management	•	•		•			
Optical Technology						•	
Ornamental Horticulture Technology							•
Florist Option							•
Greenhouse Florist Option							•
Landscape Gardener							•
Landscape Management Option							•
Landscape Nursery Option							•
Outboard Marine Engine Mechanics		•					
Pattern Design				•			
Precision Optics Technology						•	
Postal Service Administration					•		
Radiologic Sciences				•			
Diagnostic Medical Sonography				•			
Nuclear Medicine Technology				•			
Radiography Technology				•			
Radiation Therapy Technology				•			
Real Estate						•	•
Small Engine Mechanics		•					
Social Work Associate				•			
Human Services Certificate				•			
Training Paraprofessionals for the Deaf				•			
Sign Language Certificate				•			
Transportation Technology				•			
Video Technology						•	
Welding Technology				•	•		
Welding Engineering Technology				•			

RECIPROCAL TUITION AGREEMENT

DCCCD PROGRAMS

The following programs offered by Dallas County Community College District may be taken by Tarrant County residents at in-county tuition rates:

Program	Campus
Advertising Art	BHC
Animal Medical Technology	CVC
Apparel Design	ECC
Aviation Technology	MVC
Air Cargo	
Air Traffic Control	
Aircraft Dispatcher	
Airline Marketing	
Career Pilot	
Fixed Base Operations	
Avionics	MVC
Automotive Machinist	BHC
Building Trades	NLC
Carpentry	
Electrical	
Commercial Music	CVC
Construction Management	RLC
Diesel Mechanics	NLC
Engineering Technology	RLC
Food Service Operations	ECC
Graphic Communications	EFC
Horology	MVC
Hotel/Motel Operations	ECC
Human Services	EFC
Interior Design	ECC
Motorcycle Mechanics	CVC
Optical Technology	NLC
Outboard Marine	
Engine Mechanics	CVC
Pattern Design	ECC
Purchasing Management	EFC
Vocational Nursing	ECC

TCJC PROGRAMS

The following programs offered by Tarrant County Junior College may be taken by Dallas County residents at in-county tuition rates:

Program	Campus*
Agribusiness	NW
Cast Metals Technology	NE
Civil/Construction Technology	NE
Dental Hygiene	NE
Emergency Medical Technology	NE
Industrial Supervision	S
Long Term	
Health Card Administration	NE
Media Technology	NE
Medical Records Technology	NE
Nondestructive	
Evaluation Technology	S
Physical Therapist Assistant	NE
Property Tax Appraisal	NE
Radio-TV Repair	S

*NE — Northeast Campus, NW — Northwest Campus, S — South Campus.

STUDENTS CONSIDERING TRANSFER TO A FOUR-YEAR INSTITUTION

All courses which make up DCCCD technical/occupational programs are credit courses lending to an associate degree. Some courses are transferable to four-year institutions. Students who plan to transfer are advised to consult with a counselor to develop a technical/occupational course plan which best meets the degree requirements of the chosen four-year college or university.

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.

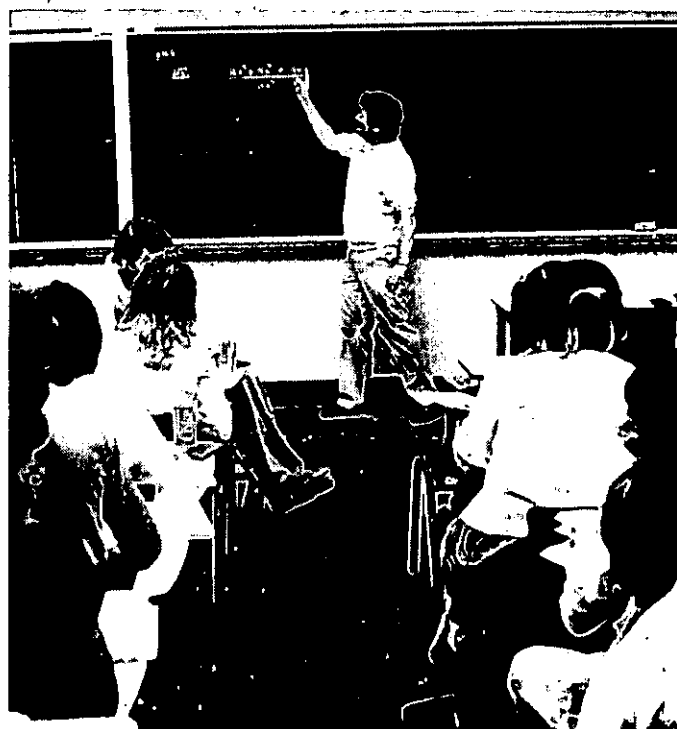
The Associate in Applied Arts and Sciences Degree is awarded for successful completion of at least 63 credit hours as outlined below. Students desiring a less comprehensive program that emphasizes bookkeeping procedures and practices should consider the General Office Certificate with elective emphasis on accounting careers. The General Office Certificate is available in the Office Careers Program.

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	
ACC 201 Principles of Accounting I	3
BUS 105 Introduction to Business	3
* COM 131 Applied Composition and Speech or	3
ENG 101 Composition and Expository Reading	3
MTH 130 Business Mathematics or	3
MTH 111 Mathematics for Business and Economics	3
OFC 160 Office Calculating Machines	3
	15

SEMESTER II	
ACC 202 Principles of Accounting II	3
* COM 132 Applied Composition and Speech or	3
ENG 102 Composition and Literature	3
CS 175 Introduction to Computer Science	3
MGT 136 Principles of Management	3
++ OFC 172 Beginning Typing	3
	15

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
GVT 201 American Government	3
ACC 803 Cooperative Work Experience or ..	3-4
ACC 804 Cooperative Work Experience or ..	3-4
† Elective	
	18-19



SEMESTER IV	
ACC 238 Cost Accounting or	3
ACC 239 Income Tax Accounting	3
BUS 234 Business Law	3
ECO 202 Principles of Economics II	3
OFC 231 Business Communications	3
† Electives	3-6
	15-18

Minimum Hours Required: 63

† Electives -- A minimum of six credit hours must be selected from the following:

ACC 205	Business Finance	3
ACC 207	Intermediate Accounting II	3
ACC 238	Cost Accounting	3
ACC 239	Income Tax Accounting	3
ACC 703-713	Cooperative Work Experience	3
813		
ACC 704-714	Cooperative Work Experience	4
804-814		
BUS 143	Personal Finance	3
BUS 237	Organizational Behavior	3
CS 250	Contemporary Topics in Computer Science and Data Processing	3
CS 251	Special Topics in Computer Science and Data Processing	4
MKT 206	Principles of Marketing	3
PSY 105	Introduction to Psychology or	3
PSY 131	Human Relations	3
SPE 105	Fundamentals of Public Speaking	3

Any CS or DP Programming course

* ENG 101 and ENG 102 may be substituted for COM 131 and COM 132 provided that SPE 105 is also taken.

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

ADVERTISING ART

Brookhaven only

(Associate Degree)

This program will provide entry level skills for careers in graphic design and illustration. Courses in the program provide for the development of adequate technical, interpersonal, business and communication skills to function effectively as a free-lance illustrator or designer or as a staff person with an advertising agency or department.

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	
ADV 110 Introduction to Advertising Art	3
ART 110 Design I	3
ART 114 Drawing I	3
COM 131 Applied Composition and Speech	3
MTH 130 Business Mathematics	3
	15

SEMESTER II	
ADV 111 History and Psychology of Visual Communications	3
ADV 120 Lettering and Layout	4
ADV 121 Beginning Illustration	4
ART 111 Design II	3
COM 132 Applied Composition and Speech	3
	17

SEMESTER III	
ADV 201 Illustration for Reproduction	4
ADV 203 Advanced Graphics Design	4
ADV 703 Cooperative Work Experience or	3
ADV 704 Cooperative Work Experience	(4)
PSY 131 Human Relations	3
	14-15

SEMESTER IV	
ADV 202 Advanced Illustration	4
ADV 204 Advanced Presentations	4
ADV 205 Professional Practices	3
ADV 713 Cooperative Work Experience or	3
ADV 714 Cooperative Work Experience or	(4)
†Electives	
HUM 101 †Introduction to the Humanities	3
	17-18

Minimum Hours Required: 63

†Suggested Electives:

ACC 131	Bookkeeping I	3
DES 135	Textiles	3
DFT 183	Basic Drafting	3
GA 134	Basic Camera Operations	3
GA 136	Copy Preparation	3
MGT 136	Principles of Management	3
MGT 153	Small Business Management	3
MKT 208	Principles of Marketing	3
PHO 110	Introduction to Photography and Photo-Journalism	3
MKT 292	Fashion Design	3

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.

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	
ACR 111 Principles of Refrigeration	3
ACR 113 Fundamentals of Electricity	3
ACR 115 Unit Air Conditioning Systems	3
ACR 117 Domestic Refrigeration	3
COM 131 Applied Composition and Speech or	3
ENG 101 Composition and Expository Reading	
DFT 182 Technician Drafting	2
	17

SEMESTER II	
ACR 112 Properties of Air	3
ACR 114 Heat Load Analysis	3
ACR 116 Summer Air Conditioning Systems ..	3
ACR 118 Winter Air Conditioning Systems ..	3
HST 101 History of the United States or	3
PSY 131 Human Relations	
MTH 195 Technical Mathematics	3
	18

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
ACC 131 Bookkeeping I	3
COM 132 Applied Composition and Speech or	3
ENG 102 Composition and Literature	
	18

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 803 Cooperative Work Experience	3
	15

Minimum Hours Required 68

AIR CONDITIONING AND REFRIGERATION

Eastfield only

(Certificate)

This program will qualify the student to install, repair, and maintain equipment in the fields of domestic and commercial refrigeration, and air conditioning, cooling or heating systems.

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

ACR 111	Principles of Refrigeration	3
ACR 113	Fundamentals of Electricity	3
ACR 115	Unit Air Conditioning Systems	3
ACR 117	Domestic Refrigeration	3
MTH 195	Technical Mathematics	3
		15

SEMESTER II

ACR 112	Properties of Air	3
ACR 114	Heat Load Analysis	3
ACR 116	Summer Air Conditioning Systems	3
ACR 118	Winter Air Conditioning Systems	3
		12

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
ACR 803	Cooperative Work Experience	3
		15

Minimum Hours Required 42

AIR CONDITIONING AND REFRIGERATION — RESIDENTIAL

Cedar Valley, Eastfield, and North Lake only

(Certificate)

This program is designed to train students to meet entry level requirements in the field of 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, humidifiers, heat pumps, gas and electric furnaces. Throughout the entire program an emphasis is placed on current techniques used by service technicians.

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

ACR 120	Principles of Refrigeration or	6
ACR 121	Principles of Refrigeration I and	(3)
ACR 122	Principles of Refrigeration II	(3)
ACR 125	Principles of Electricity or	6
ACR 126	Principles of Electricity I and	(3)
ACR 127	Principles of Electricity II	(3)
MTH 195	Technical Mathematics or	3
MTH 139	Applied Mathematics	3
		15

SEMESTER II

ACR 130	Residential Cooling Systems or	6
ACR 131	Residential Cooling Systems I and	(3)
ACR 132	Residential Cooling Systems II	(3)
ACR 140	Residential Heating Systems or	6
ACR 141	Residential Heating Systems I and	(3)
ACR 142	Residential Heating Systems II	(3)
PHY 131	Applied Physics	4
		16

Minimum Hours Required 31

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.

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	
ACR 120 Principles of Refrigeration or	6
ACR 121 Principles of Refrigeration I and ...	(3)
ACR 122 Principles of Refrigeration II	(3)
ACR 125 Principles of Electricity or	6
ACR 126 Principles of Electricity I and	(3)
ACR 127 Principles of Electricity II	(3)
MTH 195 Technical Mathematics or	3
MTH 139 Applied Mathematics	
	15
SEMESTER II	
ACR 130 Residential Cooling Systems or ...	6
ACR 131 Residential Cooling Systems I and	(3)
ACR 132 Residential Cooling Systems II	(3)
ACR 140 Residential Heating Systems or ...	6
ACR 141 Residential Heating Systems I and	(3)
ACR 142 Residential Heating Systems II	(3)
PHY 131 Applied Physics	4
	16
SEMESTER III	
ACR 200 Contractor Estimating or	6
ACR 209 Contractor Estimating I and	(3)
ACR 210 Contractor Estimating II	(3)
ACR 212 System Servicing or	6
ACR 213 System Servicing I and	(3)
ACR 214 System Servicing II	(3)
COM 131 Applied Composition and Speech or	3
ENG 101 Composition and Expository Reading	(3)
	15
SEMESTER IV	
SPE 105 Fundamentals of Speech	3
PSY 131 Human Relations	3
+Electives	8-9
	14-15
Minimum Hours Required:	60

+Electives must be selected from the following:

Any ACR (Air Conditioning and Refrigeration) course		
ACR 109	Contemporary Topics I	2
ACR 110	Contemporary Topics II	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 703-713	Cooperative Work Experience	3
ACR 704-714	Cooperative Work Experience	4
ACR 803-813	Cooperative Work Experience	3
ACR 804-814	Cooperative Work Experience	4
ACC 131	Bookkeeping I	3
BPR 177	Blueprint Reading	2
BUS 105	Introduction to Business	3
CS 175	Introduction to Computer Science ..	3
DFT 182	Technician Drafting	2
MGT 153	Small Business Management	3

ANIMAL MEDICAL TECHNOLOGY

Cedar Valley only

(Associate Degree)

This program is designed to help meet the need for graduate animal technicians as indicated by the Texas Veterinary Medical Association. The American Veterinary Medical Association (AVMA) describes an "Animal Technician" as "a person knowledgeable in the care and handling of animals, in basic principles of normal and abnormal life processes and in routine laboratory and clinical procedures." The person is primarily an assistant to veterinarians, biological research workers and other scientists.

The animal medical technician curriculum is designed to provide the graduate with information, experience and skills needed to perform all technical duties in a practice excluding diagnosis, prescription and surgery and whose performance of such duties is not in conflict with the state practice act.

Admission to the animal medical technician program is limited and applicants will be screened for approval. Students are encouraged to develop a strong academic background in the sciences, including mathematics, biology and chemistry.

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

AMT 101	Medical Terminology for Animal Technicians	1
AMT 130	Introduction to Animal Medical Technology	4
AMT 140	Introduction to General, Organic and Biochemistry	5
COM 131	Applied Composition and Speech or	3
ENG 101	Composition and Expository Reading	
MTH 139	Applied Mathematics	3
		<u>16</u>

SEMESTER II

AMT 110	Animal Care and Sanitation: Canine	2
AMT 137	Comparative Mammalian Anatomy and Physiology	4
AMT 139	Pharmacology for Technicians	3
PSY 131	Human Relations	3
SPE 101	Speech Communications	3
		<u>15</u>

SUMMER SESSION

AMT 111	Animal Care and Sanitation: Feline, Porcine	2
AMT 231	Comparative Mammalian Anatomy and Physiology	4
AMT 241	Clinical Pathology Techniques and Practices I	5
AMT 245	Clinical Seminar	2
		<u>13</u>

SEMESTER III

AMT 112	Animal Care and Sanitation: Equine	2
AMT 230	Anesthetic and Surgical Assisting Techniques	4
AMT 243	Clinical Pathology Techniques and Practices II	5
AMT 244	Large Animal Assisting Techniques	3
MGT 153	Small Business Management	3
		<u>17</u>

SEMESTER IV

AMT 210	Animal Care and Sanitation: Bovine	2
AMT 237	Principles and Practice of Radiography	3
AMT 242	Exotic and Research Animal Care and Management	3
AMT 249	Animal Hospital Nursing	4
AMT 703	Cooperative Work Experience	3
		<u>15</u>

Minimum Hours Required 76

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 woman's wear or children's wear manufacturing company as an assistant in the design department.

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.

ADMISSION TO THE PROGRAM

1. Contact the counseling division to schedule a time to take the Design Indicator Test.
2. Fulfill all requirements for admission to El Centro College.

	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 (2nd 8 weeks)	3
COM 131 Applied Composition and Speech or	3
ENG 101 Composition and Expository Reading	
	15
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
COM 132 Applied Composition and Speech or	3
ENG 102 Composition and Literature	
	18

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
APP 232 Design Development I	3
APP 237 Style Trends and Research I	2
PSY 105 Introduction to Psychology or	3
HD 105 Basic Processes of Interpersonal Relationships	
	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 812 Cooperative Work Experience or ..	(2)
PDD 813 Cooperative Work Experience or ..	(3)
PDD 814 Cooperative Work Experience	(4)
BUS 105 Introduction to Business	3
HUM 101 Introduction to Humanities	3
	18-21

Minimum Hours Required: 68

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.

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	
ARC 130 Architectural Graphics I	3
ARC 134 Freehand Drawing I	3
ARC 146 Architectural Design, Grade I	3
ARC 150 Building Technology I - Methods and Materials	3
ARC 128 History of Architecture I	3
	15
SEMESTER II	
ARC 133 Architectural Graphics II	3
ARC 135 Freehand Drawing II	3
ARC 147 Architectural Design, Grade I	3
ARC 153 Construction Drawings I - Wood Frame	3
ARC 129 History of Architecture II	3
	15
SEMESTER III	
ARC 230 History of Modern Architecture	3
†ENG 101 Composition and Expository Reading or	3
COM 131 Applied Composition and Speech	
MTH 101 College Algebra or	3
MTH 195 Technical Math	
†Architectural Electives	6
	15
SEMESTER IV	
†ENG 201 Composition and Literature or	3
COM 132 Applied Composition and Speech	
†Architectural Electives	12
	15
Minimum Hours Required:	60

ARCHITECTURAL DRAFTING

El Centro only
(Certificate)

Upon completion of the architectural courses listed below, the student will be issued a certificate in architectural drafting from El Centro College.

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	
ARC 130 Architectural Graphics I	3
ARC 134 Freehand Drawing I	3
ARC 146 Architectural Design, Grade I	3
ARC 150 Building Technology I — Methods and Materials	3
ARC 128 History of Architecture I	3
	15
SESSION II	
ARC 133 Architectural Graphics II	3
ARC 135 Freehand Drawing II	3
ARC 147 Architectural Design, Grade I	3
ARC 153 Construction Drawings I — Wood Frame	3
ARC 129 History of Architecture II	3
	15
Minimum Hours Required:	30

†Architectural electives:

ARC 220	Personalities in Art and Architecture	3
ARC 226	History of Interior Architecture I	3
ARC 227	History of Interior Architecture II	3
ARC 232	Basic Architectural Photography	3
ARC 240	Media Skills I	3
ARC 241	Media Skills II	3
ARC 242	Presentation I	3
ARC 243	Presentation II	3
ARC 245	Design Sketching	3
ARC 246	Architectural Design-Grade II	3
ARC 247	Architectural Design-Grade II	3
ARC 251	Building Technology II-Heavy Construction	3
ARC 252	Building Technology III-Specifications	3
ARC 254	Construction Drawings II-Steel Frame	3
ARC 255	Construction Drawings III-Concrete and Masonry	3
ARC 256	Construction Drawings IV-Detailing	3

AUTO BODY TECHNOLOGY

Brookhaven and 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.

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

* 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 or	3
WE 101	Basic Welding Principles	
MTH 195	Technical Mathematics	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 Composition and Speech or	3
ENG 101	Composition and Expository Reading	
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
PSY 131	Human Relations	3
† Elective		4
		15

SEMESTER IV

AB 139	Body Shop Operations	3
* AB 221	Advanced Paint Techniques	3
* AB 222	Applied Advanced Paint Techniques	2
AB 235	Estimating	3
AB 803	Cooperative Work Experience or	3
AB 804	Cooperative Work Experience	(4)
		14-15

Minimum Hours Required: 62

†Electives--must be selected from the following:

AB 225	Special Auto Body Applications	1
AT 118	Electrical Systems	4
AT 221	Heating and Air Conditioning	4
AT 225	Front End	4

*Must be enrolled concurrently in: AB 111/112, AB 113/114, AB 121/122, AB 123/124, AB 211/212, AB 221/222.

AUTO BODY TECHNOLOGY

Brookhaven and 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 to train 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.

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

* 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 or	3
WE 101	Basic Welding Principles	
		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 221	Advanced Paint Techniques	3
* AB 222	Applied Advanced Paint Techniques	2
		15

SEMESTER III

AB 139	Body Shop Operations	3
AB 213	Major Collision and Frame Repair	3
AB 235	Estimating	3
AB 803	Cooperative Work Experience or	3
AB 804	Cooperative Work Experience	(4)
		12-13

Minimum Hours Required: 45

*Must be enrolled in concurrently (at the same time): AB 111/112, AB 113/114, AB 121/122, AB 123/124, AB 211/212, AB 221/222

AUTOMOTIVE TECHNOLOGY APPRENTICESHIP

Cedar Valley only

(Associate Degree)

The Automotive Technology Apprenticeship Program is offered in cooperation with the National Automobile Dealer Association, and the Bureau of Apprenticeship Training, U. S. Department of Labor. This is a three-year program that provides full-time "on-the-job" apprenticeship training along with college credit courses. Upon successful completion of the program, the apprentice will receive an Associate of Applied Arts and Science Degree.

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.

ADMISSION TO THE PROGRAM

1. Admission is by individual application.
2. Personal interview with a faculty member and be recommended for enrollment.
3. Personal interview and acceptance as an apprentice by a participating automobile dealership.
4. Demonstrate a sincere desire to become a professional automotive service technician.
5. Fulfill all requirements for admission to the college.

CREDIT
HOURS

SEMESTER I

ATA 100	Automotive Fundamentals	3
ATA 101	Basic Electrical Systems	3
ATA 102	Automotive Service Department Management	3
ATA 191	Internship I	3
		<u>12</u>

SEMESTER II

ATA 200	Advanced Electrical Systems	3
ATA 202	Basic Engine Repair	3
ATA 203	Engine Overhaul	3
ATA 192	Internship II	3
		<u>12</u>

SUMMER SESSION

ATA 201	Automotive Air Conditioning and Heating Systems	3
ATA 193	Internship III	3
SS 131	American Civilization	3
		<u>9</u>



SEMESTER III

ATA 103	Suspension, Steering and Brake Systems	3
ATA 105	Engine Tune-Up Procedures	3
ATA 294	Internship IV	3
COM 131	Applied Composition and Speech	3
		<u>12</u>

SEMESTER IV

ATA 209	Standard Transmissions and Drive Lines	3
ATA 210	Automatic Transmissions	3
ATA 295	Internship V	3
MTH 195	Technical Mathematics or	3
MTH 139	Applied Mathematics	
		<u>12</u>

SUMMER SESSION

ATA 104	Automotive Parts Department Manager	3
ATA 296	Internship VI	3
PHY 131	Applied Physics	4
		<u>10</u>

Minimum Hours Required: 67

AUTOMOTIVE TECHNOLOGY

Brookhaven, 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.

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	
AT 108 Minor Vehicle Services	4
AT 110 Engine Repair I	4
AT 112 Engine Repair II	4
COM 131 Applied Composition and Speech	3
MTH 195 Technical Mathematics	3
	<u>18</u>
SEMESTER II	
AT 114 Engine Analysis and Tune-Up	4
AT 116 Fuel and Emission Systems	4
AT 118 Electrical Systems	4
PHY 131 Applied Physics	4
	<u>16</u>
SEMESTER III	
AT 221 Heating and Air Conditioning	4
AT 223 Brake Systems	4
AT 225 Front End Systems	4
†Elective	3-4
	<u>15-16</u>
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 714 Cooperative Work Experience	(4)
‡Elective	3
	<u>18-19</u>

Minimum Hours Required: 67

†Elective--must be selected from the following:

AB 245	Welding for Auto Body	3
AT 212	Special Automotive Applications	1
AT 803	Cooperative Work Experience or	3
AT 814	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:

GVT 201	American Government	3
HD 105	Basic Processes of Interpersonal Relationship	3
HUM 101	Introduction to the Humanities	3
PSY 131	Human Relations	3

AUTOMOTIVE TECHNOLOGY

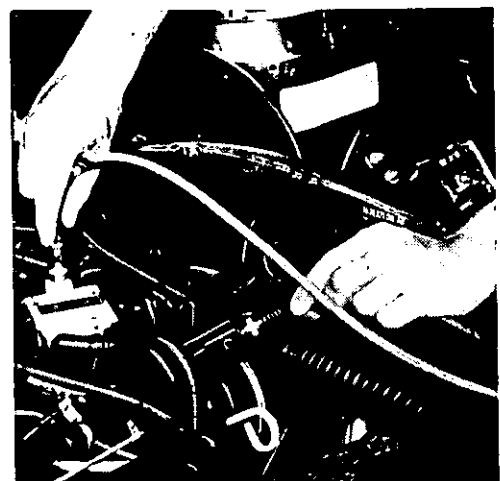
Brookhaven, Cedar Valley and Eastfield only

(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.

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	
AT 108 Minor Vehicle Services	4
AT 110 Engine Repair I	4
AT 112 Engine Repair II	4
	<u>12</u>
SEMESTER II	
AT 114 Engine Analysis and Tune-Up	4
AT 116 Fuel and Emission Systems	4
AT 118 Electrical Systems	4
	<u>12</u>
SEMESTER III	
AT 221 Heating and Air Conditioning	4
AT 223 Brake Systems	4
AT 225 Front End Systems	4
	<u>12</u>
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 714 Cooperative Work Experience	(4)
	<u>15-16</u>
Minimum Hours Required:	51



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, 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 Arts and 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.

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 Parts 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.

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

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	3
AVT 226	Meteorology	3

17

SEMESTER II

AVT 123	Ground School Commercial	3
AVT 128	Aero Engines and Systems	3
AVT 137	Flight Private Pilot*	1
AVT 220	Aero Dynamics	3
ENG 101	Composition and Expository Reading	3
†Mathematics Elective		3
		16

SEMESTER III

AVT 221	Advanced Navigation	3
AVT 224	Ground School Instrument	3
AVT 227	Flight Commercial I*	2
AVT 228	Flight Commercial II*	3
PSY 131	Human Relations or	3
PSY 105	Introduction to Psychology	
		14

SEMESTER IV

AVT 212	Airport Management	3
AVT 229	Flight Commercial III*	3
AVT 230	Flight Commercial IV-Instrument*	3
AVT 250	Flight Instructor Ground School or	2
AV 129	Introduction to Aircraft Electronic Systems	(3)
SPE 105	Fundamentals of Public Speaking	3
		14-15

Minimum Hours Required: 61

†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	3

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

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
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Flight Engineer

AVT 263	Flight Engineer Ground School	3
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Air Transport Pilot

AVT 264	Air Transport Pilot Ground School	3
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Type-Rating (small, multi-engine, turbo-jet powered airplane)

AVT 255	Type-Rating Turbo-Jet Ground School	3
AVT 256	Flight Advanced II-Jet Type-Rating	1

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.

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	
AVT 110 Introduction to Aviation	3
AVT 121 Ground School Private	3
AVT 122 Aviation Law	3
AVT 210 FAA Regulations	3
BUS 105 Introduction to Business	3
	<u>15</u>

SEMESTER II	
AVT 226 Meteorology	3
AVT 249 Air Transportation, Traffic and Cargo	3
ACC 201 Principles of Accounting I	3
ENG 101 Composition and Expository Reading	3
†Math Elective	3
	<u>15</u>

SEMESTER III	
AVT 212 Airport Management	3
AVT 223 Airline Management	3
MGT 136 Principles of Management	3
PSY 131 Human Relations or	3
PSY 105 Introduction to Psychology	3
SPE 105 Fundamentals of Public Speaking	3
	<u>15</u>

SEMESTER IV	
AVT 225 Aviation Marketing	3
AVT 703 Cooperative Work Experience or ..	3
BUS 234 Business Law	3
ACC 202 Principles of Accounting II	3
CS 175 Introduction to Computer Science ..	3
ECO 201 Principles of Economics I	3
	<u>15</u>

Minimum Hours Required: 60

AIRLINE MARKETING OPTION

Mountain View Only

(Associate Degree)

This 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.

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	
AVT 110 Introduction to Aviation	3
AVT 121 Ground School Private	3
AVT 122 Aviation Law	3
AVT 210 FAA Regulations	3
BUS 105 Introduction to Business	3
	<u>15</u>

SEMESTER II	
AVT 249 Air Transportation, Traffic and Cargo	3
ACC 201 Principles of Accounting I	3
CS 175 Introduction to Computer Science ..	3
ENG 101 Composition and Expository Reading	3
†Mathematics elective	3
	<u>15</u>

SEMESTER III	
AVT 212 Airport Management	3
AVT 223 Airline Management	3
ECO 201 Principles of Economics I	3
PSY 131 Human Relations or	3
PSY 105 Introduction to Psychology	3
SPE 105 Fundamentals of Public Speaking ..	3
	<u>15</u>

SEMESTER IV	
AVT 225 Aviation Marketing	3
AVT 703 Cooperative Work Experience	3
ACC 202 Principles of Accounting II	3
ECO 202 Principles of Economics II	3
‡Elective	3
	<u>15</u>

Minimum Hours Required: 60

†Math elective--must be selected from the following:	
MTH 101 College Algebra	3
MTH 130 Business Mathematics	3
MTH 195 Technical Mathematics	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

FIXED BASE 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 operation superintendents or aviation authority boards. Positions as fixed base operators for aircraft dealers may include equipment sales and service and aircraft sales.

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	
AVT 110 Introduction to Aviation	3
AVT 121 Ground School Private	3
AVT 122 Aviation Law	3
AVT 210 FAA Regulations	3
BUS 105 Introduction to Business	3
	15
SEMESTER II	
AVT 226 Meteorology	3
AVT 249 Air Transportation, Traffic and Cargo	3
CS 175 Introduction to Computer Science	3
ENG 101 Composition and Expository Reading	3
†Mathematics 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 Human Relations or	3
PSY 105 Introduction to Psychology	3
SPE 105 Fundamentals of Public Speaking	3
	15
SEMESTER IV	
AVT 212 Airport Management	3
AVT 703 Cooperative Work Experience or	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	3
MTH 130	Business Mathematics	3

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 Arts and 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 F.A.A. written examination for aircraft dispatcher.

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	
AVT 110 Introduction to Aviation	3
AVT 121 Ground School Private	3
AVT 122 Aviation Law	3
AVT 210 FAA Regulations, Airspace & Air Traffic Control	3
AVT 226 Meteorology	3
	15
SEMESTER II	
AVT 123 Ground School Commercial	3
AVT 128 Aero Engine and Systems	3
AVT 221 Advanced Navigation	3
CS 175 Introduction to Computer Science	3
ENG 101 Composition and Expository Reading	3
	15
SEMESTER III	
AVT 224 Ground School Instrument	3
AVT 261 Aircraft Dispatcher	3
MTH 195 Technical Math	3
PSY 131 Human Relations	3
SPE 105 Fundamentals of Public Speaking	3
	15
SEMESTER IV	
AVT 262 Practical Dispatching	3
AVT 129 Introduction to Aircraft Electrical Systems	3
BUS 105 Introduction to Business	3
MGT 136 Principles of Management	3
MTH 196 Technical Math	3
	15

Minimum Hours Required: 60

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 Arts and 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 F.A.A. written examination for aircraft dispatcher.

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	
AVT 110 Introduction to Aviation	3
AVT 121 Ground School Private	3
AVT 122 Aviation Law	3
AVT 210 FAA Regulations, Airspace & Air Traffic Control	3
AVT 226 Meteorology	3
AVT 261 Aircraft Dispatcher	3
	<u>18</u>
SEMESTER II	
AVT 123 Ground School Commercial	3
AVT 128 Aero Engine and Systems	3
AVT 221 Advanced Navigation	3
AVT 224 Ground School Instrument	3
AVT 262 Practical Dispatching	3
	<u>15</u>
Minimum Hours Required:	33

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 degree 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.

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	
AVT 121 Ground School Private	3
AVT 135 Flight Basic*	2
AVT 137 Flight Private Pilot*	1
AVT 210 FAA Regulations, Airspace & Air Traffic Control	3
AVT 221 Advanced Navigation	3
AVT 226 Meteorology	3
	<u>15</u>
SEMESTER II	
AVT 270 Orientation to ATC	5
AVT 272 Aircraft Types/ ATC Communications	2
AVT 274 ATC Computer Operations	3
AVT 704 Cooperative Work Experience	4
	<u>14</u>
SEMESTER III	
AVT 224 Ground School Instrument	3
ENG 101 Composition and Expository Reading	3
MTH 195 Technical Math	3
PSY 131 Human Relations	3
SPE 105 Fundamentals of Public Speaking	3
	<u>15</u>
SEMESTER IV	
AVT 212 Airport Management or	3
MGT 136 Principles of Management	
AVT 223 Airline Management or	3
MGT 242 Personnel Administration	
AVT 804 Cooperative Work Experience	4
ENG 102 Composition and Literature	3
	<u>13</u>
SEMESTER V	
AVT 814 Cooperative Work Experience	4
Minimum Hours Required:	61

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

BUILDING TRADES--RESIDENTIAL AND COMMERCIAL CARPENTRY

North Lake only

This program is designed to prepare the student for entry level employment as a carpenter in the building construction field. Specific training is provided in the use and care of hand tools and power equipment, scheduling, layout and construction of residential and light commercial type buildings, cabinet making, blueprint reading and cost estimating. Two options are available in this program: Residential Carpentry and Commercial Carpentry.

Some carpentry courses are individualized. This allows the students to progress at their own pace in order to fully comprehend theory and develop the necessary skills. The individualized self-paced instruction also allows the student to take a portion of a course (module) without taking the complete course. Credit for prior training or experience may be granted.

Students may elect to receive a certificate or may apply the certificate courses required in this program toward an Associate in Applied Arts and Sciences Degree.

A certificate may be obtained in one or both of the options in carpentry. In order to qualify for a certificate, the student must successfully complete the following courses. Courses may be taken in any order after consultation with the instructor.

RESIDENTIAL CARPENTRY

North Lake only

(Certificate)

The Residential Carpentry Certificate is designed to prepare the student for entry level employment as a carpenter in all phases of residential construction.

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

CAR 101	Woodworking Tools and Materials	3
CAR 102	Site Preparation	3
CAR 103	Construction Safety	1
BPR 177	Blueprint Reading	2
MTH 195	Technical Mathematics	3
		12

SEMESTER II

CAR 104	Residential Framing	3
CAR 105	Roof Framing I	3
CAR 106	Exterior Trim and Finish	3
CAR 107	Construction Cost Estimating	3
		12

SEMESTER III

CAR 201	Cabinet Building I	3
CAR 205	Roof Framing II	3
CAR 208	Interior Finish I	3
		9

SEMESTER IV

CAR 202	Cabinet Building II	3
CAR 203	Stair Building	3
CAR 703	Cooperative Work Experience or	3
CAR 704	Cooperative Work Experience	(4)
		9-10

Minimum Hours Required: 42

RESIDENTIAL CARPENTRY

North Lake only

(Associate Degree)

Students wishing to earn an Associate in Applied Arts and Sciences Degree with a major in residential carpentry must complete the following courses.

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

CAR 101	Woodworking Tools and Materials	3
CAR 102	Site Preparation	3
CAR 103	Construction Safety	1
BPR 177	Blueprint Reading	2
COM 131	Applied Composition and Speech	3
MTH 195	Technical Mathematics	3
		15

SEMESTER II

CAR 104	Residential Framing	3
CAR 105	Roof Framing I	3
CAR 106	Exterior Trim and Finish	3
CAR 107	Construction Cost Estimating	3
SS 131	American Civilization	3
		15

SEMESTER III

CAR 201	Cabinet Building I	3
CAR 205	Roof Framing II	3
CAR 208	Interior Finish I	3
BUS 105	Introduction to Business	3
COM 132	Applied Composition and Speech	3
		15

SEMESTER IV

CAR 202	Cabinet Building II	3
CAR 203	Stair Building	3
CAR 703	Cooperative Work Experience or	3
CAR 704	Cooperative Work Experience	(4)
ACC 131	Bookkeeping I	3
PSY 131	Human Relations	3
		15-16

Minimum Hours Required: 60

COMMERCIAL CARPENTRY

North Lake only

(Certificate)

The Commercial Carpentry Certificate is designed to prepare the student for entry level employment as a carpenter in the construction industry related to commercial buildings.

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

CAR 101	Woodworking Tools and Materials	3
CAR 102	Site Preparation	3
CAR 103	Construction Safety	1
BPR 177	Blueprint Reading	2
MTH 195	Technical Mathematics	3
		12

SEMESTER II

CAR 107	Construction Cost Estimating	3
CAR 108	Modern Construction Practices	3
CAR 109	Concrete Slabs in Commercial Building	3
CAR 208	Interior Finish I	3
		12

SEMESTER III

CAR 204	Commercial Wall Forms	3
CAR 206	Vertical Piers and Columns	3
CAR 209	Interior Finish II-Commercial	3
		9

SEMESTER IV

CAR 203	Stair Building	3
CAR 210	Horizontal Beam Form and Fire Encasement Forms	3
CAR 211	Properties of Concrete	1
CAR 703	Cooperative Work Experience or	3
CAR 704	Cooperative Work Experience	(4)
		10-11

Minimum Hours Required: 43

COMMERCIAL CARPENTRY

North Lake only

(Associate Degree)

Students wishing to earn an Associate in Applied Arts and Sciences Degree with a major in commercial carpentry must complete the following courses.

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

CAR 101	Woodworking Tools and Materials	3
CAR 102	Site Preparation	3
CAR 103	Construction Safety	1
BPR 177	Blueprint Reading	2
COM 131	Applied Composition and Speech	3
MTH 195	Technical Mathematics	3
		<u>15</u>

SEMESTER II

CAR 107	Construction Cost Estimating	3
CAR 108	Modern Construction Practices	3
CAR 109	Concrete Slabs in Commercial Building	3
CAR 208	Interior Finish I	3
SS 131	American Civilization	3
		<u>15</u>

SEMESTER III

CAR 204	Commercial Wall Forms	3
CAR 206	Vertical Piers and Columns	3
CAR 209	Interior Finish II-Commercial	3
BUS 105	Introduction to Business	3
COM 132	Applied Composition and Speech	3
		<u>15</u>

SEMESTER IV

CAR 203	Stair Building	3
CAR 210	Horizontal Beam Form and Fire Encasement Forms	3
CAR 211	Properties of Concrete	1
CAR 703	Cooperative Work Experience or	3
CAR 704	Cooperative Work Experience	(4)
ACC 131	Bookkeeping I	3
PSY 131	Human Relations	3
		<u>16-17</u>

Minimum Hours Required: 61

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 Patient/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.

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

**CD 135	Introduction to Early Childhood Programs and Services.....	4
CD 140	Early Childhood Development, 0-3 Years	3
COM 131	Applied Composition and Speech or	3
ENG 101	Composition and Expository Reading	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 812	Cooperative Work Experience or ..	2
CD 813	Cooperative Work Experience or ..	(3)
CD 814	Cooperative Work Experience	(4)
HD 106	Personal and Social Growth or ...	3
PSY 105	Introduction to Psychology	3
HST 102	History of the United States	3
†Elective.....		3
		18-20



SEMESTER III

*CD 100	Directed Participation in Early Childhood Programs or	4
CD 233	Directed Participation in Early Childhood Programs	3
**CD 239	Studies in Child Guidance	3
COM 132	Applied Composition and Speech or	3
ENG 102	Composition and Literature	3
GVT 201	American Government	3
†Electives.....		2-4
		15-17

SEMESTER IV

**CD 150	Nutrition Health and Safety of the Young Child	3
*CD 200	Application of Learning Theories or	4
CD 244	Application of Child Development Learning Theories	3
HUM 101	Introduction to the Humanities	3
SOC 203	Marriage and the Family	3
†Electives.....		2-4
		15-17

Minimum Hours Required: 64

†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 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 238	Introduction to Administration of Child Care Programs	3
CD 246	Advanced Administrative Practices for Child Care.....	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 812	Cooperative Work Experience or	2
CD 813	Cooperative Work Experience or	3
CD 814	Cooperative Work Experience	4
TPD 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 238, or CD 246. 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.

CHILD DEVELOPMENT — ADMINISTRATIVE OPTION

Brookhaven and Eastfield only

(Certificate)

This one-year program will provide an opportunity for the student to study administrative procedures for child care facilities.

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	
*CD 135 Introduction to Early Childhood Programs and Services	4
*CD 140 Early Childhood Development, 0-3 Years or	3
*CD 141 Early Childhood Development, 3-5 Years	3
**CD 238 Introduction to Administration of Child Care Programs	3
*CD 100 Directed Participation of Early Childhood Programs or	3
**CD 200 Application of Child Development Learning Theories	3
COM 131 Applied Composition and Speech or	3
ENG 101 Composition and Expository Reading	3
	16
SEMESTER II	
**CD 150 Nutrition, Health and Safety of the Young Child	3
**CD 239 Studies in Child Guidance	3
**CD 246 Advanced Administrative Practices for Child Care Facilities	3
*CD 100 Directed Participation of Early Childhood Programs or	3
**CD 200 Application of Child Development Learning Theories	3
COM 132 Applied Composition and Speech or	3
ENG 102 Composition and Literature	3
HD 106 Personal and Social Growth or ...	3
PSY 105 Introduction to Psychology	3
	18

Minimum Hours Required: 34

*CD 100 — must be taken concurrently as one (1) hour credit courses with CD 135, CD 140, and CD 141.

**CD 200 — must be taken concurrently as one (1) hour credit courses with CD 238, CD 150, CD 239, and CD 246.

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.

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	
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 812 Cooperative Work Experience or ..	2
CD 813 Cooperative Work Experience or ..	(3)
CD 814 Cooperative Work Experience	(4)
COM 131 Applied Composition and Speech or	3
ENG 101 Composition and Expository Reading	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
TPD 141 Beginning Sign Language	4

CHILD DEVELOPMENT — INFANT - TODDLER OPTION

Brookhaven and Eastfield only
(Certificate)

This one-year program provides for an in-depth study of the infant-toddler growth and development, programs, and services.

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	
*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
*CD 100 Directed Participation of Early Childhood Programs or	3
**CD 200 Application of Child Development Learning Theories	3
COM 131 Applied Composition and Speech or	3
ENG 101 Composition and Expository Reading	3
	16
SEMESTER II	
**CD 150 Nutrition, Health and Safety of the Young Child	3
*CD 125 Infant and Toddler Learning Environments, Activities and Materials ..	4
**CD 203 Parents and the Child Caregiver/Teacher	3
*CD 100 Directed Participation of Early Childhood Programs or	3
**CD 200 Application of Child Development Learning Theories	3
COM 132 Applied Composition and Speech or	3
ENG 102 Composition and Literature	3
HUM 101 Introduction to the Humanities	3
	19

Minimum Hours Required: 35

*CD 100 — must be taken concurrently as one (1) hour credit course with CD 135, CD 140, and CD 125.

**CD 200 — must be taken concurrently as one (1) hour credit course with CD 239, CD 150, and CD 203.

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.

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	
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 812 Cooperative Work Experience or ..	2
CD 813 Cooperative Work Experience or ..	(3)
CD 814 Cooperative Work Experience	(4)
COM 131 Applied Composition and Speech or	3
ENG 101 Composition and Expository Reading	3
†Elective	3-4
	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 238 Introduction to Administration of Child Care Programs	3
CD 246 Advanced Administration Practices for Child Care Facilities	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
TPD 141 Beginning Sign Language	4

COMMERCIAL MUSIC--ARRANGER/ COMPOSER/COPYIST

Cedar Valley only

(Associate Degree)

This program is designed to prepare the student majoring in arranging/composing/copying to demonstrate 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, etc. Knowledge of standard engraving techniques will make possible professional copying of the student's work and of other arrangers and composers. Experience is stressed through actual writing for campus organizations and composing of jingles and background music for all campus productions.

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

MUS 145	Music Theory I	3
MUS 161	Musicianship I	1
MUS 117	Piano Class I	1
MUS 192	Music in America	3
MUS 193	Improvisation	3
MUS 199	Recital	1
†Ensemble		1
‡Applied Music		1-2
		14-15

SEMESTER II

MUS 146	Music Theory II	3
MUS 162	Musicianship II	1
MUS 118	Piano Class II	1
MUS 194	Jazz Workshop	3
MUS 196	Business of Music	3
MUS 199	Recital	1
BUS 105	Introduction to Business	3
†Ensemble		1
‡Applied Music		1-2
		17-18

SUMMER SESSION

COM 131	Applied Composition and Speech	
or		3
ENG 101	Composition and Expository	
Reading		
COM 132	Applied Composition and Speech	
or		3
ENG 102	Composition and Literature	
		6

‡Applied music--courses to be selected from any music course numbered from MUS 121 through MUS 143 or MUS 221 through MUS 243.

Suggested Electives:

MUS 295	Advanced Synthesizer Techniques	2
BUS 234	Business Law	3
ECO 201	Principles of Economics I	3
MUS 110	Music Literature	3
MUS 111	Music Literature	3

SEMESTER III

MUS 190	Survey of Recording	2
MUS 191	Survey of Recording Laboratory	1
MUS 195	Introduction to Synthesizer	2
MUS 199	Recital	1
MUS 292	Arranging/Orchestration	3
MUS 293	Independent Study or	3
MUS 803	Cooperative Work Experience or	(3)
MUS 804	Cooperative Work Experience	(4)
†Ensemble		1
‡Applied Music		1-2
Elective		2-3
		16-19

SEMESTER IV

MUS 199	Recital	1
MUS 203	Composition	3
MUS 293	Independent Study or	3
MUS 813	Cooperative Work Experience or	(3)
MUS 814	Cooperative Work Experience	(4)
†Ensemble		1
‡Applied Music		1-2
Elective		2-4
		11-15

Minimum Hours Required: 63

†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

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. To include music skills necessary as well as knowledge of the business world, i.e., business law, salesmanship, small business management, culminating in work experience coordinated through local merchants who have expressed interest in this area.

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	
MUS 145 Music Theory I	3
MUS 161 Musicianship I	1
MUS 117 Piano Class I	1
MUS 192 Music in America	3
MUS 199 Recital	1
BUS 105 Introduction to Business	3
COM 131 Applied Composition and Speech or	3
ENG 101 Composition and Expository Reading	
†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
MKT 230 Salesmanship	3
COM 132 Applied Composition and Speech or	3
ENG 102 Composition and Literature	
MGT 153 Small Business Management	3
†Ensemble	1
‡Applied Music	1
	20

SEMESTER III	
MUS 190 Survey of Recording	2
MUS 191 Survey of Recording Laboratory	1
MUS 199 Recital	1
MUS 803 Cooperative Work Experience or	3
MUS 804 Cooperative Work Experience	(4)
BUS 234 Business Law	3
PSY 131 Human Relations	3
‡Applied Music	1
	14-15

SEMESTER IV	
MUS 195 Introduction of Synthesizer	2
MUS 199 Recital	1
MUS 813 Cooperative Work Experience or	3
MUS 814 Cooperative Work Experience	(4)
ACC 201 Principles of Accounting I	3
‡Applied Music	1-2
Elective	1
	11-13

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.

Electives--the following is a list of suggested electives:

ECO 201	Principles of Economics	3
SOC 204	American Minorities	3
SPE 105	Fundamentals of Public Speaking	3
	Foreign Language	6

COMMERCIAL MUSIC--MUSIC RETAILING

Cedar Valley only
(Certificate)

This program is designed to prepare the music major in retailing for the music industry job market. To include music skills necessary as well as knowledge of the business world, i.e., business law, salesmanship, small business management, culminating in work experience coordinated through local merchants who have expressed interest in this area.

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	
MUS 145 Music Theory I	3
MUS 161 Musicianship I	1
MUS 117 Piano Class I	1
MUS 192 Music in America	3
MUS 199 Recital	1
COM 131 Applied Composition and Speech or	3
ENG 101 Composition and Expository Reading	1
BUS 105 Introduction to Business	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
COM 132 Applied Composition and Speech or	3
ENG 102 Composition and Literature	3
MKT 137 Principles of Retailing	3
MGT 153 Small Business Management	3
MKT 230 Salesmanship	3
†Ensemble	1
‡Applied Music	1
	20
Minimum Hours Required:	37

†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.

COMMERCIAL MUSIC — RECORDING TECHNOLOGY

Cedar Valley only
(Certificate)

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; mixdown techniques; master tape production; studio techniques; troubleshooting; and session procedures. Emphasis is placed on the specific needs of the commercial musician in the field of recording.

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	
MUS 113 Fundamentals of MusicI	3
MUS 190 Survey of Recording	2
MUS 191 Survey of Recording Laboratory	1
MUS 192 Music in America	3
MUS 199 Recital	1
COM 131 Applied Composition and Speech	3
	13
SEMESTER II	
MUS 114 Fundamentals of MusicII	3
MUS 151 Voice Class I	1
MUS 196 Business of Music	3
MUS 197 Studio Technology	2
MUS 198 Studio Technology Laboratory	1
MUS 199 Recital	1
†Elective	3
	14
SUMMER SESSION	
MUS 296 Recording Studio Practices	3
MUS 297 Studio Production	3
	6
Minimum Hours Required:	33

†Elective — must be selected from any music course.

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, to include jazz, rock, pop, country/western, etc. This will cover performance practices, styles, solo and ensemble work, repertoire for small and large groups, culminating in actual performance situations in cooperation with local performing groups.

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	
MUS 145 Music Theory I	3
MUS 161 Musicianship I	1
MUS 117 Piano Class I	1
MUS 192 Music in America	3
MUS 193 Improvisation	3
MUS 199 Recital	1
†Ensemble	1
‡Applied Music	1-2
	14-15

SEMESTER II	
MUS 146 Music Theory II	3
MUS 162 Musicianship II	1
MUS 118 Piano Class II	1
MUS 194 Jazz Workshop	3
MUS 196 Business of Music	3
MUS 199 Recital	1
†Ensemble	1
‡Applied Music	1-3
	14-16

SUMMER SESSION

COM 131 Applied Composition and Speech or	3
ENG 101 Composition and Expository Reading	
COM 132 Applied Composition and Speech or	3
ENG 102 Composition and Literature	
	6

SEMESTER III	
MUS 190 Survey of Recording	2
MUS 191 Survey of Recording Laboratory ...	1
MUS 199 Recital	1
MUS 292 Arranging/Orchestration	3
MUS 293 Independent Study or	3
MUS 803 Cooperative Work Experience or ..	(3)
MUS 804 Cooperative Work Experience	(4)
†Ensemble	1
‡Applied Music	1-2
Elective	2-4
	14-18

SEMESTER IV	
MUS 199 Recital	1
MUS 813 Cooperative Work Experience or ..	3
MUS 814 Cooperative Work Experience	(4)
BUS 105 Introduction to Business	3
†Ensemble	1
‡Applied Music	1-2
Elective	2-5
	11-16

Minimum Hours Required: 60

†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.

Electives--the following is a list of suggested electives:

MUS 110	Music Literature	3
MUS 111	Music Literature	3
MUS 245	Music Theory III	3
MUS 271	Musicianship III	1
MUS 272	Musicianship IV	1
MUS 203	Composition	3
MUS 295	Advanced Synthesizer Techniques	2
	Social Science and/or Foreign Language	6

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; mixdown techniques; master tape production; studio techniques; troubleshooting; and session procedures. Emphasis is placed on the specific needs of the commercial musician in the field of recording.

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

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
†Ensemble		1
††Applied Music		1-2
		14-15

SEMESTER II

MUS 146	Music Theory II	3
MUS 162	Musicianship II	1
MUS 118	Piano Class II	1
MUS 151	Voice Class I	1
MUS 197	Studio Technology	2
MUS 198	Studio Technology Laboratory	1
MUS 199	Recital	1
COM 131	Applied Composition and Speech	3
or		
ENG 101	Composition and Expository Reading	1
†Ensemble		1
††Applied Music		1-2
		15-16

Suggested Electives:

MUS 245	Music Theory III	3
MUS 271	Musicianship III	1
MUS 246	Music Theory IV	3
MUS 272	Musicianship IV	1
MUS 203	Composition	3
MUS 292	Arranging/Orchestration	3
PHY 131	Applied Physics	4
SPE 105	Fundamentals of Public Speaking	3

SEMESTER III

MUS 195	Introduction to Synthesizer	2
MUS 199	Recital	1
MUS 293	Independent Study or	3
MUS 703	Cooperative Work Experience	(3)
MUS 296	Recording Studio Practices	3
COM 132	Applied Composition and Speech	3
or		
ENG 102	Composition and Literature	1
†Ensemble		1
††Applied Music		1-2
Elective		2
		16-17

SEMESTER IV

MUS 196	Business of Music	3
MUS 199	Recital	1
MUS 293	Independent Study or	3
MUS 803	Cooperative Work Experience	(3)
MUS 297	Studio Production	3
BUS 105	Introduction to Business	3
†Ensemble		1
††Applied Music		1-2
		15-16

Minimum Hours Required: 60

†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.

CONSTRUCTION MANAGEMENT AND TECHNOLOGY

Richland only

(Associate Degree)

This program prepares the student for employment as a technician in a wide range of construction industry applications. Course content is designed to provide meaningful experiences in the construction industry at the management and site coordination level.

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	
CMT 121 Construction Materials, Methods and Equipment I	3
CMT 123 Construction Graphics	3
CMT 132 Construction Industry	3
CMT 236 Building Codes and Safety	4
MTH 195 Technical Math	3
	<u>16</u>
SESSION II	
MTH 196 Technical Mathematics	3
CMT 122 Construction Materials, Methods and Equipment II	3
CMT 124 Electrical and Mechanical Equipment for Buildings	4
COM 131 Applied Composition and Speech, or	3
ENG 101 Composition and Expository Reading	3
HD 107 Leadership or	3
HD 105 Human Development or	
PSY 105 Introduction to Psychology	
	<u>16</u>
SEMESTER III	
CMT 231 Contracts and Specifications	3
CMT 136 Surveying and Measurements	4
CMT 138 Construction Management I	4
EGR 289 Mechanics of Structures	3
*Elective	3-4
	<u>17-18</u>
SEMESTER IV	
CMT 230 Quality Control and Cost Control ..	4
CMT 234 Estimating	4
CMT 237 Soils, Foundations, and Reinforced Concrete	4
CMT 238 Construction Management II	4
	<u>16</u>
Minimum Hours Required:	65

***Recommended Electives:**

ACC 131	Bookkeeping I	3
BUS 234	Business Law	3
COM 132	Applied Composition and Speech	3
PHY 131	Applied Physics	4
CMT 220	Advanced Surveying and Measurement	4

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.

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.

ADMISSION TO THE PROGRAM

Fulfill all requirements for admission to El Centro College.

	CREDIT HOURS
SEMESTER I	
CJ 130 Fundamentals of Criminal Law	3
CJ 140 Introduction to Criminal Justice ...	3
ENG 101 Composition and Expository Reading* or.....	3
COM 131 Applied Composition and Speech .	
HST 101 History of the United States	3
PSY 105 Introduction to Psychology	3
	15
SEMESTER II	
CJ 132 Courts and Criminal Procedure ...	3
CJ 139 Crime in America	3
ENG 102 Composition and Literature or	3
COM 132 Applied Composition and Speech .	
HST 102 History of the United States	3
SOC 101 Introduction to Sociology	3
	15
SUMMER SESSION	
†General Electives	6

SEMESTER III	
GVY 201 American Government	3
††Required Support Courses	6
†††Criminal Justice Electives	6
	15
SEMESTER IV	
PSY 205 Psychology of Personality or	3
HD 105 Basic Processes of Interpersonal Relationships or	
SOC 102 Social Problems	
††Required Support Course	3
†††Criminal Justice Elective	3
	9
Minimum Hours Required	60

†General Electives — any course may be chosen.

††Required Support Courses — must be chosen from the following:

CJ 240 Criminal Investigation	3
CJ 242 Legal Aspects of Law Enforcement	3
CJ 248 Police Systems and Practices	3
CJ 250 Correctional Systems and Practices	3
CJ 251 Community Resources in Corrections	3

†††Criminal Justice Electives — must be chosen from the following:

CJ 143 Practical Spanish for Public Service Personnel ..	3
CJ 144 Practical Spanish for Public Service Personnel ..	3
CJ 146 Patrol Administration	3
CJ 233 Introduction to Criminalistics	3
CJ 242 Juvenile Procedures	3
CJ 244 Traffic Planning and Administration	3
CJ 245 Traffic Law	3

COMPUTER INFORMATION SYSTEMS

Offered at all seven campuses

(Associate Degree)

This program is designed to prepare students with entry level skills in computer information systems. The curriculum includes many of the basic data processing courses as well as the basic requirements for four-year programs.

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

CS 175	Introduction to Computer Science	3
BUS 105	Introduction to Business	3
MGT 136	Principles of Management	3
MTH 111	Mathematics for Business and Economics I	3
*ENG 101	Composition and Expository Reading or	3
COM 131	Applied Composition and Speech	
		15

SEMESTER II

DP 133	COBOL Programming I	4
DP 138	Computer Program Logic and Design	3
††ACC 201	Principles of Accounting I	3
*ENG 102	Composition and Literature or	3
COM 132	Applied Composition and Speech	
MTH 112	Mathematics for Business and Economics II	3
		16



SEMESTER III

DP 136	COBOL Programming II	4
DP 142	RPG Programming or	3
DP 144	BASIC Programming or	
DP 145	PASCAL Programming for Business	
ACC 202	Principles of Accounting II	3
ECO 201	Principles of Economics I	3
†Elective		3
		16

SEMESTER IV

DP 231	Assembly Language I	4
BUS 234	Business Law	3
ECO 202	Principles of Economics II	3
	Any DP/CS or Accounting course	3
†Elective		3
		16

Minimum Hours Required: 63

†Electives — must be selected from the following:

Any DP or CS course (including DP 700-800 Cooperative Work Experience).		
BUS 237	Organizational Behavior	3
CS 249	Contemporary Topics in Computer Science	1
ENG 210	Technical Writing	3
MKT 206	Principles of Marketing	3
MTH 202	Introductory Statistics	3

Other 200 level accounting courses.

NOTE: Students may obtain credit toward a degree for only one of each of the pairs of courses listed below:

DP 133 or CS 184
DP 231 or CS 186
DP 144 or CS 182
CS 175 or CS 174
DP 145 or CS 185

*ENG 101 and ENG 102 may be substituted for COM 131 and COM 132 provided that SPE 105 is taken.

††ACC 131 and ACC 132 may be substituted for ACC 201. Both courses must be taken for equivalent credit to ACC 201.

DATA PROCESSING PROGRAMMER

Offered at all seven campuses

(Associate Degree)

This curriculum is intended for the preparation of entry level or trainee computer programmers who will work in an applications setting to support the general, administrative and organizational information processing function of industry, commerce, business and government service. It is designed as a two-year career program to prepare students for jobs. Graduates should be able to work in conjunction with a systems analyst in the programming environment usually found in a medium to large job shop. It is intended to provide a sufficient foundation, so that the graduate with experience and continued learning may advance in career paths appropriate to their own particular interests and abilities.

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

CS 175	Introduction to Computer Science	3
DP 137	Data Processing Mathematics or any Business Math*	3
BUS 105	Introduction to Business or	3
MGT 136	Principles of Management	
**COM 131	Applied Composition and Speech or	3
ENG 101	Composition and Expository Reading	
PSY 131	Human Relations or	3
HD 105	Interpersonal Relationships or	
HD 107	Developing Leadership Behavior	
		15

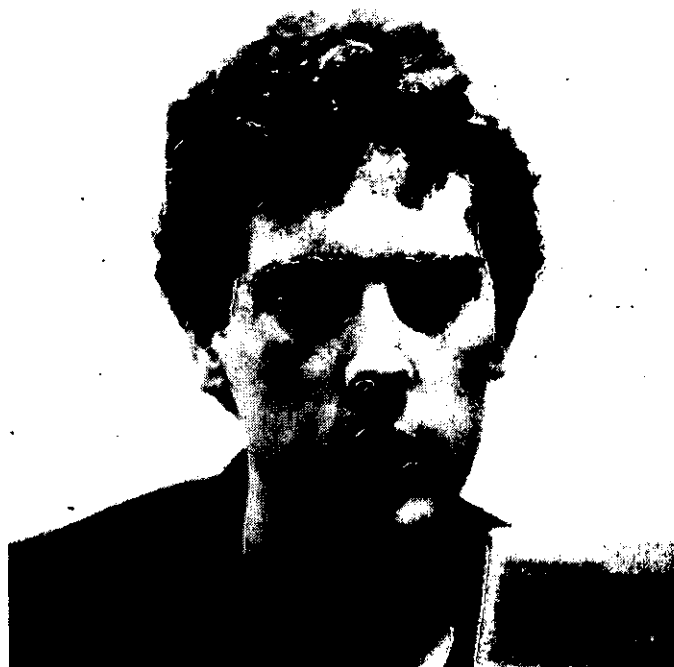
SEMESTER II

DP 120	Data Communications	3
DP 133	COBOL Programming I	4
DP 138	Computer Program Logic and Design	3
††ACC 201	Principles of Accounting I	3
**COM 132	Applied Composition and Speech or	3
ENG 102	Composition and Literature	
		16

**ENG 101 and ENG 102 may be substituted for COM 131 and COM 132 provided that SPE 105 is also taken.

NOTE: Students may obtain credit toward a degree for only one of each of the pairs of courses listed below:

DP 133 or CS 184
DP 231 or CS 186
DP 144 or CS 182
CS 175 or CS 174
DP 145 or CS 185



SEMESTER III

DP 136	COBOL Programming II	4
DP 142	RPG Programming or	3
DP 144	BASIC Programming or	
DP 145	PASCAL Programming for Business	
DP 233	Operating Systems and Communications	4
ACC 202	Principles of Accounting II	3
†Elective		3-4
		17-18

SEMESTER IV

DP 231	Assembly Language I	4
DP 232	Applied Systems	4
DP 236	Advanced COBOL Techniques or	4
DP 246	Data Base Systems	
Any approved DP or CS course		3-4
		15-16

Minimum Hours Required: 63

†Electives--must be selected from the following:

Any DP or CS course (including DP 700-800 Cooperative Work Experience.		
BUS 234	Business Law	3
BUS 237	Organizational Behavior	3
CS 249	Contemporary Topics in Computer Science	1
ECO 201	Principles of Economics I	3
ECO 202	Principles of Economics II	3
ENG 210	Technical Writing	3
MGT 136	Principles of Management	3
MGT 206	Principles of Marketing	3
MTH 202	Introductory Statistics	3

Any 200 level Accounting course.

*MTH 111, MTH 112, MTH 130 or an equivalent business math course

††ACC 131 and ACC 132 may be substituted for ACC 201. Both courses must be taken for equivalent credit to ACC 201.

SMALL COMPUTER SYSTEMS SPECIALIST

El Centro only

(Associate Degree)

With the tremendous growth of small computers, an increased need for one who can function in a programmer/analyst/operator position within a small shop exists. This curriculum is intended to prepare students for such employment. 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.

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.

ADMISSION TO THE PROGRAM

Fulfill all requirements for admission to El Centro College.
CREDIT
HOURS

SEMESTER I

CS 175	Introduction to Computer Science	3
DP 137	Data Processing Math or any Business Math*	3
DP 139	Operations Technician	3
COM 131	Applied Composition and Speech or	3
ENG 101	Applied Composition and Expository Reading	3
†ACC 201	Principles of Accounting I	3
		15

SEMESTER II

DP 140	Operations-Console	4
DP 243	Computer Center Management	3
COM 132	Applied Composition and Speech or	3
ENG 102	Composition and Literature	3
DP 120	Data Communications	3
Elective		3-4
		16-17



SEMESTER III

DP 133	COBAL Programming I	4
BUS 105	Introduction to Business	3
DP 233	Operating Systems and Communications	4
DP 138	Computer Program Logic and Design	3
		14

SEMESTER IV

DP 232	Applied Systems	4
DP 136	COBOL Programming II or Elective	3-4
MGT 136	Principles of Management	3
DP 246	Data Base Systems	4
DP 142	RPG Programming or	3
DP 144	BASIC Programming or	
DP 145	PASCAL Programming for Business	
		17-18

Minimum Hours Required: 62

*MTH 111, MTH 112, MTH 130 or an equivalent business mathematics course.

Electives — must be chosen from the following:

Any DP or CS course (including DP 700-800 Cooperative Work Experience).

MKT 206	Principles of Marketing	3
BUS 234	Business Law	3
BUS 237	Organizational Behavior	3
ECO 201	Principles of Economics I	3
ECO 202	Principles of Economics II	3
ENG 210	Technical Writing	3
	Other 200 level accounting courses	

NOTE: Students may obtain credit toward a degree for only one of each of the pairs of courses listed below:

DP 133 or CS 184

DP 231 or CS 186

DP 144 or CS 182

CS 175 or CS 174

†ACC 131 and ACC 132 may be substituted for ACC 201. Both courses must be taken for equivalent credit to ACC 201.

COMPUTER OPERATIONS TECHNICIAN

El Centro only
(Certificate)

This one-year certificate program is designed to develop skills and knowledge to meet the demands of computer operations in any 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, junior computer operator or console computer operator.

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	
CS 175 Introduction to Computer Science	3
DP 139 Operations Technician	3
DP 137 Data Processing Math or any Business Math*	3
COM 131 Applied Composition and Speech or	3
ENG 101 Composition and Expository Reading	3
††ACC 201 Principles of Accounting I	3
	15
SEMESTER II	
DP 140 Operations-Console	4
DP 243 Computer Center Management	3
COM 132 Applied Composition and Speech or	3
ENG 102 Composition and Literature	3
DP 120 Data Communications	3
Elective	3-4
	16-17

Minimum Hours Required: 31

*MTH 111, MTH 112, MTH 130 or an equivalent business mathematics course.

NOTE: Students may obtain credit toward a certificate for only one of each of the pairs of courses listed below:

DP 133 or CS 184
DP 231 or CS 185
DP 144 or CS 182
CS 175 or CS 174
DP 145 or CS 185

††ACC 131 and ACC 132 may be substituted for ACC 201. Both courses must be taken for equivalent credit to ACC 201.

KEY ENTRY/DATA CONTROL OPERATOR

El Centro only
(Certificate)

The primary objective of this curriculum is to produce well-prepared data entry device operators for entry level positions in local area industries. A secondary objective of this curriculum is to provide data entry operators with sufficient background to enable them, with further on-the-job training, to progress into other positions such as data entry supervisor, data control clerk, data control supervisor, tape/disk librarian, computer operator, documentation specialist or possibly programmer.

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.

ADMISSION TO THE PROGRAM

Fulfill all requirements for admission to El Centro College.

	CREDIT HOURS
SEMESTER I	
CS 175 Introduction to Computer Science	3
DP 129 Data Entry Concepts	4
BUS 105 Introduction to Business	3
††ACC 201 Principles of Accounting I	3
COM 131 Applied Composition and Speech or	3
ENG 101 Composition and Expository Reading	3
	16
SEMESTER II	
DP 137 Data Processing Math or any Business Math*	3
DP 139 Operations Technician	3
OFC 160 Office Calculating Machines	3
OFC 162 Office Procedures	3
DP or CS Elective	3-4
	15-16

Minimum Hours Required: 31

*MTH 111, MTH 112, MTH 130 or an equivalent business math course.

NOTE: Students may obtain credit toward a certificate for only one of each of the pairs of courses listed below:

DP 133 or CS 184
DP 231 or CS 186
DP 144 or CS 182
CS 175 or CS 174
DP 145 or CS 185

††ACC 131 and ACC 132 may be substituted for ACC 201. Both courses must be taken for equivalent credit to ACC 201.

DIESEL MECHANICS

North Lake only

(Associate Degree)

This program is designed to prepare the student for entry level employment in the diesel mechanics industry. The student will develop the skills and knowledge necessary for the maintenance, repair and rebuilding of various diesel engines and diesel powered equipment.

Some diesel mechanics courses are completely individualized. This allows students to progress at their own pace in order to fully comprehend theory and develop the necessary skills. The individualized, self-paced instruction also allows the student to take a portion of a course (module) without taking the complete course if some specific knowledge or skill is desired. Credit for prior experience or training may be given by placement testing arranged through the instructor. Students may elect to receive a certificate or may apply the certificate courses required in this program toward an Associate in Applied Arts and Sciences Degree.

Courses required for an Associate in Applied Arts and Sciences Degree with a major in Diesel Mechanics are listed below. The courses may be taken in any order providing the prerequisites have been met.

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	
DME 104 Caterpillar Diesel Engine	5
DME 125 Automatic Transmissions	2
DME 127 Shop Practices	2
BPR 177 Blueprint Reading or	2
BUS 105 Introduction to Business or	(3)
ACC 131 Bookkeeping I or	(3)
COM 132 Applied Composition and Speech	(3)
MTH 195 Technical Mathematics	3
† Elective	3
	17-18

SEMESTER II	
DME 105 Cummins Diesel Engine	5
DME 123 Air Brake Systems	2
DME 124 Differentials and Drive Lines	2
DME 128 Standard Transmissions and Heavy Duty Clutches	3
DME 141 Caterpillar Engine Tune-Up and Fuel Systems	2
COM 131 Applied Composition and Speech	3
	17

SEMESTER III	
DME 106 Detroit Diesel Engine	5
DME 142 Cummins Engine Tune-Up and Fuel Systems	2
DME 143 Detroit Diesel Engine Tune-Up and Fuel Systems	2
PHY 131 Applied Physics	4
† Elective	3
	16

SEMESTER IV	
DME 126 Heavy Truck Air Conditioning	2
DME 137 Fundamentals of Oxygen/Acetylene and Arc Welding	3
DME 147 Heavy Truck Electrical System	3
DME 148 Diesel Engine Air Induction Cooling and Lubricating System	2
DME 703 Cooperative Work Experience	3
SS 131 American Civilization	3
	16

Minimum Hours Required: 66

†Electives — must be selected from the following:

ACC 131	Bookkeeping I	3
BPR 177	Blueprint Reading	2
BUS 105	Introduction to Business	3
COM 132	Applied Composition and Speech	3
DME 704	Cooperative Work Experience	4
MGT 136	Principles of Management	3
MGT 153	Small Business Management	3
PSY 131	Human Relations	3

DIESEL MECHANICS

North Lake only

(Certificate)

Completion of the following courses qualifies a student for a certificate in diesel mechanics. The courses may be taken in any order desired after consultation with the instructor.

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

DME 104	Caterpillar Diesel Engine	5
DME 123	Air Brake Systems	2
DME 127	Shop Practices	2
MTH 195	Technical Mathematics	3
		12

SEMESTER II

DME 105	Cummins Diesel Engine	5
DME 124	Differentials and Drive Lines	2
DME 128	Standard Transmissions and Heavy Duty Clutches	3
DME 141	Caterpillar Engine Tune-Up and Fuel Systems	2
		12

SEMESTER III

DME 106	Detroit Diesel Engine	5
DME 142	Cummins Engine Tune-Up and Fuel Systems	2
DME 143	Detroit Diesel Engine Tune-Up and Fuel Systems	2
DME 147	Heavy Truck Electrical Systems ...	3
		12

SEMESTER IV

DME 125	Automatic Transmissions	2
DME 126	Heavy Duty Truck Air Conditioning ..	2
DME 137	Fundamentals of Oxygen/Acetylene and Arc Welding	3
DME 148	Diesel Engine Air Induction Cooling and Lubrication Systems	2
DME 703	Cooperative Work Experience	3
		12

Minimum Hours Required: 48



DIGITAL ELECTRONICS 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.

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	
ET 190 D.C. Circuits and Electrical Measurements	4
COM 131 Applied Composition and Speech or	3
ENG 101 Composition and Expository Reading	3
MTH 195 Technical Mathematics*	3
†Elective(s)	3-4
Elective	3
	<u>16-17</u>

SEMESTER II	
ET 191 A.C. Circuits	4
ET 192 Digital Computer Principles	3
ET 193 Active Devices	4
COM 132 Applied Composition and Speech or	3
ENG 102 Composition and Literature	3
MTH 196 Technical Mathematics*	3
	<u>17</u>



SEMESTER III	
ET 260 Sinusoidal Circuits	4
ET 266 Computer Applications	4
ET 263 Digital Computer Theory	4
†Elective(s)	3-4
	<u>15-16</u>

SEMESTER IV	
ET 264 Digital Systems	4
ET 265 Digital Research	3
ET 238 Linear Integrated Circuits	4
ET 267 Microprocessors	4
	<u>15</u>

Minimum Hours Required: 63

†Electives--must be selected from the following:

ET 135	DC-AC Theory and Circuit Analysis	6
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	Advanced Microprocessors	4
ET 703	Cooperative Work Experience	3
ET 704	Cooperative Work Experience	4
ET 803	Cooperative Work Experience	3
ET 804	Cooperative Work Experience	4
CHM 101	General Chemistry	4
CS 174	Fundamentals of Computing	3
CS 175	Introduction to Computer Science	3
CS 182	Introduction to Basic Programming	3
DFT 132	Technician Drafting	2
DFT 231	Electronic Drafting	3
DFT 240	Printed Circuit Design	3
DFT 243	Advanced Printed Circuit Design	3
DFT 245	Computer Aided Design	3
EGR 101	Engineering Analysis	2
EGR 105	Engineering Design	3
EGR 204	Electrical Systems Analysis	3
OFC 172	Beginning Typing	3
PHY 111	Introductory General Physics	4

*MTH 101 and MTH 104 may be substituted for MTH 195. MTH 105, MTH 121, MTH 124, MTH 225, MTH 226 may be substituted for either MTH 195 or MTH 196.

DRAFTING AND DESIGN TECHNOLOGY

Eastfield and Mountain View only
(Associate Degree)

This program prepares the student for employment in a wide range of industries as a drafter or engineering aide. Information in related fields is provided to enable the student to work effectively with the engineer and professional staff. Enrollment in drafting cooperative work experience courses (Co-op) provides on-the-job experience while in the program.

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

DFT 183	Basic Drafting	4
DFT 135	Reproduction Processes	2
COM 131	Applied Composition and Speech or	3
ENG 101	Composition and Expository Reading	3
MTH 195	Technical Mathematics or	3
MTH 101	College Algebra	3
†Technical Elective	.....	3
		15

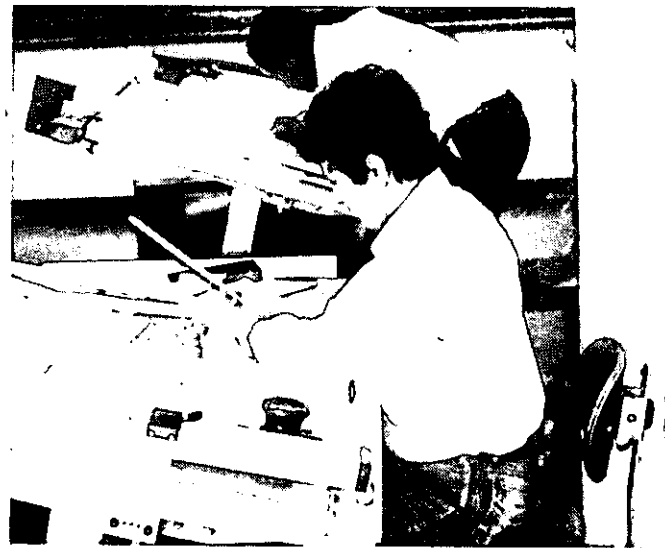
SEMESTER II

DFT 160	Manufacturing Fundamentals	2
COM 132	Applied Composition and Speech or	3
ENG 102	Composition and Literature	3
MTH 196	Technical Mathematics or	3
MTH 102	Plane Trigonometry	3
*Drafting Course	.....	3
*Drafting Course or	.....	3-4
† Co-op	.....	3
		14-15

**ENG 101 and ENG 102 may be substituted for COM 131 and COM 132 provided that SPE 105 is also taken.

NOTE: Students may obtain credit toward a degree for only one of each of the pairs of courses listed below:

DP 133 or CS 184,
DP 231 or CS 186
DP 144 or CS 182
DP 175 or CS 174
DP 145 or CS 185



SEMESTER III

EGR 106	Descriptive Geometry	3
GOV 201	American Government or	3
HST 101	History of the United States	3
HD 105	Basic Processes of Interpersonal Relationships or	3
PSY 131	Human Relations	3
* Drafting Course	.....	3
‡Technical Elective or	.....	3
Co-op	.....	3
		15

SEMESTER IV

PHY 131	Applied Physics	4
GOV 202	American Government or	3
HST 102	History of the United States	3
* Drafting Course	.....	3
* Drafting Course or	.....	3-4
† Co-op	.....	3
‡Technical Elective	.....	3
		16-17

Minimum Hours Required: 60

*Drafting courses to be selected from the following:

DFT 136	Geological and Land Drafting	3
DFT 184	Intermediate Drafting	3
DFT 185	Architectural Drafting	4
DFT 230	Structural Drafting	3
DFT 231	Electronic Drafting	3
DFT 232	Technical Illustration	3
DFT 234	Advanced Technical Illustration	4
DFT 235	Building Equipment (Mechanical and Electrical) ...	3
DFT 236	Piping and Pressure Vessel Design	3
DFT 245	Computer Aided Design	3
DFT 246	Advanced CAD-Electronic	3
DFT 248	Advanced CAD-Mechanical	3
DFT 249	Advanced CAD-Architectural	3
DFT 250	Sheet Metal Design	3
DFT 251	Industrial Design	3
DFT 255	Selected Topics in Drafting	3

†Drafting Co-op courses to be selected from the following:

DFT 703	Cooperative Work Experience	3
DFT 713	Cooperative Work Experience	3
DFT 803	Cooperative Work Experience	3
DFT 813	Cooperative Work Experience	3
DFT 704	Cooperative Work Experience	4
DFT 714	Cooperative Work Experience	4
DFT 804	Cooperative Work Experience	4
DFT 814	Cooperative Work Experience	4

‡Technical electives may be selected from drafting, applied science or engineering technologies as approved by the Drafting Department.

DRAFTING AND DESIGN TECHNOLOGY — ELECTRONIC DESIGN OPTION

Eastfield only

(Associate Degree)

This program prepares the student for employment in a wide range of electronic industries as a drafter or engineering aide. Information in related fields is provided to enable the student to work effectively with the engineer and professional staff. Cooperative work experience can be a learning activity within the program.

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	
DFT 183 Basic Drafting	4
COM 131 Applied Composition and Speech or	3
ENG 101 Composition and Expository Reading	3
MTH 195 Technical Mathematics or	3
MTH 101 College Algebra	3
ET 190 D.C. Circuits and Electrical Measurements	4
DFT 160 Manufacturing Fundamentals	2
	16
SEMESTER II	
DFT 231 Electronic Drafting	3
DFT 240 Printed Circuit Design	3
COM 132 Applied Composition and Speech or	3
ENG 102 Composition and Literature	3
MTH 196 Technical Mathematics or	3
MTH 102 Plane Trigonometry	3
PSY 131 Human Relations or	3
DFT 703- 713 Cooperative Work Experience or ..	
DFT 803- 813 Cooperative Work Experience	
	15

SEMESTER III	
DFT 241 Integrated Circuit Design	3
DFT 135 Reproduction Processes	2
DFT 245 Computer Aided Design	3
ET 192 Digital Computer Principles or	3
ET 250 Principles of Electronic Integrated Circuits	
DFT 243 Advanced Printed Circuit Design ..	
‡Technical Elective	3
	14

SEMESTER IV	
Drafting Course*	3
Drafting Course*	3
DFT 246 Advanced Computer Aided Design ..	3
‡Technical Elective	3
Elective	3
	15

Minimum Hours Required: 60

*Drafting courses may be selected from the following:

DFT 232 Technical Illustration	3
DFT 242 Advanced Integrated Circuit Design	3
DFT 247 Applied Printed Circuit Design	3
DFT 249 Advanced CAD - Architectural	3
DFT 250 Sheet Metal Design	3
DFT 255 Selected Topics in Drafting	3
DFT 703 Cooperative Work Experience	3
DFT 704 Cooperative Work Experience	4
DFT 713 Cooperative Work Experience	3
DFT 714 Cooperative Work Experience	4
DFT 803 Cooperative Work Experience	3
DFT 804 Cooperative Work Experience	4
DFT 813 Cooperative Work Experience	3
DFT 814 Cooperative Work Experience	4
EGR 106 Descriptive Geometry	3

‡Technical elective may be selected from applied sciences or engineering technologies as approved by the drafting department. Suggested are ET 191 or CS 174 (not more than a total of 12 credit hours to be selected from DFT 703, 704, 713, 714, 803, 804, 813, 814).

EDUCATIONAL PARAPROFESSIONAL

Richland only

(Associate Degree)

This program is designed to prepare educational paraprofessionals in a wide range of competencies needed for effective roles in public and non-public schools. A student can take courses required for the one-year Educational Assistant Certificate and continue in the program to receive the two-year Educational Associate Degree or may work directly toward the associate degree.

Education paraprofessionals 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.

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

EP 131	Introduction to Educational Processes I	3
EP 135	Arts and Crafts	3
† Technical Electives	.....	9
		<u>15</u>

SEMESTER II

EP 129	Communication Skills for Educational Paraprofessionals	3
EP 133	Introduction to Educational Processes II	3
EP 134	Introduction to Media	3
† Technical Electives	.....	6
		<u>15</u>

SEMESTER III

EP 249	The Exceptional Child	3
EP 804	Cooperative Work Experience	4
† Technical Electives	.....	8-9
		<u>15-16</u>

SEMESTER IV

EP 814	Cooperative Work Experience	4
† Technical Electives	.....	11-12
		<u>15-16</u>

Minimum Hours Required: 60

† Technical Electives — must be selected from the following:
Communications (twelve hours to be chosen from the following):

COM 131	Applied Composition and Speech	3
COM 132	Applied Composition and Speech	3
ENG 101	Composition and Expository Reading	3
ENG 102	Composition and Literature	3
ENG (200 level)	-any two courses at the sophomore level	3

Additional courses must be selected from the following:

EP 245	Diversified Studies	1
EP 246	Diversified Studies	2
EP 247	Diversified Studies	3
HD 104	Educational and Career Planning	3
HD 105	Basic Processes of Interpersonal Relations	3
DM 090	Pre Algebra Mathematics	3
MTH 117	Fundamental Concepts of Mathematics for Elementary Teachers or mathematics elective	3
LS 101	Introduction to Library Research	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 105	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
SPE 105	Fundamentals of Public Speaking	3
TPD 141	Beginning Sign Language	4
TPD 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.

EDUCATIONAL ASSISTANT

Richland only

(Certificate)

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	
EP 131 Introduction to Educational Processes I	3
EP 135 Arts and Crafts	3
† Technical Electives	9
	<u>15</u>

SEMESTER II	
EP 129 Communication Skills for Educational Paraprofessionals	3
EP 134 Introduction to Media	3
EP 249 The Exceptional Child	3
† Technical Electives	6
	<u>15</u>

Minimum Hours Required: 30

† Technical Electives — must be selected from the following:

Developmental Reading and/or Writing	
COM 131 Applied Composition and Speech	3
COM 132 Applied Composition and Speech	3
ENG 101 Composition and Expository Reading	3
ENG 102 Composition and Literature	3
ENG (200 level)	
EP 133 Introduction to Educational Processes II	3
EP 245 Diversified Studies	1
EP 246 Diversified Studies	2
EP 247 Diversified Studies	3
EP 804 Cooperative Work Experience	4
EP 814 Cooperative Work Experience	4
HD 104 Educational and Career Planning	3
HD 105 Basic Processes of Interpersonal Relations	3
HD 107 Developing Leadership Behavior	3
DM 090 Pre Algebra Mathematics	3
MTH 117 Fundamental Concepts of Mathematics For Elementary Teachers or mathematics elective	3
LS 101 Introduction to Library Research	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 105 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
SPE 105 Fundamentals of Public Speaking	3
TPD 141 Beginning Sign Language	4
TPD 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

(Certificate)

The Electrical Technology Program prepares the student for outstanding career opportunities by developing the technical knowledge and practical skills necessary to enter or advance in the electrical career field.

Completion of all the 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.

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	
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	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 Composition and Speech	3
	<u>15</u>
Minimum Hours Required:	30

ELECTRICAL TECHNOLOGY

North Lake only

(Associate Degree)

Students wishing to earn an Associate in Applied Arts and Sciences Degree with a major in electrical technology must complete all of the courses below.

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	
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	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 Composition and Speech	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)
CS 175 Introduction to Computer Science	3
	<u>17-18</u>
SEMESTER IV	
ELE 215 Electrical Motor Fundamentals	3
ELE 216 Motor Controls	3
ELE 217 Solid State Controls	2
ELE 218 Electrical Design	3
PSY 131 Human Relations	3
ELE 803 Cooperative Work Experience or	3
ELE 804 Cooperative Work Experience or	(4)
Elective	(3)
	<u>17-18</u>
Minimum Hours Required:	64

ELECTRONICS TECHNOLOGY

Mountain View and North Lake only

(Associate Degree)

This two year program will prepare 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.

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

ET 190	DC Circuits and Electrical Measurements or	4
ET 135	DC-AC Theory and Circuit Analysis	(6)
*COM 131	Applied Composition and Speech or	3
ENG 101	Composition and Expository Reading	3
HST 101	History of the United States or	3
GVT 201	American Government	
DFT 182	Technical Drafting or	2
DFT 183	Basic Drafting or	(4)
DFT 231	Electronic Drafting	(3)
Any Technical or College Level Mathematics		3
		15-19

SEMESTER II

ET 191	AC Circuits (Unless ET 135 Completed)	(4)
ET 193	Active Devices	4
ET 194	Instrumentation	3
*COM 132	Applied Composition and Speech or	3
ENG 102	Composition and Literature	
Any Technical or College Level Mathematics		3
		13-17

SEMESTER III

ET 231	Special Circuits with Communications Applications	4
ET 232	Analysis of Electronics Logic and Switching Circuits	4
ET 238	Linear Integrated Circuits or	4
ET 803	Cooperative Work Experience	(3)
ET 240	Electronic Theory and Application of Digital Computers	4
Applied Physics or College Level Physics		4
		19-20

SEMESTER IV

ET 234	Electronic Circuits & Systems	3
ET 237	Modular Memories & Microprocessors	4
ET 239	Microwave Theory	3
HST 102	History of the United States or	3
GVT 202	American Government or	
ET 210	Basic CRT Display	
†Elective		3
		16-17

Minimum Hours Required: 63

†Electives — must be selected from the following:

HD 104	Educational or Career Planning	3
HD 105	Basic Processes of Interpersonal Relationships ..	3
PSY 105	Introduction to Psychology	3
PSY 131	Human Relations	3

*ENG 101 and ENG 102 may be substituted for COM 131 and COM 132 provided that SPE 105 is also taken.

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.

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

ET 135	DC-AC Theory and Circuit Analysis or	6
ET 190	DC Circuits and Electrical Measurements	(4)
AV 129	Introduction to Aircraft Electrical Systems	3
COM 131	Applied Composition and Speech or	
ENG 101	Composition and Expository Reading	3
Any Technical or College Level Mathematics		3
		13-15

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
COM 132	Applied Composition and Speech or	
ENG 102	Composition and Literature	3
Any Technical or College Level Mathematics		3
Applied Physics or College Level Physics		4
		18-22

SEMESTER III

ET 231	Special Circuits with Communications Applications	4
ET 232	Analysis of Electronic Logic and Switching Circuits	4
ET 238	Linear Integrated Circuits or	
ET 803	Cooperative Work Experience	3-4
ET 240	Electronic Theory and Application of Digital Computers	4
†Elective	.....	3
		19

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 or ...	
ET 813	Cooperative Work Experience	3
		14

Minimum Hours Required: 66

ELECTRONICS TELECOMMUNICATIONS OPTION

Eastfield, Mountain View and North Lake only

(Associate Degree)

This program is designed to prepare a graduate to work as a hardware technician in the field of telecommunications. The student will be trained to test, interface, troubleshoot, and repair equipment for the telecommunications industry. The student will learn schematic interpretation, test equipment usage and technical communications.

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	
ET 101 Introduction to Telecommunications	4
ET 190 DC Circuits and Electrical Measurements	4
MTH 195 Technical Mathematics†	3
ENG 101 Composition and Expository Reading	3
PSY 105 Introduction to Psychology or	3
PSY 131 Human Relations	
	17
SEMESTER II	
ET 191 AC Circuits	4
ET 192 Digital Computer Principles	3
ET 193 Active Devices	4
ENG 102 Composition and Literature	3
MTH 196 Technical Mathematics†	3
	17
SEMESTER III	
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
	16
SEMESTER IV	
ET 294 High Frequency Transmission Systems	4
ET 295 Telecommunication Signaling	4
ET 296 System Installation and Testing ...	6
*HD 102 Special Topics in Human Development	2
*OFC 176 Beginning Typing I	1
	17
Minimum Hours Required:	67

†MTH 101 or MTH 102 or equivalent may be substituted for Technical Mathematics. This is particularly advisable for students pursuing a four-year degree. For further clarification, see an electronics instructor.

*Students may request alternate courses within guidelines. For further clarification, see an electronics instructor.

ENGINEERING TECHNOLOGY

Brookhaven, Mountain View and Richland only

(Associate Degree)

The Engineering Technology Program provides the student with a broad educational background in several technical areas. During the first year a basic "core curriculum" is followed by all students. In the second year the student will specialize in one of the following areas: electric power, electro-mechanical, fluid power, or quality control. Also during the second year, the student may choose to participate in a cooperative educational program where college credit may be earned for related work experience.

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	
ET 190 DC Circuits and Electrical Measurements	4
QCT 121 Introduction to Quality Control	2
EGT 141 Basic Hydraulics and Fluid Mechanics	4
MTH 195 Technical Math	3
EGR 186 Manufacturing Processes	2
DFT 182 Technician Drafting or	2
DFT 183 Basic Drafting	(4)
	17-19

SEMESTER II	
ET 191 AC Circuits	4
EGT 142 Instrumentation and Testing	3
MTH 196 Technical Mathematics	3
ET 193 Active Devices	4
EGT 143 Technical Programming	4
	18

SEMESTER III	
COM 131 Applied Composition and Speech or	3
ENG 101 Composition and Expository Reading	
* EMT 232 Applied Mechanics	4
QCT 122 Dimensional Measurement	3
* EMT 242 Digital Control Circuits	4
† Technical elective	2-4
	16-18

SEMESTER IV	
PHY 131 Technical Physics	4
* QCT 220 Physical and Environmental Testing	3
* EMT 228 Amplifiers and Control Circuits	4
* FLP 222 Fundamentals of Pneumatics	3
EGT 804 Cooperative Work Experience or	2-4
‡ Technical elective	
	16-18

Minimum Hours Required: 67

‡ Technical elective — must be selected from the following:

EGT 243 Robotics I	3
EGT 247 Robotics II	3
EMT 237 Electromagnetic and Digital Machine Control	3
ELP 244 Advanced Electric Power Systems	4
EMT 239 Principles of Microcomputer Controls	4
FLP 225 Advanced Fluid Power Systems	4
EGR 187 Manufacturing Processes	2
QCT 227 Non-Destructive Testing	3
QCT 236 Advanced Quality Control Systems	4
EMT 233 Electrical Machinery	3

*A student may take Cooperative Work Experience (EGT-803, 804, 813 or 814) in lieu of a second year course not in a major (excluding applied physics and applied composition and speech). Prior division approval is required for substitution.

ENGINEERING TECHNOLOGY- ELECTRIC POWER CERTIFICATE

Brookhaven, Mountain View and Richland only
(Certificate)

A one-year program providing the student with skill and development opportunities in the electric power industry. All of the courses required for the one-year certificate are applicable to the Engineering Technology Associate Degree.

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	
ET 190 DC Circuits and Measurements ...	4
MTH 195 Technical Mathematics	3
EGR 186 Manufacturing Processes	2
DFT 182 Technician Drafting	2
EMT 233 Electrical Machinery	3
	<u>14</u>
SEMESTER II	
ET 191 AC Circuits	4
EGT 142 Instrumentation and Testing	3
EGT 243 Robotics I	3
ELP 244 Advanced Electric Power Systems ..	4
EMT 237 Electromagnetic and Digital Machine Control	3
	<u>17</u>
Minimum Hours Required:	31

ENGINEERING TECHNOLOGY ELECTRO-MECHANICAL CERTIFICATE

Brookhaven, Mountain View and Richland only
(Certificate)

This one-year program develops the basic skills necessary for entry level positions in electronics and mechanical technician positions.

All courses required for the certificate are applicable to the Electro-Mechanical option.

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	
ET 190 DC Circuits and Measurements ...	4
EGR 186 Manufacturing Processes	2
EGT 141 Basic Hydraulics and Fluid Mechanics	4
MTH 195 Technical Math	3
EMT 232 Applied Mechanics	4
	<u>17</u>
SEMESTER II	
DFT 182 Technician Drafting	2
ET 191 AC Circuits	4
EGT 142 Instrumentation and Testing	3
ET 193 Active Devices	4
EMT 237 Electromagnetic and Digital Machine Control	3
MTH 196 Technical Mathematics	3
	<u>19</u>
Minimum Hours Required:	36

ENGINEERING TECHNOLOGY — FLUID POWER CERTIFICATE

Brookhaven, Mountain View and Richland only
(Certificate)

A one-year program providing the student with skill and development opportunities in the field of hydraulics and pneumatics. All of the courses required for the one-year certificate are applicable to the Engineering Technology Associate Degree.

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	
EGT 141 Basic Hydraulics and Fluid Mechanics	4
ET 190 DC Circuits and Measurements ...	4
MTH 195 Technical Mathematics	3
DFT 182 Technician Drafting	2
EGR 186 Manufacturing Processes	2
	<u>15</u>

SEMESTER II	
FLP 222 Fundamentals of Pneumatics	3
FLP 225 Advanced Fluid Power Systems ...	4
EGT 142 Instrumentation and Testing	3
EGT 243 Robotics I	3
MTH 196 Technical Mathematics	3
	<u>16</u>

Minimum Hours Required: 31

ENGINEERING TECHNOLOGY- QUALITY CONTROL CERTIFICATE

Brookhaven, Mountain View and Richland only
(Certificate)

This one-year program develops the basic skill 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.

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	
QCT 121 Introduction to Quality Control	2
QCT 122 Dimensional Measurement	3
EGT 141 Basic Hydraulics and Fluid Mechanics	4
EGR 186 Manufacturing Processes	2
MTH 195 Technical Mathematics	3
DFT 182 Technician Drafting	2
	<u>16</u>

SEMESTER II	
EGT 143 Technical Programming	4
QCT 227 Non-Destructive Testing	3
QCT 220 Physical/Environmental Testing ...	3
ET 190 DC Circuits	4
MTH 196 Technical Mathematics	3
	<u>17</u>

Minimum Hours Required: 33

ENGINEERING TECHNOLOGY — MANUFACTURING ENGINEERING OPTION

Richland only
(Associate Degree)

The Manufacturing Engineering Technology Option prepares the student for technician level employment in an industrial manufacturing engineering environment. Training includes processes, tools, materials, drafting, production control, quality control, safety and management.

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	
MTH 195 Technical Mathematics	3
COM 131 Applied Composition and Speech ..	3
ET 190 DC Circuits	4
EGR 186 Manufacturing Processes	2
DFT 183 Basic Drafting	4
	<u>16</u>
SEMESTER II	
MTH 196 Technical Mathematics	3
COM 132 Applied Composition and Speech ..	3
ET 191 AC Circuits	4
EGR 187 Manufacturing Processes	2
EGT 143 Technical Programming	4
	<u>16</u>
SEMESTER III	
EGT 124 Industrial Organizations	2
MET 235 Industrial Safety	3
MET 234 Production and Inventory Control ..	3
QCT 121 Introduction to Quality Control	2
HD 105 Interpersonal Relations	3
†Elective or	3-4
EGT 814 Cooperative Work Experience	(4)
	<u>16-17</u>
SEMESTER IV	
MET 238 Principles of Work Measurement ..	3
MET 231 Engineering Materials	3
QCT 122 Dimensional Measurement	3
MGT 136 Principles of Management or	3
MGT 171 Introduction to Supervision	
†Elective or Cooperative Work Experience ..	3-4
	<u>15-16</u>
Minimum Hours Required:	63

†Electives must be selected from the following:

PHY 131	Applied Physics	4
	Any engineering technology course	

ENGINEERING TECHNOLOGY — MECHANICAL TECHNOLOGY OPTION

Richland only
(Associate Degree)

The purpose of the Mechanical Technology Option is to prepare students for employment in the field of mechanical 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 mechanical design field. Emphasis is on the design of machines, the component parts, gages, jigs, fixtures, and special tooling.

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	
DFT 183 Basic Drafting	4
MTH 195 Technical Math	3
EGR 186 Manufacturing Processes	2
EGT 141 Basic Hydraulics and Fluid Mechanics	4
COM 131 Applied Composition and Speech ..	3
	<u>16</u>
SEMESTER II	
MT 194 Mechanical Technology	4
EGR 106 Descriptive Geometry	3
FLP 222 Fundamentals of Pneumatics	3
MTH 196 Technical Math	3
EGT 143 Technical Programming	4
	<u>17</u>
SEMESTER III	
MT 245 Computers in Manufacturing	4
FLP 225 Advanced Fluid Power Systems ...	4
PHY 131 Applied Physics	4
QCT 122 Dimensional Measurement	3
	<u>15</u>
SEMESTER IV	
MT 246 Industrial Tooling	4
EMT 232 Applied Mechanics	4
EGR 187 Manufacturing Processes	2
Humanities Elective	3
†Elective or Cooperative Work Experience ...	3-4
	<u>16-17</u>
Minimum Hours Required:	64

†Electives may be selected from any Engineering Technology Course.

FASHION MARKETING

Brookhaven and Cedar Valley only

(Associate Degree)

This two-year program is designed to prepare students for career opportunities in fashion marketing. Upon completion of the program, the student will receive an Associate in Applied Arts and Sciences Degree. Credit can be earned for on-the-job experience.

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

MKT 137	Principles of Retailing	3
MKT 291	Fashion Merchandising	3
MKT 703	Cooperative Work Experience	3
BUS 105	Introduction to Business	3
*COM 131	Applied Composition and Speech or	3
ENG 101	Composition and Expository Reading	
MTH 130	Business Mathematics	3
		<u>18</u>

SEMESTER II

MKT 230	Salesmanship	3
MKT 292	Fashion Design	3
MKT 803	Cooperative Work Experience	3
*COM 132	Applied Composition and Speech or	3
ENG 102	Composition and Literature	
CS 175	Introduction to Computer Science ..	3
†Elective		3
		<u>18</u>

SEMESTER III

MKT 206	Principles of Marketing	3
MKT 290	Fashion Buying	3
ACC 201	Accounting I or	3
ACC 131	Bookkeeping I	
SPE 105	Fundamentals of Public Speaking ..	3
†Elective		3
		<u>15</u>

SEMESTER IV

MKT 233	Advertising and Sales Promotion ..	3
DES 135	Textiles	3
ECO 201	Principles of Economics I	3
PSY 131	Human Relations	3
†Elective		3
		<u>15</u>

Minimum Hours Required: 66

†Electives — must be selected from the following:

CS 250	Contemporary Topics in Computer Science	3
MGT 136	Principles of Management	3
MGT 242	Personnel Administration	3
MKT 210	Special Topics in Fashion Marketing	1
MKT 245	Sales Management	3
MKT 246	Marketing and Management Cases	3

*ENG 101 and ENG 102 may be substituted for COM 131 and COM 132 provided that SPE 105 is also taken.



FINANCIAL MANAGEMENT

Richland only

(Associate Degree)

The Financial Management Program is designed to prepare students to enter the finance industry. Students completing the program would be prepared to assume positions in commercial banks, savings and loan associations, credit unions, and other financial organizations.

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	
FM 105 Comparative Financial Institutions	3
COM 131 Applied Composition and Speech or	3
ENG 101 Composition and Expository Reading	3
ECO 201 Principles of Economics I	3
MGT 136 Principles of Management	3
MTH 130 Business Mathematics or	3
MTH 111 Mathematics for Business and Economics	3
	15
SEMESTER II	
ECO 202 Principles of Economics II	3
FM 115 Credit & Collection Principles	3
CS 175 Introduction to Computer Science	3
OFC 231 Business Communications or	3
COM 132 Applied Composition and Speech	3
†Elective	3
	15

SEMESTER III	
ACC 201 Principles of Accounting I	3
FM 104 Money and Financial Institutions	3
FM 205 Analyzing Financial Statements*	3
GVT 201 American Government	3
‡Financial Management Elective	3
	15

SEMESTER IV	
FM 203 Public Relations and Marketing of Financial Services	3
FM 206 Negotiable Instruments and the Payment Mechanisms* or	3
FM 201 Advanced Credit Analysis	3
ACC 202 Principles of Accounting II	3
BUS 237 Organizational Behavior	3
‡Financial Management Elective or Cooperative Work Experience	3
	15

Minimum Hours Required: 60

*Students may substitute approved equivalent courses offered through AIB.

†Electives — must be selected from the following:

ACC 238	Cost Accounting	3
BUS 143	Personal Finance	3
HD 105	Basic Processes of Interpersonal Relationships	3
HD 107	Developing Leadership Behavior	3
HUM 101	Introduction to Humanities	3
INS 209	Principles of Insurance	3
MTH 112	Mathematics for Business and Economics	3
OFC 160	Office Calculating Machines	3
OFC 162	Office Procedures	3
OFC 172	Beginning Typing	3
PSY 105	Introduction to Psychology	3
PSY 131	Human Relations	3
RE 130	Real Estate Principles	3
RE 131	Real Estate Finance	3
SPE 105	Fundamentals of Public Speaking	3

*The following courses taught by American Institute of Banking may be approved for financial management elective credit.

FM 116	Construction Lending	1
FM 117	Letters of Credit	2
FM 118	Installment Loan Interviews	1
FM 119	New Accounts	1
FM 120	Selling Bank Services	1
FM 121	Loss Preventions	1
FM 122	Safe Deposits	1
FM 123	Loans and Discounts	1
FM 124	Stocks and Bonds	1
FM 127	Trust Functions and Services	2
FM 129	Credit Card Banking	2
FM 130	Teller Training	2
FM 209	Federal Regulations of Banking	2

‡Financial Management Electives—must be selected from the following:

FM 200	Credit Union Management and Administration	3
FM 201	Advanced Credit Analysis	3
FM 202	Credit Law	3
FM 208	Financial Counseling	3
FM 803	Cooperative Work Experience	3
FM 804	Cooperative Work Experience	4

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 a "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 1988 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.

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.

ADMISSION TO THE PROGRAM

Fullfill all requirements for admission to El Centro College.

	CREDIT HOURS
SEMESTER I	
FPT 131 Fundamentals of Fire Protection . . .	3
FPT 132 Fire Prevention	3
ENG 101 Composition and Expository Reading	3
MTH 130 Business Mathematics	3
†Elective	3
	15
SEMESTER II	
FPT 135 Fire Administration I	3
FPT 136 Fire and Arson Investigation	3
SPE 105 Fundamentals of Public Speaking	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

†FPT electives (any two may be chosen)

FPT 236 Legal Aspects of Fire Protection	3
FPT 237 Hazardous Materials	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

††Recommended electives:

HD 105 Basic Processes of Interpersonal Relationships	3
PSY 105 Introduction to Psychology	3
SOC 101 Introduction to Sociology	3

FOOD SERVICE OPERATIONS

El Centro only

(Associate Degree)

The Food Service Operations Program trains students to assume responsible positions in the commercial sector of the food service industry. Courses are geared to cover the various operational functions of restaurants, hotel food service, cafeterias, coffee shops and other types of fast food service.

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.

ADMISSION TO THE PROGRAM

Fulfill all requirements for admission to El Centro.

	CREDIT HOURS
SEMESTER I	
FS 110 Principles of Food and Beverage Administration or	3
FS 112 Organization and Management	3
FS 119 Food Service Equipment	3
FS 120 Basic Food Preparation	3
FS 124 Food Service Sanitation and Safety	3
COM 131 Applied Composition and Speech or	3
ENG 101 Composition and Expository Reading	3
	15
SEMESTER II	
FS 116 Supervision for Hospitality Services	3
FS 122 Advanced Food Preparation	3
FS 132 Food Purchasing, Handling and Storage	3
FS 135 Nutrition and Menu Planning	3
COM 132 Applied Composition and Speech or	3
ENG 102 Composition and Expository Reading	3
HD 105 Basic Processes of Interpersonal Relationships or	3
HD 107 Developing Leadership Behavior or	3
PSY 105 Introduction to Psychology or	3
SOC 101 Introduction to Sociology	3
	18



SEMESTER III	
FS 233 Food Service Marketing or	3
FS 248 Advanced Nutrition and Dietetics ..	3
FS 220 Quantity Food Preparation and Service	4
HST 101 History of the United States or ...	3
GVT 201 American Government	3
FS 804 Cooperative Work Experience† ..	4
†Elective	3
	17

SEMESTER IV	
FS 222 Advanced Quantity Food Preparation and Service	4
FS 138 Food Service Cost Control or ...	3
MTH 130 Business Math† or	3
ACC 131 Bookkeeping or	3
ACC 201 Principles of Accounting I	3
FS 814 Cooperative Work Experience† ..	4
HST 102 History of the United States or ...	3
GVT 202 American Government	3
†Elective	3
	17

Minimum Hours Required: 67

†Electives: Six (6) credit hours must be selected from the following:

FS 140 Elementary Bakery Training	3
FS 201 Special Topics in Food Service	1
FS 202 Special Topics in Food Service	2
FS 203 Special Topics in Food Service	3
FS 238 Garde Mange Training	3
FS 239 Saucier Training	3
FS 245 Advanced Pastry Shop Training	3
FS 247 Beverage Operations and Service	3
ACC 201 Principles of Accounting I	3
BUS 234 Business Law	3
BUS 237 Organizational Behavior	3
PEH 257 Advanced First Aid and Emergency Care	3
ECO 201 Principles of Economics I	3

††Before completing this program, the student will be required to work in a minimum of 640 hours in an approved work station - equal time to be spent in food preparation and supervision. A weekly seminar enables the student to discuss his or her work experience in a classroom setting. This requirement is fulfilled by enrolling in FS 804 and FS 814.

SCHOOL FOOD SERVICE

El Centro only

(Associate Degree)

The School Food Service Program trains students to assume responsible positions in the management of school service facilities in the public or private sector. Courses in food management, nutrition, basic and quantity food preparation are the core of the curriculum.

To receive an Associate Degree in Applied Arts and Sciences a student needs to satisfactorily complete a minimum of 60 credit hours as outlined below. A "C" (2.0) average is required in all food service courses.

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.

ADMISSION TO THE PROGRAM

Fullfill all requirements for admission to El Centro College.

CREDIT
HOURS

SEMESTER I

FS 112	Organization and Management	3
FS 119	Food Service Equipment	3
FS 120	Basic Food Preparation	3
FS 124	Food Service Sanitation and Safety	3
COM 131	Applied Composition and Speech	3
or		
ENG 101	Composition and Expository Reading	3

15

SEMESTER II

HST 101	History of the United States or	3
GVT 201	American Government	
†Electives		12

15

SEMESTER III

FS 804	Cooperative Work Experience†	4
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†Electives		10
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14

SEMESTER IV

FS 814	Cooperative Work Experience†	4
HD 105	Basic Processes of Interpersonal Relationships or	3

PSY 105	Introduction to Psychology	
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†Electives		9
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16

Minimum Hours Required: 60

A student must complete a minimum of 31 credit hours from the courses listed in the two groups below.

†Required electives: Students must complete a minimum of 25 credit hours from the following courses:

FS 116	Supervision for Hospitality Service
FS 122	Advanced Food Preparation
FS 132	Food Purchasing, Handling and Storage
FS 135	Nutrition and Menu Planning
FS 138	Food Service Cost Control
FS 140	Elementary Baking Training

SCHOOL FOOD SERVICE

El Centro only

(Certificate)

This certificate program prepares the student to function as a school food service worker and advance to school cafeteria manager. All credits earned in this program may be applied toward the Associate Degree in School Food Service.

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.

ADMISSION TO THE PROGRAM

Fullfill all requirements for admission to El Centro College.

CERTIFICATION

Upon completion of this program the student will be awarded a certificate of completion by Texas School Food Service Association and a certificate of completion by El Centro College.

CREDIT
HOURS

SEMESTER I

FS 112	Organization and Management	3
FS 119	Food Service Equipment	3
FS 120	Basic Food Preparation	3
FS 124	Food Service Sanitation and Safety	3
FS 135	Nutrition and Menu Planning	3

15

SEMESTER II

FS 116	Supervision for Hospitality Services	3
FS 122	Advanced Food Preparation	3
FS 138	Food Service Cost Control	3
FS 244	Child Nutrition	4
HD 105	Basic Processes of Interpersonal Relationships	3

16

Minimum Hours Required: 31

FS 220	Quantity Food Preparation and Service	4
FS 222	Advanced Quantity Food Preparation and Service	4
FS 242	Community Nutrition	4
FS 244	Child Nutrition	4
FS 248	Advanced Nutrition and Dietetics	3

†Required support courses: Students must complete a minimum of six (6) credit hours from the following:

COM 132
ENG 102
HST 102
GVT 202
MTH 130

†Before completing the program the student will be required to work a minimum of 640 hours in an approved work station and to discuss his work experience in a classroom setting. This requirement is fulfilled by enrolling in FS 804 and FS 814.

GRAPHIC COMMUNICATIONS

Eastfield only

(Associate Degree)

The student's understanding of graphic processes is developed for employment in a commercial printing firm or a 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.

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	
GA 131 Graphic Processes	3
GA 140 Offset Printing	3
COM 131 Applied Composition and Speech or	3
ENG 101 Composition and Expository Reading	
JN 101 Introduction to Mass Communications	3
OFC 172 Beginning Typing	3
	<u>15</u>

SEMESTER II	
GA 134 Basic Camera Operations	3
GA 136 Copy Preparation	3
COM 132 Applied Composition and Speech or	3
SPE 105 Fundamentals of Public Speaking	
MTH 130 Business Mathematics	3
PHO 110 Introduction to Photography and Photo-Journalism	3
	<u>15</u>

SEMESTER III	
GA 206 Graphic Projects	3
GA 714 Cooperative Work Experience	4
JN 102 Introduction to Mass Communications	3
OFC 180 Principles of Word Processing	3
PHO 120 Commercial Photography I	3
	<u>16</u>

SEMESTER IV	
GA 240 Offset Printing II	3
ACC 131 Bookkeeping I or	3
ACC 201 Principles of Accounting I	
JN 103 News Gathering and Writing	3
PHO 121 Commercial Photography II or	4
GA 814 Cooperative Work Experience	
PHO 207 Photography for Publications	3
	<u>16</u>

Minimum Hours Required: 62

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.

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	
GA 131 Graphic Processes	3
GA 140 Offset Printing I	3
COM 131 Applied Composition and Speech or	3
ENG 101 Composition and Expository Reading	
MTH 139 Applied Mathematics	3
OFC 172 Beginning Typing	3
	<u>15</u>

SEMESTER II	
GA 134 Basic Camera Operations	3
GA 136 Copy Preparation	3
COM 132 Applied Composition and Speech or	3
SPE 105 Fundamentals of Public Speaking	
PSY 131 Human Relations	3
†Electives	3-4
	<u>15-16</u>

Minimum Hours Required: 30

†Elective-Must be selected from the following:

GA 714	Cooperative Work Experience	4
DFT 232	Technical Illustration	3
PHO 110	Introduction to Photography and Photo Journalism	3



HOROLOGY

Mountain View Only

(Certificate)

These intensive programs have the objectives of developing the student's manual dexterity, judgment, and skill in the repair and adjustment techniques required to service all types of modern timekeeping mechanisms: watches, clocks, timers, chronographs, self-winding, calendar, electric and electronic movements. Employment opportunities for skilled horologists may be found in jewelry stores, trade shops, or in one's own business. All horology courses are on a flexible entry mode of registration for the fall and spring semester or they may enroll the first Monday in October and November in the fall semester and on the first Monday in February and March during the spring semester.

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.

CLOCK REPAIR

	CREDIT HOURS
SEMESTER I	
HOR 139 Antique Clock Theory and Repair	8
COM 131 Applied Composition and Speech	3
ENG 101 Composition and Expository Reading	
	11
SEMESTER II	
HOR 140 Modern Clock Theory and Repair	8
MGT 153 Small Business Management	3
	11
Minimum Hours Required:	22

WATCH REPAIR

SEMESTER I	
HOR 141 Watch Cleaning and Assembly	8
HOR 142 Watch Part Replacement	8
COM 131 Applied Composition and Speech or	3
ENG 101 Composition and Expository Reading	
	19
SEMESTER II	
HOR 143 Advanced Watchmaking I	8
HOR 144 Advanced Watchmaking II	8
MGT 153 Small Business Management	3
	19
Minimum Hours Required:	38



INTERIOR DESIGN

El Centro only

(Professional Certificate in Interior Design)

(Associate Degree)

Dallas has become a major design and market center. Increased commercial and residential construction and remodeling have created the demand for interior designs for new public buildings, offices and homes. There are many opportunities for qualified interior designers.

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. The organization of art, space, furniture, fabric, equipment and lighting demands coordination by the designer. New materials for buildings and furnishings require new, creative approaches. Opportunities are challenging and rewarding.

A knowledge of construction and materials, both structural and decorative, is essential for the planning of aes-

thetic yet functional spaces. The interior designer joins forces with the architect and landscape designer in achieving the total design concept for the environment.

The program consists of six semesters of study in interior design and related courses. However, a student may file for an Applied Arts and Sciences Degree after successful completion of the first two years of the program. A professional certificate is awarded upon successful completion of all courses identified in the six-semester curriculum. The certificate qualifies the graduate to enter the profession of interior design as a beginning professional.

This program is fully accredited by F.I.D.E.R. (Foundation for Interior Design Education Research).

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.

ADMISSION TO THE PROGRAM

1. Contact the Counseling Division to schedule a time to take the Design Indicator Test.
2. Fulfill all requirements for admission to El Centro College.

	CREDIT HOURS
SEMESTER I	
INT 120 Basic Planning	3
INT 121 Basic Color Theory for Interior Design	3
INT 144 Philosophy of Design	1
ART 105 Survey of Art History	3
ART 110 Design I	3
DES 135 Textiles*	3
	<u>16</u>

SEMESTER II

INT 123 Advanced Planning and Perspective	3
INT 124 Color and Lighting	3
INT 225 Architectural Drawing I	3
ART 106 Survey of Art History	3
HD 105 Basic Processes of Interpersonal Relationships*	3
	<u>15</u>

(All interior design courses must be successfully completed before a student will be admitted into the second year of study).

SEMESTER III

INT 250 History of Interior Arts I	4
INT 226 Architectural Drawing II	3
INT 233 Fabrications†	3
INT 235 Inner Space Composition and Presentation	3
SOC 102 Social Problems	3
	<u>16</u>

SEMESTER IV

INT 251 History of Interior Arts II	4
INT 224 Interior Graphics and Illustration ...	3
INT 240 Design Sources	1
ARC 245 Design Sketching†	3
COM 132 Applied Composition and Speech ..	3
MKT 230 Salesmanship or	3
ACC 131 Bookkeeping I or	
ACC 201 Accounting I	
	<u>17</u>

(All interior and design courses must be successfully completed before a student will be admitted into the third year of study).

SEMESTER V

INT 237 Advanced Principles of Interior Design	4
INT 345 History of Modern Design	5
INT 811 Cooperative Work Experience or ...	1
INT 812 Cooperative Work Experience or ...	(2)
INT 813 Cooperative Work Experience or ...	(3)
INT 341 Special Project††	(1)
	<u>10-12</u>

SEMESTER VI

INT 238 Client Psychology Survey and Business Procedures	4
INT 239 Principles of Commercial Interior Design	4
INT 343 Research and Presentation	2
	<u>10</u>

Minimum Hours Required: 84

*DES 135 and HD 105 may be taken alternately in either the fall or spring semester.

†ARC 245 and INT 233 may be taken alternately in either the fall or spring semester.

†† (INT 341 by special permission only).

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.

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.

ADMISSION TO THE PROGRAM

Fulfill all requirements for admission to El Centro College.

CREDIT
HOURS

SEMESTER I

LA 131	Introduction to Legal Technology ..	3
LA 135	Texas Legal Systems	3
GVT 201	American Government	3
ENG 101	Composition and Expository Reading	3
ACC 201	Principles of Accounting I	3
		15

SEMESTER II

LA 133	Law of Real Property and Real Estate Transactions	3
LA 134	Principles of Family Law	3
LA 139	Legal Research and Drafting	2
OFC 231	Business Communications	3
ACC 202	Principles of Accounting II	3
Support Course*	.....	3
		17

SEMESTER III

LA 225	Business Organizations	3
LA 227	Civil Litigation	3
LA 231	Wills, Trusts and Probate Administration	3
* Support Course	.....	3
† Elective	.....	2,3,4
		14-16

SEMESTER IV

LA 232	Tort and Insurance Law and Claims Investigation	3
LA 234	Personal Property, Sales and Credit Transactions	3
LA 235	Techniques of Legal Practice and Procedure	4
* Support Course	.....	3
† Elective	.....	3-4
		16-17

Minimum Hours Required: 62

*Required support courses — must be selected from the following:

BUS 234	Business Law	3
BUS 237	Organizational Behavior	3
CS 175	Introduction to Computer Science	3
ECO 201	Principles of Economics	3
GVT 202	American Government	3
HD 105	Basic Processes of Interpersonal Relationships ..	3
PHI 105	Logic	3
SOC 101	Introduction to Sociology	3

†Elective courses — must be selected from the following:

LA 225	Oil and Gas Law	3
LA 233	Income Taxation and Legal Accounting	3
LA 236	Legal Office Management	2
LA 248	Constitutional and Criminal Law	3
LA 251	Civil Litigation II	3
LA 803	Cooperative Work Experience	3
LA 804	Cooperative Work Experience	4
LA 813	Cooperative Work Experience	3
LA 814	Cooperative Work Experience	4

MACHINE PARTS INSPECTION

Mountain View only

(Associate Degree)

The program is designed to prepare the trainee in the techniques of quality control pertaining to machine parts production processes and inspection procedures based on sound metrological concepts. Because of the uniqueness in laboratory facilities required for this program, it is designed for in-plant training. Only support courses and courses requiring no laboratory will be taught on campus.

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

MPI 122	Industrial Quality Control & Procedures	3
COM 131	Applied Composition and Speech or	3
ENG 101	Composition and Expository Reading	
MTH 195	Technical Mathematics	3
BPR 177	Blueprint Reading	2
		11

SEMESTER II

MPI 124	Basic Inspection Fundamentals	5
BPR 178	Blueprint Reading	2
MTH 196	Technical Mathematics	3
QCT 122	Dimensional Measurement	3
		13

SEMESTER III

MPI 135	Intermediate Inspection Concepts ..	5
MPI 138	Geometric Tolerancing & True Positioning	3
EGR 186	Manufacturing Processes	2
PSY 131	Human Relations	3
		13

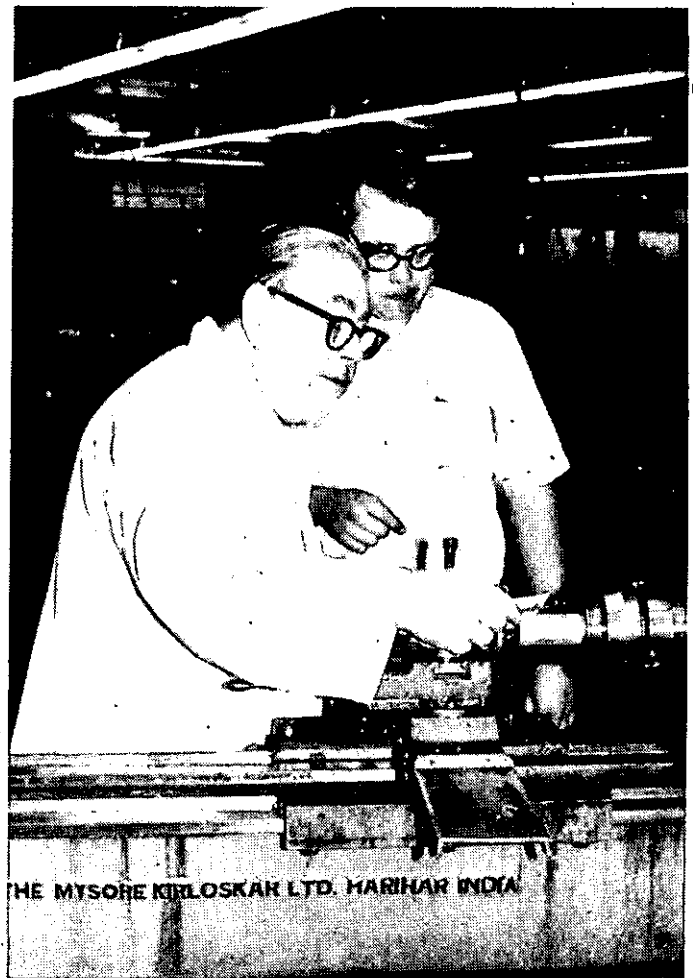
SEMESTER IV

MPI 220	Introduction to Materials and Processes	3
MPI 227	Non-Destructive Testing	3
MPI 803	Cooperative Work Experience	3
PHY 131	Applied Physics	4
		13

SEMESTER V

MPI 223	Advanced Inspection Concepts	5
MPI 230	Introduction to Statistical Quality Control Techniques	3
MPI 237	Gage Control Standardization & Precision Measurement	3
MPI 813	Cooperative Work Experience	3
		14

Minimum Hours Required: 64



MACHINE SHOP

Mountain View only

(Associate Degree)

The Machine Shop Program will prepare the student for employment as an entry-level machinist in industry. It will also prepare him for entry into an apprentice or trainee program for machinist, tool and die-maker, etc. Successful students will find access to supportive type-jobs in the metal working field such as planner, programmer, etc.

Enrollment in machine shop courses is open on the first Monday of October and November in the fall semester and the first Monday of February and March in the spring semester. In each case, such enrollment is subject to completion of specified prerequisite competencies. The program is designed to be self-paced by the student but students can generally plan to spend 18 months of study to complete the entire program.

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

MS 133	Basic Lathe	5
MS 134	Basic Milling Machine	5
BPR 177	Blueprint Reading	2
MTH 195	Technical Mathematics	3
		15

SEMESTER II

MS 135	Intermediate Lathe	5
MS 136	Intermediate Milling Machine	5
BPR 178	Blueprint Reading	2
MTH 196	Technical Mathematics	3
QCT 122	Dimensional Measurement	3
		18

SEMESTER III

MS 233	Advanced Lathe	5
MS 234	Advanced Milling Machine	5
COM 131	Applied Composition and Speech or	3
ENG 101	Composition and Expository Reading	4
PHY 131	Applied Physics	2
EGR 186	Manufacturing Processes or	2
MS 702	Cooperative Work Experience	(1)
†Elective	†	
		19

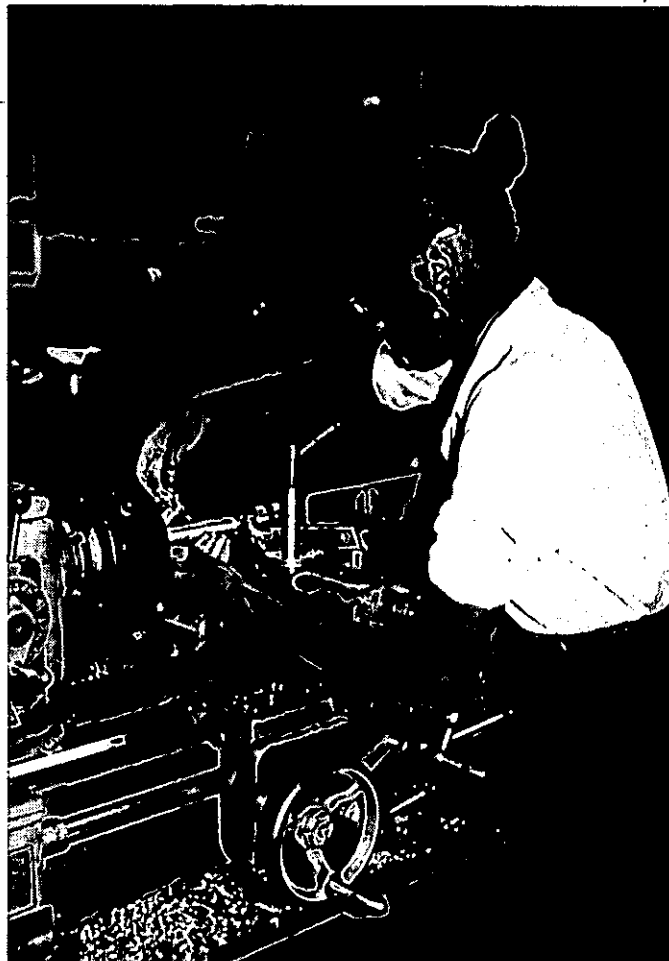
SEMESTER IV

MS 235	Applied Lathe	5
MS 236	Applied Milling Machine	5
PHY 132	Applied Physics or	4
MS 704	Cooperative Work Experience	3
PSY 131	Human Relations	
		17

Minimum Hours Required: 69

†Elective:

MS 145 Special Topics 1



MAJOR APPLIANCE REPAIR

Cedar Valley only

(Certificate Program)

This program is designed to prepare persons in three major areas of specialization. The emphasis of this program is on the current repair techniques used by technicians.

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	
AC 150 Principles of Basic Electricity	3
AC 160 Principles of Basic Refrigeration	3
MAR 206 Domestic Refrigerators Electrical Systems	3
MAR 207 Domestic Refrigerators Sealed- Systems	3
MTH 139 Applied Mathematics	3
	<u>15</u>

SEMESTER II	
†Electives	12
	<u>12</u>

Minimum Hours Required: 27

†Electives to be chosen from the following:

MAR 208 Domestic Dishwashers	3
MAR 209 Domestic Disposers and Trash Compactors	3
MAR 215 Domestic Laundry Equipment-Washers	3
MAR 216 Domestic Laundry Equipment-Dryers	3
MAR 217 Domestic Electric Cooking Equipment	3
MAR 218 Domestic Gas and Microwave Cooking Equipment ..	3

MANAGEMENT CAREERS-- ADMINISTRATIVE MANAGEMENT OPTION

Offered at all seven campuses

(Associate Degree)

The Administrative Management Option offers a continuation of the traditional management and business studies. This option is designed for students seeking a detailed examination of management practices, techniques, and theories.

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	
MGT 136 Principles of Management	3
BUS 105 Introduction to Business	3
*COM 131 Applied Composition and Speech or	3
ENG 101 Composition and Expository Reading	3
HUM 101 Introduction to the Humanities	3
†Elective	3
	<u>15</u>
SEMESTER II	
MKT 206 Principles of Marketing	3
**ACC 201 Principles of Accounting I	3
*COM 132 Applied Composition and Speech or ENG 102 Composition and Literature	3
CS 175 Introduction to Computer Science	3
MTH 111 Mathematics for Business & Economics I or	3
MTH 112 Mathematics for Business & Economics II or	3
MTH 130 Business Mathematics	3
	<u>15</u>

SEMESTER III	
ACC 202 Principles of Accounting II	3
BUS 234 Business Law	3
ECO 201 Principles of Economics I	3
PSY 131 Human Relations	3
†Elective	3
	<u>15</u>

SEMESTER IV	
MGT 242 Personnel Administration	3
BUS 237 Organizational Behavior	3
ECO 202 Principles of Economics II	3
OFC 231 Business Communications	3
Social Science or Humanities Elective	3
†Elective	3
	<u>18</u>

Minimum Hours Required: 63

†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 703 Cooperative Work Experience	3
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

*ENG 101 and ENG 102 may be substituted for COM 131 and COM 132 provided that SPE 105 is also taken.

**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 degree.

MANAGEMENT CAREERS-- MID-MANAGEMENT OPTION

Offered at all seven campuses

(Associate Degree)

The Mid-Management Option is a cooperative plan with members of the business community whereby the student attends college classes in management and related courses and concurrently works at a regular, paid, part-time or full-time job in a sponsoring business firm. To enter the Mid-Management Option, students must make formal application and be interviewed by a member of the mid-management faculty before final acceptance will be granted.

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	
MGT 136 Principles of Management	3
MGT 150 Management Training	4
MGT 154 Management Seminar: Role of Supervision	2
BUS 105 Introduction to Business	3
*COM 131 Applied Composition and Speech or	3
ENG 101 Composition and Expository Reading	15
SEMESTER II	
MGT 151 Management Training	4
MGT 155 Management Seminar: Personnel Management	2
*COM 132 Applied Composition and Speech or	3
ENG 102 Composition and Literature	
CS 175 Introduction to Computer Science ..	3
HUM 101 Introduction to the Humanities	3
MTH 111 Mathematics for Business and Economics I or	3
MTH 112 Mathematics for Business and Economics II or	
MTH 130 Business Mathematics	18

SEMESTER III	
MGT 250 Management Training	4
MGT 254 Management Seminar: Organizational Development	2
**ACC 201 Principles of Accounting I	3
ECO 201 Principles of Economics I	3
PSY 131 Human Relations	3
	15

SEMESTER IV	
MGT 251 Management Training	4
MGT 255 Management Seminar: Planning Strategy and the Decision Process	2
ECO 202 Principles of Economics II	3
Social Science elective or Humanities elective	3
† Elective	3
	15

Minimum Hours Required: 63

† Elective — may be selected from the following:

MGT 153 Small Business Management	3
MGT 212 Special Problems in Business	1
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

*ENG 101 and ENG 102 may be substituted for COM 131 and COM 132 provided that SPE 105 is also taken.

**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.

MANAGEMENT CAREERS-- PURCHASING MANAGEMENT OPTION

Eastfield only

(Associate Degree)

This option is designed to develop the fundamental skills and knowledge which enable individuals to assume technical and decision making positions within the purchasing function of profit and non-profit organizations.

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	
MGT 136 Principles of Management	3
MKT 160 Principles of Purchasing	3
BUS 105 Introduction to Business	3
*COM 131 Applied Composition and Speech or	3
ENG 101 Composition and Expository Reading	
MTH 111 Mathematics for Business and Economics I or	3
MTH 112 Mathematics for Business and Economics II or	
MTH 130 Business Mathematics	
	15
SEMESTER II	
MGT 220 Materials Management	3
**ACC 201 Principles of Accounting I	3
*COM 132 Applied Composition and Speech or	3
ENG 102 Composition and Literature	
HUM 101 Introduction to the Humanities	3
†Elective	3
	15

SEMESTER III	
MKT 206 Principles of Marketing	3
MGT 280 Industrial Management	3
CS 175 Introduction to Computer Science	3
ECO 201 Principles of Economics I	3
PSY 131 Human Relations	3
	15

SEMESTER IV	
MGT 224 Quality Assurance	3
BUS 234 Business Law	3
ECO 202 Principles of Economics II	3
Social Science or Humanities elective	3
†Elective	3
	15

Minimum Hours Required: 60

†Electives--may be selected from the following:

ACC 202	Principles of Accounting II	3
BUS 237	Organizational Behavior	3
MKT 230	Salesmanship	3
MKT 233	Advertising and Sales Promotion	3
MTH 202	Introductory Statistics	3
OFC 231	Business Communications	3
TRT 287	Physical Distribution Management I	3

*ENG 101 and ENG 102 may be substituted for COM 131 and COM 132 provided that SPE 105 is also taken.

**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.

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.

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	
MGT 136 Principles of Management	3
MKT 137 Principles of Retailing	3
BUS 105 Introduction to Business	3
*COM 131 Applied Composition and Speech or	3
ENG 101 Composition and Expository Reading	
HUM 101 Introduction to the Humanities	3
	<u>15</u>
SEMESTER II	
MKT 206 Principles of Marketing	3
MKT 230 Salesmanship	3
*COM 132 Applied Composition and Speech or	3
ENG 102 Composition and Literature	
CS 175 Introduction to Computer Science ..	3
MTH 111 Mathematics for Business and Economics I or	3
MTH 112 Mathematics for Business and Economics II or	
MTH 130 Business Mathematics	
†Elective	3
	<u>18</u>

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 Human Relations	3
MKT 703 Cooperative Work Experience	3
	<u>15</u>

SEMESTER IV	
ECO 202 Principles of Economics II	3
MKT 245 Sales Management	3
MKT 246 Management and Marketing Cases ..	3
MKT 803 Cooperative Work Experience	3
Social Science or Humanities elective	3
	<u>15</u>

Minimum Hours Required: 63

†Elective--may be selected from the following:

MGT 212	Special Problems in Business	1
OFC 160	Office Calculating Machines	3
OFC 172	Beginning Typing	3

*ENG 101 and ENG 102 may be substituted for COM 131 and COM 132 provided that SPE 105 is also taken.

**Students must 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.

MANAGEMENT CAREERS--SMALL BUSINESS MANAGEMENT OPTION

Cedar Valley, El Centro, Mountain View and Richland only
(Associate Degree)

The Small Business Management Option is designed to assist owners and managers of small businesses in developing the skills and techniques necessary for operation. This option is also designed for students who plan to become owners or operators of small businesses.

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	
MGT 136 Principles of Management	3
MGT 153 Small Business Management	3
*COM 131 Applied Composition and Speech or	3
ENG 101 Composition and Expository Reading	3
HUM 101 Introduction to the Humanities	3
†Elective	3
	<u>15</u>
SEMESTER II	
**MGT 157 Small Business Bookkeeping and Accounting	3
*COM 132 Applied Composition and Speech or	3
ENG 102 Composition and Literature	3
CS 175 Introduction to Computer Science	3
MTH 111 Mathematics for Business and Economics I or	3
MTH 112 Mathematics for Business and Economics II or	3
MTH 130 Business Mathematics	3
BUS 105 Introduction to Business	3
	<u>15</u>

SEMESTER III	
MKT 206 Principles of Marketing	3
MGT 211 Small Business Operations	3
ECO 201 Principles of Economics I	3
PSY 131 Human Relations	3
†Elective	3
	<u>15</u>

SEMESTER IV	
MGT 210 Small Business Capitalization, Acquisition and Finance	3
BUS 234 Business Law	3
ECO 202 Principles of Economics II	3
Social Science and Humanities elective	3
†Elective	3
	<u>15</u>

Minimum Hours Required: 60

†Elective-- must be selected from the following:	
ACC 201 Principles of Accounting I	3
MGT 212 Special Problems in Business	1
OFC 160 Office Calculating Machines	3
OFC 172 Beginning Typing	3

*ENG 101 and ENG 102 may be substituted for COM 131 and COM 132 provided that SPE 105 is also taken.

**Students may substitute ACC 201 for MGT 157.

ASSOCIATE DEGREE NURSING

El Centro only

(Associate Degree)

The Associate Degree Nursing Program is a two year program of study which requires 70 credit hours for an Associate in Applied Arts and Sciences Degree. Upon completion of the program and complying with minimum standards for testing prescribed by the Board of Nursing Examiners for the State of Texas, the student is eligible to write the State Board Test Pool Examination for qualifications as a registered nurse. Students are required to be covered by professional liability insurance.

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.

ADMISSION TO THE PROGRAM

1. Fulfill all requirements for admission to El Centro College.
2. Contact Counseling Office for admission packet.
3. Admission to the first nursing course occurs twice a year, August and January. The curriculum plan must be followed in sequence under the plan entered.
4. Biology courses must be completed in the semester as indicated. A "C" grade is required to enroll in the next nursing course.

(January Admission)

	CREDIT HOURS
Prerequisites to Program Admission	
BIO 120 Introduction to Human Anatomy and Physiology* or	4
BIO 221 Anatomy and Physiology I	
ENG 101 Composition and Expository Reading	3
	7
SEMESTER I	
NUR 144 Nursing I	8
BIO 121 Introduction to Human Anatomy and Physiology or	4
BIO 222 Anatomy and Physiology II	
PSY 105 Introduction to Psychology	3
ENG 102 Composition and Literature	3
	18
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
SOC 101 Introduction to Sociology	3
	12

SUMMER SESSION

NUR 240 Nursing III	4
	4

SEMESTER IV

NUR 257 Nursing V	10
†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
Any other course above the 100 level.	

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

ASSOCIATE DEGREE NURSING

El Centro only

(August Admission)

	CREDIT HOURS
Prerequisites to Program Admission	
BIO 120 Introduction to Human Anatomy and Physiology* or	4
BIO 221 Anatomy and Physiology I	
ENG 101 Composition and Expository Reading	3
	7
SEMESTER I	
NUR 144 Nursing I	8
BIO 121 Introduction to Human Anatomy and Physiology or	4
BIO 222 Anatomy and Physiology II	
ENG 102 Composition and Literature	3
PSY 105 Introduction to Psychology	3
	18
SEMESTER II	
NUR 146 Nursing II	9
BIO 216 General Microbiology	4
PSY 201 Developmental Psychology	3
	16
SUMMER SESSION	
NUR-240 Nursing III	4
	4
SEMESTER III	
NUR 250 Nursing IV	9
SOC 101 Introduction to Sociology	3
	12
SEMESTER IV	
NUR 257 Nursing V	10
†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
Any other course above the 100 level	

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

VOCATIONAL NURSING

El Centro only

(Certificate)

This is a one year program which meets the accreditation requirements of the State Board of License Vocational Nursing Examiners. In addition to classroom and laboratory work at the College, clinical experience at various hospitals is part of the program. This program is offered only during the day. Students are required to be covered by professional liability insurance.

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.

ADMISSION TO THE PROGRAM

1. Fulfill all requirements for admission to El Centro College.
2. Complete an application sheet to the Vocational Nursing Program in addition to the application to El Centro.
3. Contact liaison counselor to the Vocational Nursing Program for additional information.

SPRING ADMISSION

	CREDIT HOURS
SEMESTER I	
BIO 123 Applied Anatomy and Physiology*	4
DM 064 Math for Nurses*	1
HD 102 Study Skills**	1
VN 144 Health Maintenance through the Life Cycle	3
VN 145 Nursing Process I	3
VN 152 Nursing Practice I	6
	18
SEMESTER II (Summer)	
VN 153 Maternal Child Health	8
VN 154 Maternal Child Health Clinical	7
	15
SEMESTER III	
VN 155 Nursing Process II	10
VN 150 Nursing Practice II	8
	18
Minimum Hours Required:	51

*Academic support courses may be completed prior to entering the program.

A grade of "C" or better is required in all courses.

**HD 100 at Eastfield College.

DENTAL ASSISTANT TECHNOLOGY

El Centro only

(Certificate Program-August Admission Only)

The Dental Assistant Technology Program is a one-year course of study. A certificate is granted upon completion of the program, and the student is eligible to apply for the certification examination offered by the Dental Assisting National Board, Inc.

The Dental Assistant Technology Program combines classroom and laboratory skills with clinical experiences in dental offices, dental clinics and hospitals in the Dallas area. The program includes a well-balanced curriculum of general education and dental courses.

The program is accredited by the Commission on Accreditation of Dental and Dental Auxiliary Educational Programs of the Council on Dental Education of the American Dental Association.

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	
DA 138 General and Dental Anatomy and Physiology	3
DA 142 Dental Assisting I	3
DA 147 Dental Microbiology, Sterilization and Pathology	3
DA 148 Dental Materials	3
DA 149 Dental Roentgenology I	4
COM 131 Applied Composition and Speech or	3
ENG 101 Composition and Expository Reading	
	19
SEMESTER II	
DA 150 Dental Roentgenology II	3
DA 152 Dental Assisting II	3
DA 158 Preventive Dentistry	3
DA 161 Dental Internship I	3
DA 171 Dental Seminar I	2
HD 105 Interpersonal Relations	3
	17
SUMMER SESSION I	
DA 162 Dental Internship II	2
DA 172 Dental Seminar II	1
DA 175 Office Administration	4
	7
SUMMER SESSION II	
DA 163 Dental Internship III	4
DA 173 Dental Seminar III	1
	5
Minimum Hours Required:	48

MEDICAL ASSISTING TECHNOLOGY

El Centro only

(Associate Degree)

This program provides specialized training in which the student develops basic skills and knowledge necessary to function as an administrative and clinical medical office assistant. Employment is available in medical offices, clinics, hospitals and other organizations requiring a background in medical office procedures.

The program is designed so that the student may receive a certificate in one year. A student must, in addition to satisfying certificate requirements for the College, comply with the minimum standards for testing prescribed by the Certifying Board of the American Association of Medical Assistants before being able to sit for the National Board Examination.

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.

ADMISSION TO THE PROGRAM

1. Fulfill all requirements for admission to El Centro College.
 2. Conference with counselor and/or program coordinator.
 3. The students may enter in fall or spring semester.
- Students are required to be covered by professional liability insurance.

ACCREDITATION

The educational program for medical assistants has been accredited by the Committee on Allied Health Education and Accreditation in collaboration with the American Association of Medical Assistants, Inc.

	CREDIT HOURS
SEMESTER I	
BIO 123 Applied Anatomy and Physiology ..	4
OFC 173 Intermediate Typing†	3
MA 151 Medical Terminology	4
MA 152 Medical Law and Ethics	2
MA 153 Medical Office Microbiology and Sterilization	3
MA 154 Introduction to Medical Transcription	2
ENG 101 Composition and Expository Reading or	3
COM 131 Applied Composition and Speech	
	21
SEMESTER II	
MA 160 Medical Transcription	4
MA 161 Medical Office Administrative and Management Procedures	3
MA 162 Medical Office Bookkeeping and Insurance Procedures	3
MA 163 Medical Office Clinical Medical Assisting Procedures	3
MA 164 Medical Office Pharmacology and Drug Administration	3
	16

SUMMER SEMESTER I

MA 170 Medical Office X-Ray Orientation and Electromedical Instrumentation	3
MA 171 Medical Office Laboratory Procedures (summer only)	3
	6

SUMMER SEMESTER II

MA 172 Medical Assisting Externship (A minimum of 180 hours of supervised externship may be offered fall, spring, or summer)	6
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SEMESTER III

ENG 102 Composition and Literature or	3
COM 132 Applied Composition and Speech ..	3
HUM 101 Introduction to the Humanities or ..	3
HD 105 Basic Processes of Interpersonal Relationships	
	6

SEMESTER IV

PSY 105 Introduction to Psychology	3
†Elective	3
	6

Minimum Hours Required: 61

*If typing skills can be demonstrated with a minimum of 50 correct wpm, OFC 173 will not be required.

†OFC 173 and MA 151 must be completed in the first semester in order for the student to progress according to the outlined schedule.

†Elective may be any three-credit hour course.

MEDICAL ASSISTING TECHNOLOGY

El Centro only
(Certificate)

This program provides specialized training in which the student develops basic skills and knowledge necessary to function as an administrative and clinical medical office assistant. Employment is available in medical offices, clinics, hospitals, and other organizations requiring a background in medical office procedures.

The program is designed so that the student may receive a certificate in one year. A student must, in addition to satisfying certificate requirements for the College, comply with the minimum standards for testing prescribed by the Certifying Board of the American Association of Medical Assistants before being able to sit for the National Board Examination.

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.

ADMISSION TO THE PROGRAM

1. Fulfill all requirements for admission to El Centro College.
2. Conference with counselor and/or program coordinator.
3. New students may enter in fall or spring semester. Students are required to be covered by professional liability insurance.

ACCREDITATION

The educational program for medical assistants has been accredited by the Committee on Allied Health Education and Accreditation in collaboration with the American Association of Medical Assistants, Inc.

		CREDIT HOURS
SEMESTER I		
BIO 123	Applied Anatomy and Physiology ..	4
OFC 173	Intermediate Typing†	3
MA 151	Medical Terminology	4
MA 152	Medical Law and Ethics	2
MA 153	Medical Office Microbiology and Sterilization Procedures	3
MA 154	Introduction to Medical Transcription	2
ENG 101	Composition and Expository Reading or	3
COM 131	Applied Composition and Speech ..	
		21
SEMESTER II		
MA 160	Medical Transcription	4
MA 161	Medical Office Administrative and Management Procedures	3
MA 162	Medical Office Bookkeeping and Insurance Procedures	3
MA 163	Medical Office Clinical Medical Assisting	3
MA 164	Medical Office Pharmacology and Drug Administration	3
		16

SUMMER I

MA 170	Medical Office X-Ray Orientation and Electromedical Instrumentation	3
MA 171	Medical Office Laboratory Procedures	3
		6

SUMMER II

MA 172	Medical Assisting Externship (A minimum of 180 hours of supervised externship may be offered fall, spring or summer)	6
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Minimum Hours Required: 49

*If typing skills can be demonstrated with a minimum of 50 correct wpm, OFC 173 will not be required.

†OFC 173 and MA 151 must be completed the first semester in order for students to progress according to outlined schedule.

MEDICAL LABORATORY TECHNOLOGY

El Centro only

(Associate Degree)

This two-year program prepares the student to perform tests and related duties in a medical laboratory under the supervision of a medical technologist. The program is a balanced curriculum of science, liberal arts, and technical courses including appropriate assignments in medical laboratories in the area.

Upon successful completion of the program, the student is awarded an Associate Degree in Applied Arts and Sciences. In order to be eligible to take the National Certifying Examination for Medical Laboratory Technician Associate Degree, a student must, in addition to satisfying degree requirements, comply with the minimum standards prescribed by the American Society of Clinical Pathologists. Students are required to be covered by professional liability insurance.

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.

ADMISSION TO THE PROGRAM

1. Fulfill all requirements for admission to El Centro College.
2. Interview with counselor and/or program coordinator.
3. New students may enter in the fall semester only.

	CREDIT HOURS
SEMESTER I	
BIO 101 General Biology	4
CHM 101 General Chemistry	4
MLT 133 Hematology	4
MLT 135 Urinalysis	3
MTH 101 College Algebra	3
	<u>18</u>
SEMESTER II	
BIO 102 General Biology	4
CHM 102 General Chemistry	4
MLT 138 Immunology	4
PSY 105 Introduction to Psychology or	3
HD 105 Basic Processes of Interpersonal Relationships	
	<u>15</u>
SUMMER SESSION I (12 weeks)	
MLT 139 Clinical Practice I	8

SEMESTER III	
BIO 221 Anatomy and Physiology	4
CHM 203 Quantitative Analysis	4
ENG 101 Composition and Expository Reading	3
MLT 229 Medical Microbiology I	4
	<u>15</u>
SEMESTER IV	
BIO 222 Anatomy and Physiology	4
ENG 102 Composition and Literature	3
MLT 231 Clinical Chemistry	4
MLT 236 Medical Microbiology II	4
	<u>15</u>
SUMMER SESSION II (12 weeks)	
MLT 238 Clinical Practice II	8
Minimum Hours Required:	79

MEDICAL TRANSCRIPTION

El Centro only

(Certificate)

The nine month certificate program prepares the student to function as a medical typist or medical transcriptionist with a thorough knowledge of medical terminology, advanced typing and word processing skills with on-the-job 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; physicians' 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.

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.

ADMISSION TO THE PROGRAM

1. Fulfill all requirements for admission to El Centro College.
2. Interview with counselor and/or program coordinator.
3. New students may enter in the fall semester only.

	CREDIT HOURS
SEMESTER I	
BIO 123 Applied Anatomy and Physiology ..	4
OFC 273 Advanced Typing Applications	2
MA 151 Medical Terminology	4
MA 152 Medical Law and Ethics	2
MA 154 Introduction to Medical Transcription	2
ENG 101 Composition and Expository Reading	3
	17
SEMESTER II	
MA 160 Medical Transcription	4
MA 161 Medical Office Administrative and Management Procedures	3
MA 166 Introduction to Medical Word Processing	2
MA 704 Cooperative Work Experience	4
ENG 102 Composition and Literature	3
	16
Minimum Hours Required:	33

RESPIRATORY THERAPY TECHNOLOGY

El Centro only

(Associate Degree)

The associate degree program seeks to qualify the individual upon graduation to perform at a high level of competence in the areas of specialized patient care, diagnostic laboratory, department supervisor and education.

The program is accredited by the Council on Allied Health Education and Accreditation through the Joint Review Committee for Respiratory Therapy Education. Upon completion of the program, the student is awarded an Associate in Applied Arts and Science Degree. In order to be certified by the college as eligible to write the American Registry Exam, a student must, in addition to satisfying degree requirements, comply with the minimum standards for testing prescribed by the above mentioned committee.

Students are required to be covered by professional liability insurance.

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.

ADMISSION TO THE PROGRAM

1. Fulfill all requirements for admission to El Centro College.
2. Interview with liaison counselor and/or program coordinator.
3. Completion of math prerequisites for CHM 101 or 115.
4. Equivalency testing for advanced standing is available. Written requests should be submitted well in advance of enrollment date.

CREDIT HOURS

SEMESTER I

CHM 101	General Chemistry or	4
CHM 115	Chemical Sciences	
BIO 120	Human Anatomy Physiology or	4
BIO 221	Anatomy and Physiology I	
RES 137	Basic Respiratory Skills and Procedures	4
RES 151	Pathology and Treatment Rationale	3
		<u>15</u>

SEMESTER II

CHM 102	General Chemistry or	4
CHM 116	Chemical Sciences	
BIO 121	Human Anatomy and Physiology or	4
BIO 222	Anatomy and Physiology II	
RES 153	Basic Respiratory Skills and Procedures II	6
RES 154	Pharmacology	3
ENG 101	Composition and Expository Reading	3
		<u>20</u>

SUMMER I (6 weeks)

RES 156	Basic Respiratory Therapy Skills and Procedures III	4
RES 102	Composition and Literature	3
		<u>7</u>

SUMMER II (6 weeks)

RES 158	Respiratory Therapy Skills and Procedures IV	5
HD 105	Basic Processes of Interpersonal Relationships	3
		<u>8</u>

SEMESTER III

BIO 216	General Microbiology	4
RES 243	Pulmonary Function	3
RES 257	Advanced Physiology and Pathology	3
RES 261	Critical Care Clinical Procedures	4
RES 263	Advanced Pharmacology	2
		<u>16</u>

SEMESTER IV

RES 264	Special Clinical Procedures	4
RES 265	Pulmonary Rehabilitation	5
RES 271	Pediatric Respiratory Therapy	3
		<u>12</u>

Minimum Hours Required: 78

RESPIRATORY THERAPY TECHNICIAN

El Centro only
(Certificate)

The Respiratory Therapy Technician Program seeks to provide the training necessary to qualify individuals for entrance into the field of skilled in-patient care and technical and therapeutic procedures. For individuals already working in the field, the program serves to broaden and deepen technical knowledge and upgrade therapeutic skills.

The program has been designed to conform to the "Essentials for an Approved Education Program for the Respiratory Therapy Technician" approved by the Council on Allied Health and Accreditation and has been fully accredited by the Joint Review Committee for Respiratory Therapy Education. Upon completion of the program, the student is awarded a certificate. In order to be certified by the college as eligible to write the National Technician Certifying Exam administered by the NBRT, a student must, in addition to satisfying certificate of completion requirements, comply with the minimum standards for testing as required by the accrediting agency.

Fall and spring admission to the program is offered at off-campus sites.

Students are required to be covered by professional liability insurance.

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.

ADMISSION TO THE PROGRAM

1. Fulfill all requirements for admission to El Centro College.
2. Interview with liaison counselor and/or program coordinator.
3. Equivalency testing for advanced standing is available. Written requests should be submitted well in advance of enrollment date.
4. Students may be admitted in the fall or spring semester.

(Fall Admission)

CREDIT
HOURS

SEMESTER I

PSC 118	Physical Science	4
BIO 123	Applied Anatomy and Physiology or	4
BIO 120	and BIO 121 Introduction to Human Anatomy and Physiology	
RES 137	Basic Respiratory Skills and Procedures I	4
RES 151	Pathology and Treatment Rationale I	3
COM 131	Applied Composition and Speech	3
		<u>18</u>

SEMESTER II

RES 135	Applied Pharmacology	3
RES 138	Clinical Practice II	4
RES 145	Basic Technology I	4
RES 149	Pathology and Treatment Rationale II	2
		<u>13</u>

SUMMER I (6 weeks)

RES 160	Clinical Practice III	3
RES 164	Basic Technology II	3
		<u>6</u>

SUMMER II (6 weeks)

RES 162	Clinical Practice IV	4
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Minimum Hours Required: 41

(Spring Admission)

CREDIT
HOURS

SPRING SEMESTER I

PSC 118	Physical Science	4
BIO 123	Applied Anatomy and Physiology or	4
BIO 120	and BIO 121 Introduction to Human Anatomy and Physiology	
RES 137	Basic Respiratory Therapy Skills and Procedures I	4
RES 151	Pathology and Treatment Rationale I	3
COM 131	Applied Composition and Speech	3
		<u>18</u>

SUMMER SESSION I (16 weeks)

RES 135	Applied Pharmacology	3
RES 138	Clinical Practice II	4
RES 145	Basic Technology I	4
RES 149	Pathology and Treatment Rationale II	2
		<u>13</u>

FALL SESSION I (5 weeks)

RES 160	Clinical Practice III	3
RES 164	Basic Technology II	3
		<u>6</u>

FALL SESSION II (5 weeks)

RES 162	Clinical Practice IV	4
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Minimum Hours Required: 41

SURGICAL TECHNOLOGY

El Centro only
(Certificate)

The Surgical Technology Program trains students to provide services in the operating room under the supervision and responsibility of the operating room supervisor. 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 surgical technologist prepares the materials for use at the operating room table and assists in the use of these materials in a variety of operative procedures. Summer session is ten weeks in length. Students are required to be covered by professional liability insurance.

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.

ADMISSION TO THE PROGRAM

1. Fulfill all requirements for admission to El Centro College.
2. Conference with liaison counselor for the Surgical Technology Program.

	CREDIT HOURS
SEMESTER I	
ENG 101 Composition and Expository Reading or	3
COM 131 Applied Composition and Speech	
BIO 123 Applied Anatomy and Physiology or	4
BIO 120 Introduction to Human Anatomy and Physiology	
SGT 140 Medical Terminology	2
SGT 141 Surgical Techniques	8
	<u>17</u>

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 Operating Room Procedures	8
SGT 155 Operating Room Pharmacology ...	2
	<u>17</u>

SUMMER I (10 weeks)	
SGT 153 Clinical Practice	7
SGT 154 Seminar	2
	<u>9</u>

Minimum Hours Required: 43

*BIO 120 is taken in the fall. BIO 121 must be taken in the spring semester.

SURGICAL TECHNOLOGY OPTION FOR GRADUATE REGISTERED NURSES

El Centro only
(Certificate)

This option teaches the registered nurse to provide safety, cleanliness and efficiency necessary for good patient care in the operating room. Basic principles of asepsis, preparation and care of surgical supplies and ethical legal aspects are taught, as well as perioperative role responsibilities of the registered nurse. Students are required to be covered by professional liability insurance.

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.

ADMISSION TO THE PROGRAM

1. Fulfill all requirements for admission to El Centro College and the Surgical Technology Program.
2. Conference with liaison counselor for the Surgical Technology Program.
3. Current licensure by the Texas State Board of Nursing Examiners, or a graduate of an R.N. program.

	CREDIT HOURS
SEMESTER I	
SGT 140 Medical Terminology	2
SGT 141 Operating Room Technique	8
	<u>10</u>
SEMESTER II	
HD 105 Basic Processes of Interpersonal Relationships	3
SGT 160 Operating Room Procedures for Registered Nurses	8
	<u>11</u>

Minimum Hours Required: 21

MOTORCYCLE MECHANICS

Cedar Valley only

(Certificate Program)

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.

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

MM 105	Motorcycle Tune-Up	3
MM 134	Motorcycle Service Principles	4
MM 136	Motorcycle Two Stroke Engine/ Transmission	4
		<u>11</u>

SEMESTER II

MM 137	Motorcycle Four Stroke Engine/ Transmission	4
MM 138	Motorcycle Electrical Systems	4
MM 139	Motorcycle Chassis and Drive Systems	4
		<u>12</u>

SUMMER SESSION

MM 703	Cooperative Work Experience or ..	3
MM 704	Cooperative Work Experience	(4)
		<u>3-4</u>

Minimum Hours Required: 26

NURSING

Brookhaven only

(Associate Degree — Fall Admission)

The Brookhaven College Associate Degree Nursing Program is an intensive program that combines classroom and laboratory work with hospital clinical experience under the guidance of the college nursing faculty. The program is offered at Brookhaven 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. The program is accredited by the National League for Nursing and the Board of Nurse Examiners for the State of Texas.

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

Prerequisites to Program Admission

BIO 120	Introduction to Human Anatomy and Physiology* or	4
BIO 221	Anatomy and Physiology I	
ENG 101	Composition and Expository Reading	3
		<u>7</u>

SEMESTER I

NUR 144	Nursing I	8
BIO 121	Introduction to Human Anatomy and Physiology or	4
BIO 222	Anatomy and Physiology II	
ENG 102	Composition and Literature	3
PSY 105	Introduction to Psychology	3
		<u>18</u>

SEMESTER II

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



SUMMER SESSION

NUR 240	Nursing III	4
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SEMESTER III

NUR 250	Nursing IV	9
SOC 101	Introduction to Sociology	3
		<u>12</u>

SEMESTER IV

NUR 257	Nursing V	10
†Elective		3
		<u>13</u>

Minimum Hours Required: 70

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

†Electives — three (3) hours of electives must be selected from the following:

NUR 101	Basic Pharmacology	3
NUR 102	Introduction to Pathophysiology	3

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

OFFICE CAREERS--ADMINISTRATIVE ASSISTANT OPTION

Offered at all seven campuses
(Associate Degree)

The primary objective of the Administrative Assistant Option to the Office Careers Program is to prepare students for positions as assistants to administrators within public and private firms and agencies. Emphasis in this program is on the development of organizational and management skills in addition to basic office skills.

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

††OFC 160	Office Calculating Machines	3
††OFC 172	Beginning Typing or*	3
OFC 173	Intermediate Typing	
**COM 131	Applied Composition and Speech or	3
ENG 101	Composition and Expository Reading	
MTH 130	Business Mathematics	3
BUS 105	Introduction to Business	3
†Elective	.....	3
		18

SEMESTER II

*OFC 173	Intermediate Typing or	3
OFC 273	Advanced Typing Applications	(2)
OFC 162	Office Procedures	3
††OFC 180	Principles of Word Processing	3
CS 175	Introduction to Computer Science	3
MGT 136	Principles of Management	3
**COM 132	Applied Composition and Speech or	3
ENG 102	Composition and Literature	
		17-18

SEMESTER III

OFC 273	Advanced Typing Applications or	2
†Elective	.....	(3)
OFC 231	Business Communications	3
ACC 131	Bookkeeping I or	3
ACC 201	Principles of Accounting	
PSY 131	Human Relations or	3
PSY 105	Introduction to Psychology	
†Electives	.....	6
		17-18

SEMESTER IV

OFC 256	Office Management or	3
BUS 237	Organizational Behavior	
HUM 101	Introduction to the Humanities	3
†Electives	.....	9
		15

Minimum Hours Required: 67

†Electives-must be taken from the following:

OFC	Any OFC course may be selected	3-4
OFC 803/804	Cooperative Work Experience	3-4
ACC 132	Bookkeeping II	3
ACC 202	Principles of Accounting II	3
BUS 143	Personal Finance	3
BUS 234	Business Law	3
BUS 237	Organizational Behavior	3
MGT 242	Personnel Administration	3
CS 250	Contemporary Topics in Computer Science	3
CS 251	Special Topics in Computer Science	4
ECO 201	Principles of Economics I	3
SPE 105	Fundamentals of Public Speaking	3

*Students may be placed in typing courses based on proficiency level determined by previous training, experience and/or placement tests.

**ENG 101 and ENG 102 may be substituted for COM 131 and COM 132 provided that SPE 105 is also taken.

††NOTE:

OFC 192, OFC 193 and OFC 194 taken cumulatively will be equivalent to OFC 160.

OFC 176, OFC 177 and OFC 178 taken cumulatively will be equivalent to OFC 172.

OFC 181, OFC 182 and OFC 185 taken cumulatively will be equivalent to OFC 180.

OFFICE CAREERS — GENERAL OFFICE

Offered at all seven campuses
(Certificate)

The General Office Certificate Program is designed to provide the student with a basic working knowledge and skills in various office activities. A general knowledge of business concepts and procedures is provided.

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	
††OFC 160 Office Calculating Machines	3
††OFC 172 Beginning Typing*	3
COM 131 Applied Composition and Speech or	3
ENG 101 Composition and Expository Reading	3
MTH 130 Business Mathematics	3
†Electives	7
	19

SEMESTER II	
ACC 131 Bookkeeping I	3
BUS 105 Introduction to Business	3
CS 175 Introduction to Computer Science	3
†Electives	7
	16

Minimum Hours Required: 35

†Electives — must be taken from the following:

OFC 103	Speedwriting Theory	4
OFC 104	Speedwriting Dictation	3
OFC 159	Beginning Shorthand	4
OFC 162	Office Procedures	3
OFC 180	Principles of Word Processing	3
OFC 166	Intermediate Shorthand	4
OFC 173	Intermediate Typing	3
OFC 231	Business Communications	3
ACC 132	Bookkeeping II	3
ACC 201	Principles of Accounting I	3
COM 132	Applied Composition and Speech	3
PSY 105	Introduction to Psychology or	3
PSY 131	Human Relations	3
MGT 136	Principles of Management	3
BUS 234	Business Law	3
CS 250	Contemporary Topics in Computer Science	3
OFC 273	Advanced Typing Applications	2
OFC 275	Secretarial Procedures	3
OFC 803	Cooperative Work Experience or	3
OFC 804	Cooperative Work Experience	(4)

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

††NOTE:

OFC 192, OFC 193 and OFC 194 taken cumulatively will be equivalent to OFC 160.
OFC 176, OFC 177 and OFC 178 taken cumulatively will be equivalent to OFC 172.
OFC 187, OFC 188 and OFC 189 taken cumulatively will be equivalent to OFC 166.
OFC 181, OFC 182 and OFC 185 taken cumulatively will be equivalent to OFC 180.

OFFICE CAREERS — GENERAL OFFICE

Offered at all seven campuses
(Certificate — Accounting Emphasis)

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	
††OFC 160 Office Calculating Machines	3
††OFC 172 Beginning Typing*	3
ACC 131 Bookkeeping I or	3
ACC 201 Principles of Accounting I	
COM 131 Applied Composition and Speech or	3
ENG 101 Composition and Expository Reading	
MTH 130 Business Mathematics	3
†Elective	3
	18

SEMESTER II	
**ACC 132 Bookkeeping II or	3
†Elective	
BUS 105 Introduction to Business	3
CS 175 Introduction to Computer Science	3
†Electives	8
	17

Minimum Hours Required: 35

†Electives — Must be taken from the following:

OFC 103	Speedwriting Theory	4
OFC 104	Speedwriting Dictation	3
OFC 159	Beginning Shorthand	4
OFC 162	Office Procedures	3
OFC 180	Principles of Word Processing	3
OFC 166	Intermediate Shorthand	4
OFC 173	Intermediate Typing	3
OFC 231	Business Communications	3
ACC 132	Bookkeeping II	3
ACC 201	Principles of Accounting I	3
COM 132	Applied Composition and Speech	3
PSY 105	Introduction to Psychology or	3
PSY 131	Human Relations	3
MGT 136	Principles of Management	3
BUS 234	Business Law	3
CS 250	Contemporary Topics in Computer Science	3
OFC 273	Advanced Typing Applications	2
OFC 275	Secretarial Procedures	3
OFC 803	Cooperative Work Experience or	3
OFC 804	Cooperative Work Experience	(4)

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

**Required if ACC 131 was taken previously.

††NOTE:

OFC 192, OFC 193 and OFC 194 taken cumulatively will be equivalent to OFC 160.
OFC 176, OFC 177 and OFC 178 taken cumulatively will be equivalent to OFC 172.
OFC 187, OFC 188 and OFC 189 taken cumulatively will be equivalent to OFC 166.
OFC 181, OFC 182 and OFC 185 taken cumulatively will be equivalent to OFC 180.

OFFICE CAREERS — GENERAL OFFICE

Offered at all seven campuses
(Certificate — Office Clerical Emphasis)

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	
††OFC 160 Office Calculating Machines	3
OFC 162 Office Procedures	3
*OFC 172 Beginning Typing	3
COM 131 Applied Composition and Speech or	3
ENG 101 Composition and Expository	
Reading	
MTH 130 Business Mathematics	3
†Elective	3
	18

SEMESTER II	
††OFC 180 Principles of Word Processing ..	3
OFC 173 Intermediate Typing	3
OFC 231 Business Communications	3
ACC 131 Bookkeeping I	3
BUS 105 Introduction to Business	3
CS 175 Introduction to Computer Science ..	3
	18

Minimum Hours Required: 36

†Electives — Must be taken from the following:

OFC 103	Speedwriting Theory	4
OFC 104	Speedwriting Dictation	3
OFC 159	Beginning Shorthand	4
OFC 166	Intermediate Shorthand	4
OFC 231	Business Communications	3
ACC 132	Bookkeeping II	3
ACC 201	Principles of Accounting I	3
COM 132	Applied Composition and Speech	3
PSY 105	Introduction to Psychology or	3
PSY 131	Human Relations	
MGT 136	Principles of Management	3
BUS 234	Business Law	3
CS 250	Contemporary Topics in Computer Science ..	3
OFC 273	Advanced Typing Applications	2
OFC 275	Secretarial Procedures	3
OFC 803	Cooperative Work Experience or	3
OFC 804	Cooperative Work Experience	(4)

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

††NOTE:

OFC 192, OFC 193 and OFC 194 taken cumulatively will be equivalent to OFC 160.

OFC 176, OFC 177 and OFC 178 taken cumulatively will be equivalent to OFC 172.

OFC 187, OFC 188 and OFC 189 taken cumulatively will be equivalent to OFC 166.

OFC 181, OFC 182 and OFC 185 taken cumulatively will be equivalent to OFC 180.

OFFICE CAREERS-INSURANCE

Richland only
(Certificate)

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	
INS 108 Personal and Commercial Auto	
Insurance	3
INS 109 Personal Lines-Homeowners/Fire/	
Marine	3
MTH 130 Business Mathematics	3
OFC 160 Office Calculating Machines	3
OFC 172 Beginning Typing* or	3
OFC 173 Intermediate Typing	
	15

SEMESTER II	
INS 110 Commercial Casualty-Workers	
Compensation/General Liability	
and Crime	3
INS 111 TMP Commercial Fire/Commercial	
Marine/Fidelity Bond	3
OFC 162 Office Procedures	3
OFC 231 Business Communications	3
OFC 803 Cooperative Work Experience or ..	3
OFC 804 Cooperative Work Experience	(4)
OFC 174 Intermediate Typing** or	3
†Elective	
	18-19

Minimum Hours Required: 33

†Electives-Must be taken from the following:

OFC 165	Introduction to Word Processing	3
OFC 273	Advanced Typing Applications	2
CS 175	Introduction to Computer Science	3

*Students with previous training in typing will be placed according to ability.

**Students who took OFC 174 first semester, will take a technical elective second semester.

OFFICE CAREERS — 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 Arts and Sciences Degree is awarded for successful completion.

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

OFC 159	Beginning Shorthand or	4
OFC 103	Speedwriting	
††OFC 160	Office Calculating Machines	3
††OFC 172	Beginning Typing* or	3
OFC 173	Intermediate Typing	
**COM 131	Applied Composition and Speech or	3
ENG 101	Composition and Expository Reading	
MTH 130	Business Mathematics	3
		16

SEMESTER II

††OFC 166	Intermediate Shorthand or	4
OFC 104	Speedwriting Dictation	(3)
OFC 173	Intermediate Typing* or	3
OFC 273	Advanced Typing Applications	(2)
OFC 162	Office Procedures	3
ACC 131	Bookkeeping I or	3
ACC 201	Principles of Accounting I	
BUS 105	Introduction to Business	3
**COM 132	Applied Composition and Speech or	3
ENG 102	Composition and Literature	
		17-19

SEMESTER III

††OFC 180	Principles of Word Processing	3
OFC 167	Legal Terminology and Transcription	3
OFC 231	Business Communications	3
CS 175	Introduction to Computer Science	3
OFC 273	Advanced Typing Applications or	2
† Elective		(3)
		14-15

SEMESTER IV

OFC 282	Word Processing Applications	1
OFC 274	Legal Office Procedures	3
OFC 275	Secretarial Procedures or	3
OFC 803	Cooperative Work Experience or	(3)
OFC 804	Cooperative Work Experience	(4)
OFC 285	Applied Machine Transcription	1
HUM 101	Introduction to the Humanities	3
PSY 131	Human Relations or	3
PSY 105	Introduction to Psychology	
		14-15

Minimum Hours Required: 61

†Electives — must be selected from the following:

OFC Any OFC Course may be selected		
OFC 803/804	Cooperative Work Experience	3-4
ACC 132	Bookkeeping II	3
ACC 202	Principles of Accounting II	3
BUS 143	Personal Finance	3
BUS 234	Business Law	3
BUS 237	Organizational Behavior	3
MGT 136	Principles of Management	3
MGT 242	Personnel Administration	3
CS 250	Contemporary Topics in Computer Science	3
CS 251	Special Topics in Computer Science and Data Processing	4
ECO 201	Principles of Economics I	3
SPE 105	Fundamentals of Public Speaking	3

*Students may be placed in typing courses based on proficiency level determined by previous training, experience and/or placement tests.

**ENG 101 and ENG 102 may be substituted for COM 131 and COM 132 provided that SPE 105 is also taken.

††NOTE:

OFC 192, OFC 193 and OFC 194 taken cumulatively will be equivalent to OFC 160.
OFC 176, OFC 177 and OFC 178 taken cumulatively will be equivalent to OFC 172.
OFC 187, OFC 188 and OFC 189 taken cumulatively will be equivalent to OFC 166.
OFC 181, OFC 182 and OFC 185 taken cumulatively will be equivalent to OFC 180.

OFFICE CAREERS — PROFESSIONAL SECRETARY OPTION

Offered at all seven campuses
(Associate Degree)

The primary objective of this option is to prepare students to become competent 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 Arts and Sciences Degree is awarded for successful completion:

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	
††OFC 160 Office Calculating Machines	3
OFC 159 Beginning Shorthand or	4
OFC 103 Speedwriting	
††OFC 172 Beginning Typing* or	3
OFC 173 Intermediate Typing	
**COM 131 Applied Composition and Speech or	3
ENG 101 Composition and Expository Reading	
MTH 130 Business Mathematics	3
	16

SEMESTER II	
††OFC 166 Intermediate Shorthand or	4
OFC 104 Speedwriting Dictation	(3)
OFC 173 Intermediate Typing or	3
OFC 273 Advanced Typing Applications	(2)
OFC 162 Office Procedures	3
ACC 131 Bookkeeping I or	3
ACC 201 Principles of Accounting I	
BUS 105 Introduction to Business	3
**COM 132 Applied Composition and Speech or	3
ENG 102 Composition and Literature	
	17-19

SEMESTER III	
††OFC 180 Principles of Word Processing	3
OFC 231 Business Communications	3
CS 175 Introduction to Computer Science	3
PSY 131 Human Relations or	3
PSY 105 Introduction to Psychology	
*OFC 273 Advanced Typing Applications or	2
†Elective	(3)
	14-15

SEMESTER IV	
OFC 282 Word Processing Applications	1
OFC 275 Secretarial Procedures or	3
OFC 803 Cooperative Work Experience or	(3)
OFC 804 Cooperative Work Experience	(4)
OFC 285 Applied Machine Transcription	1
HUM 101 Introduction to the Humanities	3
†Electives	6-7
	14-16

Minimum Hours Required: 61

†Electives — must be taken from the following:

OFC Any OFC Course may be selected

ACC 132	Bookkeeping II	3
ACC 202	Principles of Accounting II	3
BUS 143	Personal Finance	3
BUS 234	Business Law	3
BUS 237	Organizational Behavior	3
MGT 136	Principles of Management	3
MGT 242	Personnel Administration	3
CS 250	Contemporary Topics in Computer Science	3
CS 251	Special Topics in Computer Science and Data Processing	4
ECO 201	Principles of Economics I	3
SPE 105	Fundamentals of Public Speaking	3

*Students may be placed in typing courses based on proficiency level determined by previous training, experience and/or placement tests.

**ENG 101 and ENG 102 may be substituted for COM 131 and COM 132 provided that SPE 105 is also taken.

††NOTE:

OFC 192, OFC 193 and OFC 194 taken cumulatively will be equivalent to OFC 160.

OFC 176, OFC 177 and OFC 178 taken cumulatively will be equivalent to OFC 172.

OFC 187, OFC 188 and OFC 189 taken cumulatively will be equivalent to OFC 166.

OFC 181, OFC 182 and OFC 185 taken cumulatively will be equivalent to OFC 180.

OFFICE CAREERS — RECORDS MANAGEMENT OPTION

Brookhaven, Cedar Valley and El Centro only

(Associate Degree)

This program is designed to train students who wish to enter the ever-growing field of records management. Four technical courses will prepare the students to enter a comprehensive records management program in an organization which exerts control over the creation, distribution, retention, utilization, storage, retrieval, protection, preservation, and final disposition of all types of records. An Associate in Applied Arts and Sciences Degree is awarded for successful completion.

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

OFC 150	Filing Practices	3
††OFC 160	Office Calculating Machines	3
††OFC 172	Beginning Typing *or	3
OFC 173	Intermediate Typing	
**COM 131	Applied Composition and Speech or	3
ENG 101	Composition and Expository Reading	
MTH 130	Business Mathematics	3
		<u>15</u>

SEMESTER II

OFC 152	Introduction to Records Management	3
OFC 162	Office Procedures	3
OFC 173	Intermediate Typing *or	3
OFC 273	Advanced Typing Applications	(2)
ACC 131	Bookkeeping I or	3
ACC 201	Principles of Accounting I	
BUS 105	Introduction to Business	3
**COM 132	Applied Composition and Speech or	3
ENG 102	Composition and Literature	
		<u>17-18</u>

SEMESTER III

††OFC 180	Principles of Word Processing	3
OFC 231	Business Communications	3
OFC 250	Records Control	3
CS 175	Introduction to Computer Science	3
PSY 131	Human Relations or	3
PSY 105	Introduction to Psychology	
OFC 273	Advanced Typing Applications or	3
†Elective	.....	(3)
		<u>17-18</u>

SEMESTER IV

OFC 252	Micrographics	3
OFC 282	Word Processing Applications	1
OFC 285	Applied Machine Transcription	1
HUM 101	Introduction to the Humanities	3
†Electives	.....	6-7
		<u>14-15</u>

Minimum Hours Required: 63

†Electives — must be taken from the following:

OFC Any OFC Course may be selected		
OFC 803/804	Cooperative Work Experience	3-4
ACC 132	Bookkeeping II	3
ACC 202	Principles of Accounting II	3
BUS 143	Personal Finance	3
BUS 234	Business Law	3
BUS 237	Organizational Behavior	3
MGT 136	Principles of Management	3
MGT 242	Personnel Administration	3
CS 250	Contemporary Topics in Computer Science	3
CS 251	Special Topics in Computer Science and Data Processing	4
ECO 201	Principles of Economics I	3
SPE 105	Fundamentals of Public Speaking	3

*Students may be placed in typing courses based on proficiency level determined by previous training, experience and/or placement tests.

**ENG 101 and ENG 102 may be substituted for COM 131 and COM 132 provided that SPE 105 is also taken.

††NOTE:

OFC 192, OFC 193 and OFC 194 taken cumulatively will be equivalent to OFC 160.

OFC 176, OFC 177 and OFC 178 taken cumulatively will be equivalent to OFC 172.

OFC 181, OFC 182 and OFC 185 taken cumulatively will be equivalent to OFC 180.

OPTICAL TECHNOLOGY

North Lake only

(Certificate)

The Optical Technology Program is designed to prepare students for entry level employment in the optical manufacturing or optical dispensing field.

Graduates should be able to operate machines, read optical specifications, perform quality control checks, and be able to communicate with customers. Students may specialize in either optical manufacturing or optical dispensing.

Students may elect to receive a certificate or may apply the certificate courses required in this program toward an Associate in Applied Arts and Sciences Degree.

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	
OPT 101 Ophthalmic Materials	3
OPT 102 Ophthalmic Grinding and Polishing	3
OPT 103 Optical Lens Design and Measurements	3
OPT 104 Optical Lens and Frame Selection	3
MTH 195 Technical Mathematics	3
	<u>15</u>
SEMESTER II	
OPT 205 Anatomy and Physiology of the Eye	3
OPT 206 Introduction to Contact Lenses	3
OPT 207 Bifocal and Trifocal Lenses	3
PHY 131 Applied Physics	4
	<u>13</u>
SUMMER SEMESTERS I & II (12 weeks)	
OPT 703 Cooperative Work Experience	3
SEMESTER III	
OPT 208 Ophthalmic Laboratory Equipment	3
OPT 209 Ophthalmic Dispensing Ethics	3
OPT 211 Optical Principles	3
OPT 803, 813 Cooperative Work Experience	3
	<u>12</u>
Minimum Hours Required:	43

OPTICAL TECHNOLOGY

North Lake only

(Associate Degree)

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	
OPT 101 Ophthalmic Materials	3
OPT 102 Ophthalmic Grinding and Polishing	3
COM 131 Applied Composition and Speech or	3
ENG 101 Composition and Expository Reading	3
MTH 195 Technical Mathematics	3
PSY 131 Human Relations	3
	<u>15</u>
SEMESTER II	
OPT 103 Optical Lens Design and Measurements	3
OPT 104 Optical Lens and Frame Selection	3
BUS 105 Introduction to Business	3
GVT 201 American Government or	3
HST 101 History of the United States	4
PHY 131 Applied Physics	4
	<u>16</u>
SUMMER SEMESTERS I & II (12 weeks)	
OPT 703 Cooperative Work Experience	3
SEMESTER III	
OPT 205 Anatomy and Physiology of the Eye	3
OPT 206 Introduction to Contact Lenses	3
OPT 207 Bifocal and Trifocal Lenses	3
OPT 208 Ophthalmic Laboratory Equipment	3
OPT 803 Cooperative Work Experience	3
	<u>15</u>
SEMESTER IV	
Lab Majors	
OPT 209 Ophthalmic Dispensing Ethics	3
OPT 211 Optical Principles	3
OPT 813 Cooperative Work Experience	3
†Elective	3
	<u>12</u>
SEMESTER IV	
Dispensing Majors	
OPT 210 Ophthalmic Fitting	3
OPT 212 Measurements	3
OPT 213 Dispensing Occupational Eyewear	3
OPT 813 Cooperative Work Experience	3
	<u>12</u>
Minimum Hours Required:	61

PRECISION OPTICS TECHNOLOGY

North Lake only

(Associate Degree)

The Precision Optics Technology Program is designed to prepare students for employment in the precision optics manufacturing field.

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

POP 101	Introduction to Precision Optics Technology	3
POP 104	Industrial Shop Safety	3
BPR 177	Blueprint Reading	2
COM 131	Applied Composition & Speech	3
MTH 195	Technical Mathematics	3
		14

SEMESTER II

POP 102	Precision Optics Machining I	3
POP 103	Precision Optics Machining II	3
POP 107	Precision Optics Handling and Cleaning	2
MTH 196	Technical Mathematics	3
PHY 131	Applied Physics	4
		15

SEMESTER III

POP 105	Precision Optics Machining III	3
POP 106	Thin Film Optical Coatings	4
POP 201	Basic Precision Optics Theory	3
HST 102	History of the United States	3
Elective	.....	3
		16

SEMESTER IV

POP 203	Precision Optics Quality Control ...	3
POP 204	Precision Optics Assembly	3
POP 205	Advanced Precision Optics Processes	3
POP 703	Cooperative Work Experience	3
PSY 131	Human Relations	3
		15

Minimum Hours Required: 60



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.

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

HLN 131	Horticultural Science	4
HLN 132	Landscape Trees	2
HLN 141	Floral Design	4
BIO 115	Biological Science or	4
BIO 110	Introductory Botany	4
COM 131	Applied Composition and Speech	3
		17

SEMESTER II

HLN 133	Landscape Shrubs, Vines & Ground Cover	2
HLN 140	Herbaceous and Exotic Plants	3
CHM 115	General Chemistry or	4
PSC 118	Physical Science	4
ART 110	Basic Design I	3
BUS 105	Introduction to Business or	3
MGT 153	Small Business Management	3
		15

SEMESTER III

HLN 227	Greenhouse Horticulture	4
HLN 235	Propagation of Woody Ornamental Plants	2
HLN 252	Flower Shop Management	3
MTH 195	Technical Mathematics or	3
MTH 130	Business Mathematics	3
MKT 206	Principles of Marketing or	3
MKT 137	Principles of Retailing	3
		15

SEMESTER IV

HLN 249	Foliage Plants and Interiorscaping	3
HLN 248	Advanced Floral Design	3
HLN 245	Problems and Practices in Industry or	4
HLN 804	Cooperative Work Experience	3
ACC 131	Bookkeeping I or	3
MGT 157	Small Business Bookkeeping and Accounting Practices	3
Elective	.....	3
		16

Minimum Hours Required: 63

ORNAMENTAL HORTICULTURE TECHNOLOGY- FLORIST CERTIFICATE

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.

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	
HLN 132 Landscape Trees	2
HLN 141 Floral Design	4
ART 110 Basic Design I	3
BUS 105 Introduction to Business or	3
MGT 153 Small Business Management	
MTH 130 Business Mathematics	3
	<u>15</u>
SEMESTER II	
HLN 133 Landscape Shrubs, Vines, & Ground Cover	2
HLN 140 Herbaceous and Exotic Plants	3
HLN 252 Flower Shop Management	4
HLN 804 Cooperative Work Experience	4
ACC 131 Bookkeeping or	3
MGT 157 Small Business Bookkeeping and Accounting	
	<u>16</u>
Minimum Hours Required:	31

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.

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	
HLN 131 Horticultural Science	4
HLN 132 Landscape Trees	2
HLN 146 Fundamentals of Landscape Planning	3
BUS 105 Introduction to Business or	3
MGT 153 Small Business Management	
MTH 195 Technical Mathematics or	3
MTH 130 Business Mathematics	
	<u>15</u>
SEMESTER II	
HLN 133 Landscape Shrubs, Vines, & Ground Cover	2
HLN 140 Herbaceous and Exotic Plants	3
HLN 145 Landscape Development I	3
HLN 804 Cooperative Work Experience	4
†Elective	3
	<u>15</u>
Minimum Hours Required:	30

ORNAMENTAL HORTICULTURE TECHNOLOGY LANDSCAPE MANAGEMENT OPTION

Richland only
(Associate Degree)

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	
HLN 131 Horticulture Science	4
HLN 132 Landscape Trees	2
HLN 145 Landscape Development I	3
HLN 146 Fundamentals of Landscape Planning	3
BIO 115 Biological Science or	4
BIO 110 Introductory Botany	
	16
SEMESTER II	
HLN 133 Landscape Shrubs, Vines and Ground Cover II	2
HLN 140 Herbaceous and Exotic Plants	3
HLN 147 Landscape Development II	3
BUS 105 Introduction to Business	3
CHM 115 General Chemistry or	4
PSC 118 Physical Science	
	15
SEMESTER III	
COM 131 Applied Composition and Speech ..	3
MGT 153 Small Business Management	3
HLN 231 Landscape Design	4
MTH 130 Business Mathematics	3
HLN 804 Cooperative Work Experience	4
	17
SEMESTER IV	
HLN 238 Landscape Management	3
MGT 157 Small Business Accounting Practices or	3
ACC 131 Bookkeeping I	
HLN 250 Advanced Landscape Planning	3
HLN 249 Foliage Plants and Interiorscaping .	3
HLN 814 Cooperative Work Experience	4
	16
Minimum Hours Required:	64

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 landscaping planning business. A student who completes this training is prepared for work in park and recreation departments, production nurseries, industrial parks and gardens.

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.

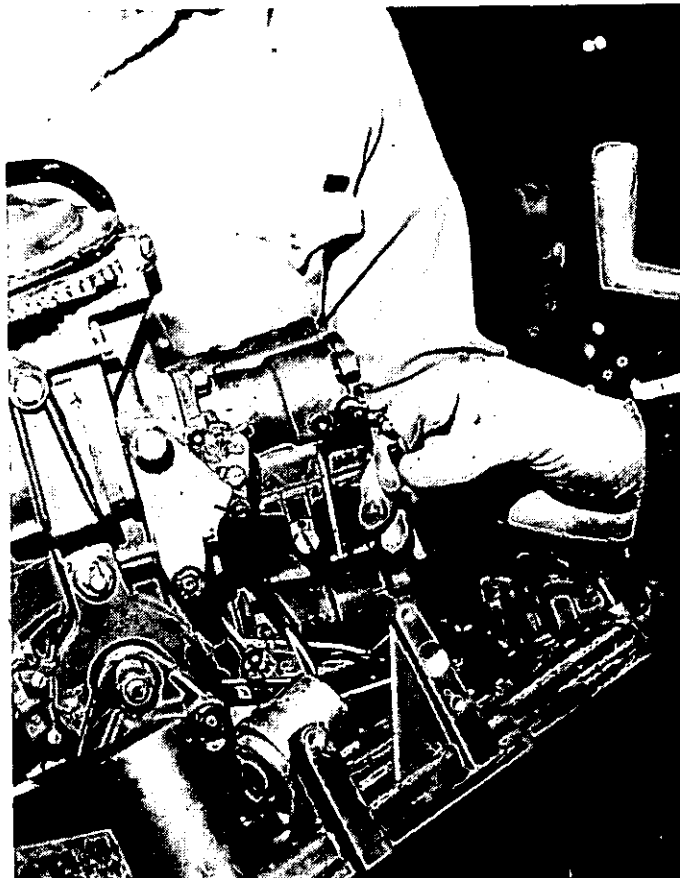
	CREDIT HOURS
SEMESTER I	
HLN 131 Horticultural Science	4
HLN 132 Landscape Trees	2
HLN 145 Landscape Development I	3
HLN 146 Fundamentals of Landscape Planning	3
BIO 115 Biological Science or	4
BIO 110 Introductory Botany	
	16
SEMESTER II	
HLN 147 Landscape Development II	3
HLN 133 Landscape Shrubs, Vines, & Ground Cover	2
HLN 140 Herbaceous and Exotic Plants	3
MTH 195 Technical Mathematics or	3
MTH 130 Business Mathematics	
CHM 115 General Chemistry or	4
PSC 118 Physical Science	
	15
SEMESTER III	
HLN 235 Propagation of Woody Ornamental Plants	2
HLN 227 Greenhouse Horticulture	4
HLN 231 Landscape Design I	4
HLN 233 Nursery Operations	3
BUS 105 Introduction to Business	3
	16
SEMESTER IV	
HLN 250 Advanced Landscape Planning	3
HLN 245 Problems and Practices in Industry or	4
HLN 804 Cooperative Work Experience	
HLN 249 Foliage Plants and Interiorscaping .	3
COM 131 Applied Composition and Speech ..	3
HLN 238 Landscape Management	3
	16
Minimum Hours Required:	63

OUTBOARD MARINE ENGINE MECHANICS

Cedar Valley only
(Certificate Program)

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 115 Outboard Engine Tune-Up	3
OE 144 Outboard Engine Service Principles	4
OE 146 Outboard Engine Powerhead Overhaul	4
	11
SEMESTER II	
OE 147 Outboard Engine Lower Unit Overhaul	4
OE 148 Outboard Engine Electrical Systems	4
OE 723 Cooperative Work Experience or	3
OE 724 Cooperative Work Experience	(4)
	11-12
Minimum Hours Required:	22

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.

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.

ADMISSION TO THE PROGRAM

1. Contact the Testing Division to schedule a time to take the Design Indicator Test.
2. Fulfill all requirements for admission to El Centro College.

	CREDIT HOURS
SEMESTER I	
DES 110 Basic Color Theory and Application	3
DES 128 Introduction to Mass Production and Apparel (1st 8 weeks)	2
DES 129 Industrial Garment Construction (1st 8 weeks)	1
DES 234 History of Costume	3
PDD 151 Pattern Drafting (2nd 8 weeks)	3
COM 131 Applied Composition and Speech or	3
ENG 101 Composition and Expository Reading	3
	15
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
COM 132 Applied Composition and Speech or	3
ENG 102 Composition and Literature	3
	18

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 105 Introduction to Psychology or	3
HD 105 Basic Processes of Interpersonal Relationships	3
HST 101 History of the United States or	3
HST 102 History of the United States	3
	15

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 812 Cooperative Work Experience or	(2)
PDD 813 Cooperative Work Experience or	(3)
PDD 814 Cooperative Work Experience	(4)
GVT 201 American Government	3
HUM 101 Introduction to Humanities	3
	13-16

Minimum Hours Required: 61

POSTAL SERVICE ADMINISTRATION

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 Arts and 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.

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

PSA 110	Introduction to Postal Service	3
COM 131	Applied Composition and Speech or	3
ENG 101	Composition and Expository Reading	
MTH 130	Business Mathematics	3
PSY 105	Introduction to Psychology	3
MGT 171	Introduction to Supervision	3
		15

SEMESTER II

PSA 122	Customer Service	3
COM 132	Applied Composition and Speech or	3
ENG 102	Composition and Literature	
CS 175	Introduction to Computer Science	3
PSY 131	Human Relations	3
SOC 101	Introduction to Sociology	3
		15

SEMESTER III

PSA 120	Mail Processing	3
SPE 105	Fundamentals of Public Speaking	3
ACC 131	Bookkeeping I	3
BUS 237	Organizational Behavior	3
†Elective		3
		15

SEMESTER IV

PSA 216	Postal Management	3
MGT 242	Personnel Administration	3
GVT 201	American Government	3
†Elective		6
		15

Minimum Hours Required: 60

†Electives must be selected from the following:

ART 104	Art Appreciation	3
CS 182	Introduction to BASIC Programming	3
ECO 101	Principles of Economics I	3
ECO 102	Principles of Economics II	3
GVT 202	American Government	3
HD 104	Educational or Career Planning	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
HUM 101	Introduction to the Humanities	3
MUS 104	Music Appreciation	3
PSY 202	Applied Psychology	3

RADIOLOGIC SCIENCES

El Centro only

General Studies

All students must complete a number of general education courses to meet the requirements for admission into special program tracks and to be eligible for the Associate in Applied Arts and Sciences Degree.

Radiologic Sciences

The radiology sciences freshman student is provided a core 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 in the sophomore year.

After completing the basic academic, math and science requirements, the sophomore student will begin the specialized track of didactic and clinical study. There are four specific program tracks. Each program track will have class and clinical studies designed to meet the essentials for certification as specified by each accrediting agency.

The core curriculum is for all first year students in radiologic sciences.

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.

ADMISSION TO THE PROGRAM

1. Fulfill all requirements for admission to El Centro College.
2. Interview with counselor and/or program coordinator.
3. Admission to specialty tracks is on a space-available basis.
4. Students are required to be covered by professional liability insurance.

CREDIT
HOURS

CORE CURRICULUM

(For all first year students in radiologic sciences)

SEMESTER I

RAD 101	Introduction to Radiologic Sciences I	3
BIO 120	Introduction to Human Anatomy and Physiology	4
MTH 139	Applied Mathematics	3
ENG 101	Composition and Expository Reading	3
HD 105	Basic Processes of Interpersonal Relationships	3
		16

SEMESTER II

RAD 102	Introduction to Radiologic Sciences II	3
BIO 121	Introduction to Human Anatomy and Physiology	4
PHY 118	Concepts in Physics	4
ENG 102	Composition and Literature	3
CS 175	Introduction to Computer Science	3
		17

Minimum Hours Required: 33

DIAGNOSTIC MEDICAL SONOGRAPHY

El Centro only

(Associate Degree)

The medical sonographer performs diagnostic 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. The sonographer must be familiar with cross-sectional anatomy and various sonographic equipment.

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

SEMESTERS I and II

Core Curriculum	33
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SUMMER SESSION I

DMS 200	Ultrasound Orientation I	2
DMS 202	Film Evaluation Seminar I	1
		3

SUMMER SESSION II

DMS 203	Ultrasound Orientation II	2
DMS 204	Film Evaluation Seminar II	1
		3

FALL SEMESTER III

DMS 210	Acoustical Physics	3
DMS 212	Cross Sectional Anatomy	4
DMS 213	Ultrasound Science I	3
DMS 214	Clinical Medicine I	4
		14

SPRING SEMESTER IV

DMS 221	Instrumentation/Standardization ...	4
DMS 222	Pathophysiology	3
DMS 223	Clinical Medicine II	4
DMS 224	Clinical Education I	6
		17

SUMMER SESSION III

DMS 231	Clinical Education II	4
DMS 236	Clinical Medicine III	2
		6

SUMMER SESSION IV

DMS 238	Clinical Education III	4
DMS 239	Clinical Medicine IV	2
		6

Minimum Hours Required: 82

NUCLEAR MEDICINE TECHNOLOGY

(Associate Degree) *El Centro only*

The nuclear medicine technologist is concerned with diagnostic, therapeutic (exclusive of sealed radiation sources) and investigative use of radionuclides. The technologist has skills in mathematical computation to make dose calculations for in vivo studies and assists the physician in the operation of scanning devices using radionuclides.

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

SEMESTERS I and II

Core Curriculum 33

SUMMER SESSION I

PHY 131	Applied Physics	4
RAD 109	Radiation Protection	1
CHM 101	General Chemistry	4
		<u>9</u>

SUMMER SESSION II

PHY 132	Applied Physics	4
RAD 117	Radiation Biology	1
CHM 102	General Chemistry	4
		<u>9</u>

SEMESTER III

NMT 220	Nuclear Medicine Physics	5
NMT 224	Clinical Nuclear Medicine	4
NMT 226	Radiochemistry-Pharmacy I	3
NMT 229	Nuclear Medicine Practicum I	2
		<u>14</u>

SEMESTER IV

NMT 232	Radiochemistry-Pharmacy II	3
NMT 234	Radiation Therapy	1
NMT 235	Nuclear Medicine Practicum II	4
		<u>8</u>

SUMMER III

NMT 237	Nuclear Medicine Seminar	1
NMT 241	Nuclear Medicine Internship	4
		<u>5</u>

Minimum Hours Required: 78

RADIATION THERAPY TECHNOLOGY

(Associate Degree) *El Centro only*

The radiation therapy technologist assists the radiologist in treatment of disease by exposing specific areas of the patient's body to prescribed doses of x-ray or other forms of ionizing radiation. The technologist assists in maintaining proper operation of controlling devices and equipment used in treatment, observes radiation safety measures, observes patients for unusual reactions and reports to the radiation therapist and assists in tumor localization and dosimetric procedures.

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

SEMESTERS I and II

Core Curriculum 33

SUMMER SESSION I

PHY 131	Applied Physics	4
RAD 109	Radiation Protection	1
		<u>5</u>

SUMMER SESSION II

PHY 132	Applied Physics	4
RAD 117	Radiation Biology	1
		<u>5</u>

SEMESTER III

RTT 240	Technical Radiation Therapy	2
RTT 242	Radiation Oncology I	2
RTT 248	Radiation Therapy Practicum I	8
		<u>12</u>

SEMESTER IV

RTT 244	Radiation Oncology II	2
RTT 247	Brachy Therapy	1
RTT 249	Radiation Therapy Practicum II	8
RTT 253	Radiation Physics	4
		<u>15</u>

SUMMER SESSION III (10 Weeks)

RTT 251	Radiation Oncology III	1
RTT 255	Radiation Therapy Practicum III	4
		<u>5</u>

Minimum Hours Required: 75

RADIOGRAPHY TECHNOLOGY

El Centro only
(Associate Degree)

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.

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

SEMESTERS I AND II

Core Curriculum 33

SUMMER I

RAD 103	Radiographic Positioning and Osteology I	2
RAD 105	Principles of Radiographic Exposure I	1
RAD 107	Applied Physics I	1
RAD 109	Radiation Protection	1
		<u>5</u>

SUMMER II

RAD 111	Radiographic Positioning and Osteology II	2
RAD 113	Principles of Radiographic Exposure II	1
RAD 115	Applied Physics II	1
RAD 117	Radiation Biology	1
		<u>5</u>

SEMESTER III

RAD 201	Clinical Education I	6
RAD 206	Radiographic Positioning and Osteology III	3
RAD 205	Principles of Radiographic Exposure III	4
		<u>13</u>

SEMESTER IV

RAD 207	Clinical Education II	8
RAD 209	Radiographic Pathology	2
RAD 211	Special Procedures	2
		<u>12</u>

SUMMER III

RAD 215	Clinical Education III (Externship) ..	5
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SUMMER IV

RAD 217	Clinical Education IV (Externship) ..	5
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Minimum Hours Required: 78

REAL ESTATE

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 Arts and Sciences Degree.

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	
*COM 131 Applied Composition and Speech or	3
ENG 101 Composition and Expository Reading	
BUS 105 Introduction to Business	3
MTH 130 Business Mathematics or	3
MTH 111 Mathematics for Business and Economics I	
RE 130 Real Estate Principles	3
RE 131 Real Estate Finance	3
	<u>15</u>

SEMESTER II	
*COM 132 Applied Composition and Speech or	3
ENG 102 Composition and Literature	
RE 133 Real Estate Marketing	3
RE 135 Real Estate Appraisal	3
RE 136 Real Estate Law	3
†Elective (Psychology, Sociology, or Human Development)	3
	<u>15</u>

SEMESTER III	
ECO 201 Principles of Economics I	3
RE 230 Real Estate Office Management	3
**RE 250 Real Estate Internship I	4
**RE 254 Real Estate Seminar I	2
†Elective	3
	<u>15</u>

SEMESTER IV	
GVT 201 American Government	3
ACC 201 Principles of Accounting I	3
†Elective	9
	<u>15</u>

Minimum Hours Required: 60

†Electives — must be selected from the following:	
RE 233 Commercial and Investment Real Estate	3
RE 235 Property Management	3
**RE 251 Real Estate Internship	4
**RE 255 Real Estate Seminar	2
RE 240 Special Problems in Real Estate	1
RE 241 Special Problems in Real Estate	3
ACC 202 Principles of Accounting II	3
ECO 202 Principles of Economics II	3
SPE 105 Fundamentals of Public Speaking	3

*ENG 101 and ENG 102 may be substituted for COM 131 and COM 132 provided that SPE 105 is also taken.

**RE 250 and RE 254 must be taken concurrently.

***RE 251 and RE 255 must be taken concurrently.

NOTE: Preliminary interview by real estate coordinator required.

SMALL ENGINE MECHANICS

Cedar Valley only
(Certificate Program)

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 over-haul 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.

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

SE 125	Small Engine Tune-Up	3
SE 154	Small Engine Service Principles ...	4
SE 156	Small Engine Two-Stroke Overhaul	4
		<u>11</u>

SEMESTER II

SE 157	Small Engine Four-Stroke Overhaul	4
SE 158	Small Engine Electrical Systems ..	4
SE 733	Cooperative Work Experience or ..	3
SE 734	Cooperative Work Experience	(4)
		<u>11-12</u>

Minimum Hours Required: 22

SOCIAL WORK ASSOCIATE

Eastfield only

(Associate Degree)

This program will develop competencies for students to enter employment in paraprofessional positions as social work associates in various social service agencies. The program combines human services courses in social work, mental health, counseling, gerontology, and other studies with special emphasis given to actual social service agency involvement and work.

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	
HS 131 Orientation to Human Services	3
ENG 101 Composition and Expository Reading or	3
COM 131 Applied Composition and Speech	3
PSY 105 Introduction to Psychology or	3
PSY 131 Human Relations	3
SOC 101 Introduction to Sociology	3
†Elective	3-4
	15-16

SEMESTER II	
HS 220 Aging in America	3
ENG 102 Composition and Literature or	3
COM 132 Applied Composition and Speech	3
SOC 102 Social Problems	3
SOC 206 Introduction to Social Work	3
†Elective	3-4
	15-16

SEMESTER III	
HS 233 Counseling for the Paraprofessional	3
HS 803 Cooperative Work Experience*	3
PSY 201 Developmental Psychology	3
SOC 203 Marriage and Family	3
†Elective	3-4
	15-16

SEMESTER IV	
HS 222 Gerontological Social Work	3
HS 813 Cooperative Work Experience	3
PSY 205 Psychology of Personality	3
†Elective	3-4
‡Elective	3-4
	15-17

Minimum Hours Required: 60

†Electives--must be selected from the following:

ANT 101 Cultural Anthropology	3
BIO 116 Biological Science	4
CD 140 Early Childhood Development, 0-3 Years	3
GVT 201 American Government	3
GVT 202 American Government	3
HST 101 History of the United States	3

SOCIAL WORK ASSOCIATE

Eastfield only

(Certificate)

This certificate program will provide a broad base of study for persons interested in the social work field. Students completing the certificate program have the option of continuing their study toward the completion of the associate degree.

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	
HS 131 Orientation to Human Services	3
ENG 101 Composition and Expository Reading or	3
COM 131 Applied Composition and Speech	3
HD 107 Developing Leadership Behavior	3
PSY 105 Introduction to Psychology or	3
PSY 131 Human Relations	3
SOC 101 Introduction to Sociology	3
	15

SEMESTER II	
HS 220 Aging in America	3
HS 233 Counseling for the Paraprofessional	3
HS 703 Cooperative Work Experience	3
SOC 206 Introduction to Social Work	3
†Elective	3-4
	15-16

Minimum Hours Required: 30

†Elective--must be selected from the following:

HS 222 Gerontological Social Work	3
HS 224 Aging and Learning	3
HS 226 Nursing Home Activity Director Training	4
HS 235 Introduction to Mental Health	3
HS 244 Social Work Problems and Practices	3
HS 245 Social Work Problems and Practices	3

HST 102 History of the United States	3
HUM 101 Introduction to the Humanities	3
PEH 101 Fundamentals of Health	3
PEH 257 Advanced First Aid and Emergency Care	3
RD 101 Effective College Reading	3
SOC 204 American Minorities	3
SOC 205 Introduction to Social Problems	3
SOC 231 Urban Social Problems	3
SPA 101 Beginning Spanish	4
PSY 207 Social Psychology	3

‡Electives--must be selected from the following:

HS 224 Aging and Learning	3
HS 226 Nursing Home Activity Director Training	4
HS 235 Introduction to Mental Health	3
HS 244 Social Work Problems and Practices	3
HS 245 Social Work Problems and Practices	3

*HS 703, HS 704, HS 713, HS 714, HS 802, HS 812, HS 814 may be taken with consent of instructor.

HUMAN SERVICES

Eastfield only

(Certificate)

This certificate program provides training in three areas: child development, social work and training paraprofessionals for the deaf. The student will attain interdisciplinary competencies and select one area in which to do his/her 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.

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		
HS 131	Orientation to Human Services	3
CD 251	Learning Programs for Children with Special Needs	4
CD 236	Childhood Problems	3
TPD 140	Introduction to Deafness	3
TPD 141	Beginning Sign Language	4
		17

SEMESTER II		
HS 235	Introduction to Mental Health	3
HS 703	Cooperative Work Experience	3
CD 239	Studies in Child Guidance	3
SOC 206	Introduction to Social Work	3
TPD 143	Intermediate Sign Language	4
		16

Minimum Hours Required: 33

TRAINING PARAPROFESSIONALS FOR THE DEAF

Eastfield only
(Associate Degree)

This program is designed to train individuals at a para-professional level to work with the deaf. Course work will provide skills to work as an interpreter for the deaf, educational assistant, aide with the multiply-handicapped, or house parent in residential schools.

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	
TPD 140 Introduction to Deafness	3
TPD 141 Beginning Sign Language	4
TPD 144 Psychosocial Aspects of Deafness	3
TPD 148 Receptive Fingerspelling	1
ENG 101 Composition and Expository Reading	3
	14

SEMESTER II	
TPD 143 Intermediate Sign Language	4
TPD 147 Language Development of the Deaf	3
TPD 149 Management Skills for the Interpreter/Aide	4
TPD 802 Cooperative Work Experience	2
ENG 102 Composition and Literature	3
	16

SEMESTER III	
TPD 230 Interpreting: Ethics and Specifics ..	4
TPD 240 Advanced Sign Language	4
TPD 247 Special Problems in Deafness†	3
TPD 250 Interpreting: Sign to Voice	3
SPE 109 Voice and Articulation	3
	17

SEMESTER IV	
TPD 248 Rehabilitation of the Multiply- Handicapped Deaf	3
TPD 251 Education/Specialized Signs	4
TPD 252 Interpreting: Voice to Sign	4
TPD 813 Cooperative Work Experience	3
†Elective	3
	17

Minimum Hours Required: 64

†Electives — must be selected from the following:	
†HD 105 Basic Processes of Interpersonal Relationships	3
HD 106 Personal and Social Growth	3
PSY 105 Introduction to Psychology	3
PSY 201 Developmental Psychology	3

*TPD 247 may be repeated for credit as topics vary.

TRAINING PARAPROFESSIONALS FOR THE DEAF

Eastfield only
(Sign Language Certificate)

This certificate offers entry level skills toward the development of sign language competency.

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	
TPD 140 Introduction to Deafness	3
TPD 141 Beginning Sign Language	4
TPD 144 Psychosocial Aspects of Deafness	3
TPD 148 Receptive Fingerspelling	1
ENG 101 Composition and Expository Reading	3
	14

SEMESTER II	
TPD 143 Intermediate Sign Language	4
TPD 147 Language Development of the Deaf	3
TPD 802 Cooperative Work Experience or ..	2
TPD 803 Cooperative Work Experience	(3)
ENG 102 Composition and Literature	3
†Technical Elective	3-4
	15-17

Minimum Hours Required: 29

†Elective — must be selected from the following:	
†TPD 149 Management Skills for the Interpreter/Aide	4
TPD 230 Interpreting: Ethics and Specifics	4
TPD 247 Special Problems in Deafness	3
TPD 248 Rehabilitation of the Multiply-Handicapped Deaf ...	3



TRANSPORTATION TECHNOLOGY

Eastfield only

(Associate Degree)

The objectives of the Transportation Technology Program are to prepare trained entry level manpower for the transportation industry of North Texas with the ability to advance into management positions such as traffic managers, terminal managers, safety specialists, ICC practitioners and other related areas.

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	
TRT 145 Introduction to Rates and Tariffs ...	3
TRT 146 Transportation and Traffic Management	3
BUS 105 Introduction to Business	3
COM 131 Applied Composition and Speech or	3
ENG 101 Composition and Expository Reading	3
MTH 130 Business Mathematics or	3
MTH 111 Mathematics for Business and Economics I	3
	15
SEMESTER II	
TRT 147 Economics of Transportation	3
COM 132 Applied Composition and Speech or	3
ENG 102 Composition and Literature	3
CS 175 Introduction to Computer Science ..	3
MGT 136 Principles of Management	3
TRT 713 Cooperative Work Experience or ..	3
†Elective	3
	15

SEMESTER III	
TRT 240 Interstate Commerce Law I	3
TRT 249 Applied Rates and Tariffs	3
TRT 287 Physical Distribution Management I	3
ACC 201 Principles of Accounting I or	3
ACC 131 Bookkeeping I	3
TRT 803 Cooperative Work Experience or ..	3
†Elective	3
	15

SEMESTER IV	
TRT 241 Interstate Commerce Law II	3
TRT 288 Physical Distribution Management II	3
ACC 202 Principles of Accounting II or	3
ACC 132 Bookkeeping II	3
TRT 813 Cooperative Work Experience or ..	3
†Elective	3
‡Business Elective	3
	15

Minimum Hours Required: 60

†Electives — must be selected from the following:

GVT 201	American Government	3
GVT 202	American Government	3
HD 107	Developing Leadership Behavior	3
HST 101	History of the United States	3
HST 102	History of the United States	3
MTH 112	Mathematics for Business and Economics II	3
SPE 105	Fundamentals of Public Speaking	3

‡Business Electives — must be selected from the following:

TRT 144	Introduction to Transportation	3
TRT 250	Studies in Transportation Technology*	1
ACC 205	Business Finance	3
BUS 234	Business Law	3
BUS 237	Organizational Behavior	3
ECO 201	Principles of Economics I	3
ECO 202	Principles of Economics II	3
MKT 206	Principles of Marketing	3
OFC 160	Office Calculating Machines	3
OFC 172	Beginning Typing	3

*TRT 250 may be repeated with different emphasis for elective credit.

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.

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.

Students wishing to earn an Associate in Applied Arts and Sciences Degree with a major in video technology must complete the following courses:

	CREDIT HOURS
SEMESTER I	
VFT 102 Contemporary Trends in Video Production	1
VFT 104 Video Software and Equipment Theory	3
VFT 106 Video Production I	4
VFT 108 Video Sound and Lighting I	3
ENG 101 Composition and Expository Reading	3
MTH 101 College Algebra or	3
MTH 130 Business Mathematics or	
MTH 195 Technical Mathematics	
	17

SEMESTER II	
VFT 110 Video Production II	4
VFT 112 Video Editing and Post-Production I	4
VFT 114 Video Engineering I	3
SPE 105 Fundamentals of Public Speaking	3
†Elective	3
	17

SEMESTER III	
VFT 202 Video Production III	5
VFT 206 Video Sound and Lighting II	3
VFT 803 Cooperative Work Experience or ..	3
VFT 804 Cooperative Work Experience	(4)
PSY 131 Human Relations or	3
PHY 131 Applied Physics	(4)
CS 175 Introduction to Computer Science or	3
HUM 101 Introduction to the Humanities or ..	
ART 104 Art Appreciation	
	17-19

SEMESTER IV	
VFT 210 Video Production IV	4
VFT 212 Video Editing and Post-Production II	4
VFT 214 Business Aspects of Video Management	3
VFT 813 Cooperative Work Experience or ..	3
VFT 814 Cooperative Work Experience	(4)
†Elective	3
	17-18

Minimum Hours Required: 68

†Electives — Must be selected from the following:

VFT 204 Video Engineering II	3
VFT 216 Acting and Talent Management	3
VFT 218 Scriptwriting and Property Management	3
VFT 220 Computer Applications to Video Production	3
VFT 222 Video Engineering III	3
VFT 224 Advanced Camera and Field Production Techniques	3
VFT 226 Music Video Production	3
VFT 228 Video Animation Art and Design	3
VFT 230 Video Sound and Lighting III	3
VFT 232 Broadcast, Cable, and Satellite Technology	3
VFT 713 Cooperative Work Experience or	3
VFT 714 Cooperative Work Experience	4

WELDING TECHNOLOGY

Eastfield and 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.

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	
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
DFT 182 Technician Drafting	2
MTH 195 Technical Mathematics	3
COM 131 Applied Composition and Speech or	3
ENG 101 Composition and Expository	
Reading	
	16
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 Human Relations	3
WE 703 Cooperative Work Experience or	3
†Elective	
	17

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
	15

SEMESTER IV	
WE 116 Shielded Metal Arc 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	2
	17

Minimum Hours Required: 65

†Electives — must be selected from the following:

ACC 131	Bookkeeping I	3
ACC 132	Bookkeeping II	3
GVT 201	American Government	3
MTH 111	Mathematics for Business and Economics	3
WE 218	Applied Welding Metallurgy	3
WE 221	Special Welding Applications	1
WE 222	Special Welding Applications	2
WE 223	Special Welding Applications	3

WELDING TECHNOLOGY

Eastfield and Mountain View only
(Certificate)

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		
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
		16

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
		19

Minimum Hours Required: 35

*WE 704 Cooperative Work Experience may be substituted for WE 213 or WE 216.

WELDING ENGINEERING TECHNOLOGY

Eastfield only
(Associate Degree)

The Welding Engineering Technology Program provides the student with a broad scientific background in major welding areas. Course content is designed to provide in-depth study and experience in welding applications, skills, and technology as it relates to a wide variety of welding-related industries. This curriculum is intended for the preparation of an entry level welding engineering technician who will work to support a general manufacturing environment.

The student will be required to purchase a basic set of tools which will be used in class. Tool lists will be given out by the instructor during the first week of classes.

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

WE 113	Shielded Metal Arc Welding I	2
WE 114	Shielded Metal Arc Welding II	2
CHM 115	General Chemistry	4
EGR 105	Engineering Design Graphics or	3
DFT 183	Basic Drafting	(4)
MTH 101	College Algebra	3
PSY 131	Human Relations	3
		17-18

SEMESTER II

WE 117	General Metal Layout	3
WE 219	Welding Design	3
DFT 245	Computer Aided Design	3
ENG 101	Composition and Expository Reading	3
MTH 102	Plane Trigonometry	3
CS 174	Fundamentals of Computing	3
		18



SEMESTER III

WE 200	Automation and Robotics I	4
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
†Elective		2-4
		17-19

SEMESTER IV

WE 210	Automation and Robotics II	4
WE 118	Welding Inspection and Quality Control	4
WE 218	Applied Welding Metallurgy	3
EGR 188	Statics	3
PHY 111	Introductory General Physics	4
		18

Minimum Hours Required: 70

†Elective — must be selected from the following:

WE 221	Special Welding Applications I	1
WE 222	Special Welding Applications II	2
WE 223	Special Welding Applications III	3
BPR 177	Blueprint Reading	2
BPR 178	Blueprint Reading	2
CHM 116	General Chemistry	4
EGR 101	Engineering Analysis	2
EGR 106	Descriptive Geometry	3
ET 190	DC Circuits	4
MTH 121	Analytic Geometry	3
PHY 112	Introductory General Physics	4

Course Descriptions

Including General Education & Career Program Courses

- All courses listed in this catalog are not available at every college. This catalog contains descriptions of both General Education courses and Technical/Occupational courses offered collectively by the seven colleges of the Dallas County Community College District. The listing is alphabetical by course subject title.

- 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 well in advance of registration.

Understanding The Course Descriptions

Abbreviation of the general program area name (in this case, "Biology").

The course number.

The name of the course.

(BIO) 221 Anatomy And Physiology I (4)

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.)

"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.

A brief paragraph describing the course.

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.

DEFINITION OF TERMS

The following terms are used throughout the catalog and particularly in this section of Course Descriptions. A brief explanation follows each term.

1. Concurrent Enrollment
(a) Enrollment by the same student in two different colleges of the District at the same time, or (b) enrollment by a high school senior in a high school and one of the District colleges at the same time, or (c) enrollment by a student in two related courses in the same semester.
2. Contact Hours — The number of clock hours a student spends in a given course during the semester.
3. Credit Hours (CR.) — College work is measured in units called credit hours. A credit hour value is assigned to each course and is normally equal to the number of hours the course meets each week. Credit hours are sometimes referred to as semester hours.
4. Elective — A course chosen by the student that is not required for a certificate or degree.
5. Flexible Entry Course — A course that permits beginning or ending dates other than the beginning or ending of the semester. Consult the class schedule for further information.

6. Laboratory Hours (Lab.) — The number of clock hours in the fall or spring semester the student spends each week in the laboratory or other learning environment.
7. Lecture Hours (Lec.) — The number of clock hours in the fall or spring semester the student spends each week in the classroom.
8. Major — The student's main emphasis of study (for example, Automotive Technology, Psychology, etc.)
9. Performance Grades — Grades assigned point values, including A, B, C, D, and F.
10. Prerequisite — A course that must be successfully completed or a requirement such as related life experiences that must be met before enrolling in another course.

In the following course descriptions, the number of credit hours for each course is indicated in parenthesis opposite the course number and title. Courses numbered 100 (except Music 199, Art 199 and Theater 199) or above may be applied to requirements for associate degrees. Courses numbered below 100 are developmental in nature and may not be applied to degree requirements. Students are urged to consult their counselors or specific college catalogs for information about transferability of courses to four-year institutions. Course prerequisites may only be waived by the appropriate division chairperson.

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)

This course covers the theory and practice of measuring and interpreting financial data for business units. Topics include depreciation, inventory valuation, credit losses, the operating cycle, and the preparation of financial statements. (This course is offered on campus and may be offered via television.) (3 Lec.)

(ACC) 202 Principles Of Accounting II (3)

Prerequisite: Accounting 201. Accounting procedures and practices for partnerships and corporations are studied. Topics include cost data and budget controls. Financial reports are analyzed for use by creditors, investors, and management. (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 fac-

tory overhead are studied. Budget, 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)

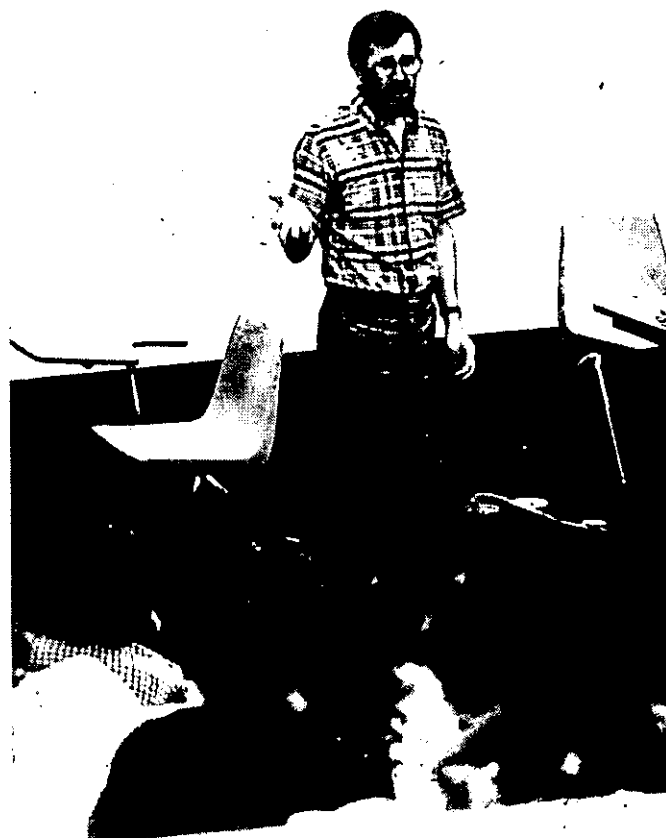
Prerequisites: Accounting 202 and Computer Science 175. This course is designed to provide students with an overview of microcomputer-based accounting systems for small businesses. Actual "hands-on" experience will be provided utilizing systems for general ledger, accounts receivable, accounts payable, and payroll. Additional study may be devoted to financial planning and budgeting applications using electronic worksheet programs. Laboratory fee. (2 Lec., 2 Lab.)

(ACC) 803 (3)

(See Cooperative Work Experience).

(ACC) 804 (4)

(See Cooperative Work Experience).



ADVERTISING ART

(ADV) 110 Introduction To Advertising Art (3)

Available career options, job descriptions, and practice in concept generation and visual thinking are covered in this survey course. Discussions of the role of advertising in society are also included with emphasis on analysis of effective advertising materials. (48 Contact Hours)

(ADV) 111 History And Psychology Of Visual Communications (3)

This course provides the beginning student with a visual history of art styles, an understanding of the way in which visual images are perceived, and analytical skills in judging the effectiveness of such images. The critical appraisal skills learned in this context should enhance the student's ability to evaluate work in later courses. (48 Contact Hours)

(ADV) 120 Lettering And Layout (4)

Prerequisites: Art 110 and 114 or concurrent enrollment in Art 111 or demonstrated competence approved by the instructor. This laboratory course includes construction of alphabets, introduction to typography, paste-up techniques, and layout formulas and rationales. Pencil, pen, and brush techniques are also covered. (120 Contact Hours)

(ADV) 121 Beginning Illustration (4)

Prerequisites: Art 110 and 114 or concurrent enrollment in Art 111 or demonstrated competence approved by the instructor. The fundamentals of advertising are presented. Techniques for wet and dry media, methods of developing ideas, and requirements of some reproduction processes are included. Both acrylic painting techniques and airbrush are covered. Laboratory fee. (120 Contact Hours)

(ADV) 201 Illustration For Reproduction (4)

Prerequisites: Advertising Art 120, 121 or demonstrated competence approved by the instructor. This course emphasizes the preparation of illustration for reproduction

by commercial printing processes. Requirements of paper selection, ink, and printing specifications are covered in the context of project assignments for advertisements. Laboratory fee. (120 Contact Hours)

(ADV) 202 Advanced Illustration (4)

Prerequisite: Advertising Art 121 or demonstrated competence by the instructor. This advanced course involves presentation and further development of the fundamentals of advertising illustration and techniques introduced in Advertising Art 121. Laboratory fee. (120 Contact Hours)

(ADV) 203 Advanced Graphic Design (4)

Prerequisite: Demonstrated competence approved by the instructor. Presentation techniques and requirements for newspapers and magazines, direct mail, poster, and packaging are covered in this advanced course. Emphasis is on typography. (120 Contact Hours)

(ADV) 204 Advanced Presentations (4)

Prerequisite: Advertising Art 203 or demonstrated competence approved by the instructor. This advanced course presents more complex problems dealing with packaging, brochures, annual reports, newspapers and magazines, specialty pieces, billboards, and corporate logos. Laboratory fee. (120 Contact Hours)

(ADV) 205 Professional Practices (3)

Prerequisite: Demonstrated competence approved by the instructor. This course is open to advertising art students only. It is an advanced course covering a wide range of professional practices. Agency, department store, freelance and related procedures are included as well as job opportunities, job-seeking techniques, professional organizations, and other aspects of professional life. (48 Contact Hours)

(ADV) 711 (1)

(See Cooperative Work Experience).

(ADV) 712 (2)

(See Cooperative Work Experience).

(ADV) 703, 713 (3)

(See Cooperative Work Experience).

(ADV) 704, 714 (4)

(See Cooperative Work Experience).

AGRICULTURE

(AGR) 101 The Agricultural Industry (1)

This course is a survey of the complete agricultural industry and its challenges. Recent trends in agriculture as they affect college students will be explored. (1 Lec.)

(AGR) 102 Fundamentals Of Crop Production (3)

This course is designed as a basic survey course of farm crops, seed varieties, seed bed preparation, fertilization, crop tilage, pasture management, weed control, disease and insect control, and harvesting practices. The course is designed for students entering the study of agriculture at an introductory level. It will provide students with the foundation in farm crop management and production needed for more advanced agricultural studies. Laboratory fee. (2 Lec., 2 Lab.)



(AGR) 104 General Animal Husbandry (3)

This course is a general introduction to farm animal science. The following topics will be presented: care and feeding of live stock, market value of stock, breeding and adaption to environmental factors. (2 Lec., 2 Lab.)

(AGR) 111 Introduction To Agricultural Economics (3)

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) 245 Agricultural Entomology (3)

This course is designed as a survey course in entomology in which the principal orders of insects, insect anatomy and physiology, insect control, insect habits and the economic impact of insects are studied. The course is designed for students desiring a major in agricultural industries. It will provide the student with a basic understanding of entomology as it relates to agriculture. Laboratory fee. (2 Lec., 2 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) 111 Principles Of Refrigeration (3)

This course introduces the principles of refrigeration. Topics include terminology, heat and energy concepts, basic system components and operating characteristics, and installation procedures. Laboratory fee. (2 Lec., 2 Lab.) 4

(ACR) 112 Properties Of Air (3)

Prerequisites: Air Conditioning and Refrigeration 111 and Mathematics 195. The thermodynamic properties of air are studied. Theories are applied to evaporative cooling, ventilation, humidity control, environmental conditions affecting human comfort, and health and industrial processes. Laboratory fee. (2 Lec., 2 Lab.)

(ACR) 113 Fundamentals of Electricity (3)

Starting with basic wiring, wiring diagrams and symbols, this course includes electrical concepts of electron flow,

resistance, voltage, current, power, and the construction and use of meters. The relation of electrical components to diagrams and applications to control circuits are emphasized. Laboratory fee. (2 Lec., 3 lab.)

(ACR) 114 Heat Load Analysis (3)

Prerequisites: Air Conditioning and Refrigeration 111 and Mathematics 195. This course covers the methods and procedures of heating and cooling surveys for residences and small commercial systems, included are ways to reduce equipment load for energy conservation and operating cost efficiency. Laboratory fee. (2 Lec., 2 Lab.)

(ACR) 115 Unit Air Conditioning Systems (3)

Prerequisites: Completion or enrollment in Air Conditioning and Refrigeration 111 and 113. The servicing of domestic unit air conditioning systems is presented. Refrigerant charging and evacuation procedures, electric motors and controls, and functional operations of major components are studied. Laboratory fee. (2 Lec., 3 Lab.)

(ACR) 116 Summer Air Conditioning Systems (3)

Prerequisites: Credit or enrollment in Air Conditioning and Refrigeration 112, 114, and 115. Central residential and small commercial systems are studied. Topics include equipment, electric power distribution, and controls. Installation, operation, and troubleshooting are emphasized. Laboratory fee. (2 Lec., 3 Lab.)

(ACR) 117 Domestic Refrigeration (3)

Prerequisites: Credit or enrollment in Air Conditioning and Refrigeration 111 and 113. This course presents the mechanical and electrical elements of refrigeration. Theories are applied to domestic refrigerators, freezers, and automatic ice cube makers. Emphasis is on operation, troubleshooting, and repair. Laboratory fee. (2 Lec., 2 Lab.)

(ACR) 118 Winter Air Conditioning Systems (3)

Prerequisites: Credit or enrollment in Air Conditioning and Refrigeration 113, 114, and 115. Direct gas fired and electric warm air heating systems are studied. Topics include humidification devices, specific equipment, wiring, and controls. Installation and service are emphasized. Laboratory fee. (2 Lec., 3 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)

Prerequisite: 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 troubleshooting and system installation. Laboratory fee. (4 Lec., 5 Lab.)

(ACR) 131 Residential Cooling Systems I (3)

Prerequisite: 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 troubleshooting and system installation. Laboratory fee. (2 Lec., 3 Lab.)

(ACR) 140 Residential Heating Systems (6)

Prerequisite: 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)

Prerequisite: 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)

Prerequisite: Air Conditioning and Refrigeration 130 and 140. This course is a comprehensive course that includes Air Conditioning 213 and 140. 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 troubleshooting, and system installation. Laboratory fee. (4 Lec., 5 Lab.)

(ACR) 213 System Servicing I (3)

Prerequisite: 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 troubleshooting and system installation. Laboratory fee. (2 Lec., 3 Lab.)

(ACR) 221 Refrigeration Loads (3)

Prerequisites: Air Conditioning and Refrigeration 116. 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)

Prerequisites: Air Conditioning and Refrigeration 116. 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: Air Conditioning and Refrigeration 116. 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.)



(AC) 150 Basic Principles Of Electricity (3)

This is a comprehensive course that includes air conditioning/refrigeration 151, 152, and 153. Students may register in the comprehensive course or any of the inclusive courses. This course is a study of the principles of electricity as applied in simple circuits and circuit components. Included are basic electrical units and test instruments. Laboratory fee. (90 Contact Hours)

(AC) 151 Basic Electrical Units (1)

Basic electrical units are covered. Volts, ohms, amperes and watts are calculated and measured. Laboratory fee. (30 Contact Hours)

(AC) 152 Simple Circuits (1)

This course focuses on simple circuits. Topics include the interpretation of simple schematic and combination circuits with resistive loads. Laboratory fee. (30 Contact Hours)

(AC) 153 Circuit Components (1)

Components of circuits are examined. Circuits are constructed using switches, relays, solenoids, basic control and protective devices. (30 Contact Hours)

(AC) 155 Advanced Electrical Circuits (3)

This is a comprehensive course that includes Air Conditioning/Refrigeration 156 and 157. Students may register in the comprehensive course or either of the inclusive

courses. Advanced electrical circuits are presented. Basic electrical principles are applied to the construction and diagnosis of complex electrical circuits and alternating current motors. Laboratory fee. (90 Contact Hours)

(AC) 156 Complex Circuits (2)

This course is an advanced study of complex circuits. Included are the construction and interpretation of complex schematics and the construction and diagnosis of complex electrical circuits with resistive inductive and capacitive loads. Laboratory fee. (60 Contact Hours) 7

(AC) 157 A.C. Motor Fundamentals (1)

Magnetic principles as applied in AC motors are covered. Wiring, diagnosis, and service of AC motors are included, as well as starting and protective devices commonly used in the air conditioning industry. (30 Contact Hours)

(AC) 160 Basic Principles Of Refrigeration (3)

This is a comprehensive course that includes Air Conditioning/Refrigeration 161, 162, and 163. Students may register in the comprehensive course or any of the inclusive courses. Principles of physics as applied to refrigeration systems are studied. Topics include thermodynamics, gas laws, heat transfer, and properties of air and refrigerants. Laboratory fee. (90 Contact Hours)

(AC) 161 Elementary Physics And Thermodynamics (1)

This course presents the principles of thermodynamics, physics, and gas laws as applied to basic refrigeration systems. Laboratory fee. (30 Contact Hours)

(AC) 162 Heat Transfer And Air Properties (1)

Principles of heat flow and heat transfer are covered. Included are simple load calculations, air properties and basic psychrometric chart construction. (30 Contact Hours)

(AC) 163 Refrigerant Properties (1)

Common refrigerant types are identified. Basic refrigerant properties are compared and the pressure-enthalpy diagram is constructed. (30 Contact Hours)

(AC) 165 Vapor Compression Systems (3)

This course covers the various features of vapor compression systems. The major components, their function, and relationship are examined. Also presented are the four processes of the vapor compression and system service, including evacuation and charging. (90 Contact Hours)

(AC) 170 Pipefitting Procedures (3)

This is a comprehensive course that includes Air Conditioning/Refrigeration 171 and 172. Students may register in the comprehensive course or either of the inclusive courses. Piping practices are studied. Topics include pipe size selection and techniques of soldering, silver-soldering and silver-brazing. Leak detection, and repair methods are also covered. Laboratory fee. (90 Contact Hours)

(AC) 171 Pipe And Fittings (2)

This course presents piping practices. Topics include the identification and selection of correct pipe sizes and fittings

and the construction of piping circuits using proper soft-solder, silver-solder, and silver-brazing techniques. Laboratory fee. (60 Contact Hours)

(AC) 172 Leak Detection And Repair (3)

The location and repair of refrigeration system leaks are covered. Correct repair methods and materials are emphasized. Laboratory fee. (30 Contact Hours)

(AC) 175 Residential Load Calculations (3)

This is a comprehensive course that includes Air Conditioning/Refrigeration 176, 177, and 178. Students may register in the comprehensive course or any of the inclusive courses. This course is a study of heating and cooling load calculations for psychrometric chart construction and interpretation. Laboratory fee. (90 Contact Hours)

(AC) 176 Cooling Load Calculations (1)

Cooling load calculations for residences are presented. Topics include the identification of heat sources, calculation of heat transfer coefficients and calculation of the cooling load. Emphasis is on energy conservation. Laboratory fee. (30 Contact Hours)

(AC) 177 Heating Load Calculations-Residential (1)

Heating load calculations for residences are presented. Topics include the identification of sources of heat loss, calculation of heat transfer coefficients, and calculation of the heating load. Emphasis is on energy conservation. Laboratory fee. (30 Contact Hours)

(AC) 178 Air Properties-Residential (1)

Measurement of residential air properties is covered. Included are the plotting and interpretation of psychrometric charts and identification of methods of humidity control. Laboratory fee. (30 Contact Hours)

(AC) 180 Residential Cooling Systems (3)

This is a comprehensive course that includes Air Conditioning/Refrigeration 181, 182, and 183. Students may register in the comprehensive course or any of the inclusive courses. This course presents principles of refrigeration for residential cooling systems. Emphasis is on compressors, condensers, evaporators, metering devices, electrical components, and the reverse cycle system (heat pump). Laboratory fee. (90 Contact Hours)

(AC) 181 Refrigeration Systems-Residential (1)

Types of cooling systems for residences are covered. Major components are included, such as compressors, evaporators, condensers, and metering devices with emphasis on acceptable piping practices. Laboratory fee. (30 Contact Hours)

(AC) 182 Electrical Systems-Residential Cooling (1)

The components of the electrical system for residential cooling are presented. Topics include electrical control devices, protective devices and AC motors. Laboratory fee. (30 Contact Hours)

(AC) 183 Reverse Cycle Systems (1)

This course is a study of the residential heat pump and its use in summer/winter air conditioning. The electrical and mechanical system is included. Laboratory fee. (30 Contact Hours)

(AC) 185 Residential Heating Systems (3)

This is a comprehensive course that includes Air Conditioning/Refrigeration 186, 187, and 188. Students may register in the comprehensive course or any of the inclusive courses. Principles and procedures used in residential heating systems are studied. Emphasis is on the gas and electric warm-air furnace. Included are the mechanical and electrical components of the heating systems. Laboratory fee. (90 Contact Hours)

(AC) 186 Warm-Air Furnace-Gas (1)

The gas warm-air furnace is examined. Included are the diagnosis and service of heat exchangers, burner assemblies and gas valves. The combustion process, vent systems and safety procedures are also studied. Laboratory fee. (30 Contact Hours)

(AC) 187 Warm-Air Furnace-Electric (1)

The electric warm-air furnace is examined. Included are the principles and practices of resistance heating, the components of the system, and their relationship. Laboratory fee. (30 Contact Hours)

(AC) 188 Electrical Systems-Heating (1)

The electric heating systems are examined. Included are the identification and diagnosis of individual components of the electrical system and the relationship of the components to the system. Laboratory fee. (30 Contact Hours)

(AC) 190 Commercial Refrigeration Systems (3)

This is a comprehensive course that includes Air Conditioning/Refrigeration 191, 192, and 193. Students may register in the comprehensive course or in any of the inclusive courses. This course is a study of commercial refrigeration systems. Topics include system components such as flow-control and pressure control devices, defrost systems and humidity control. Laboratory fee. (90 Contact Hours)

(AC) 191 Introduction To Commercial Refrigeration Systems (1)

Commercial refrigeration systems are presented. Emphasis is on systems common to light commercial fixtures. Laboratory fee. (30 Contact Hours)

(AC) 192 System Components-Commercial Refrigeration (1)

Major components of commercial systems are studied. Included are compressors, flow control, pressure control devices and the relationship of the components to the total system. Laboratory fee. (30 Contact Hours)

(AC) 193 Defrost Systems And Humidity Control (1)

This course covers the diagnosis, service, repair and replacement of components of defrost systems. Air properties and humidity control are included. Laboratory fee. (30 Contact Hours)

(AC) 195 Commercial Refrigeration Systems Service (3)

This is a comprehensive course that includes Air Conditioning/Refrigeration 196, 197, and 198. Students may register in the comprehensive course or in the inclusive courses. This course presents the service of commercial refrigeration systems. Topics include the principles and

practices for fixture installations, pipe-fitting procedures, leak detection and repair, evacuation and system charging for peak performance, system lubrication at low temperatures, and diagnosis and service of electrical system components. Laboratory fee. (90 Contact Hours)

(AC) 196 Installation Procedures-Commercial Refrigeration (1)

Principles and practices for fixture installation are studied. Included are pipe-fitting procedures with emphasis on oil return. Laboratory fee. (30 Contact Hours)

(AC) 197 System Service And Repair-Commercial Refrigeration (1)

System leaks are located and repaired. Also included are system evacuation and the refrigerant charge for peak performance. The diagnosis and service of system components such as compressors, evaporators, condensers, metering devices and defrost mechanisms, are covered. Laboratory fee. (30 Contact Hours)

(AC) 198 Electrical Systems Service-Commercial Refrigeration (1)

This course focuses on the servicing of electrical systems in commercial refrigeration. Included are the diagnosis, service, repair and replacement of components of electrical systems. Laboratory fee. (30 Contact Hours)

(AC) 240 Air Distribution System-Residential (3)

This is a comprehensive course that includes Air Conditioning/Refrigeration 241, 242 and 243. Students may register in the comprehensive course or any of the inclusive courses. Principles and practices of acceptable air distribution systems are presented. Topics include flow patterns, velocity volume and stratification for heating and cooling applications. Filter service, electronic air cleaners and humidifiers are also studied. Laboratory fee. (90 Contact Hours)

(AC) 241 Air Distribution-Cooling (1)

Air distribution for residential cooling is studied. Topics include air flow, velocity, volume, flow patterns, methods of air distribution and system balance for best performance. Laboratory fee. (30 Contact Hours)

(AC) 242 Air Distribution-Heating (1)

Air distribution for residential heating is studied. Topics include air flow, velocity, volume, flow patterns, methods of air distribution and system balance for best performance. Laboratory fee. (30 Contact Hours)

(AC) 243 Electronic Air Cleaners And Humidifiers (1)

This course examines the principles of electronic air cleaners and humidifiers. Included are the service and adjustment of air cleaners and humidifiers and their use in environmental conditioning. Laboratory fee. (30 Contact Hours)

(AC) 245 Residential Systems Service (3)

This is a comprehensive course that includes Air Conditioning/Refrigeration 246 and 247. Students may register in the comprehensive course or either of the inclusive courses. The servicing of residential air conditioning systems is presented. Topics include the service, adjustment, repair and replacement of system components. Installation

procedures are also covered. Laboratory fee. (90 Contact Hours)

(AC) 246 Systems Service And Repair-Residential (2)

This course focuses on the diagnosis, service, repair and replacement of air conditioning system components. Included are leak detection and repair, evaluation and charging procedures and adjustment of systems for peak performance. Laboratory fee. (60 Contact Hours)

(AC) 247 Installation Procedures-Residential (1)

This course focuses on the installation of air conditioning systems. Included is the application of correct piping principles. Laboratory fee. (30 Contact Hours)

(AC) 250 Air Conditioning Equipment Selection (3)

This is a comprehensive course that includes Air Conditioning/Refrigeration 251 and 252. Students may register in the comprehensive course or in either of the inclusive courses. Selection of the proper air conditioning equipment is presented. Topics include the calculations of residential cooling and heating loads using approved forms and the selection of equipment required for the calculated loads. Laboratory fee. (90 Contact Hours)

(AC) 251 Advanced Load Calculations (2)

This course focuses on the calculation of residential cooling and heating loads using the approved forms. Laboratory fee. (60 Contact Hours)

(AC) 252 Process Equipment Selection (1)

This course focuses on the selection of residential air conditioning equipment to meet the calculated loads. Included is selection of the condensing unit, evaporator coil, and warm-air furnace (or heat pump). Emphasis is on energy conservation. Laboratory fee. (30 Contact Hours)

(AC) 255 Air Distribution Systems Design (3)

This course is a comprehensive course that includes Air Conditioning/Refrigeration 256 and 257. Students may register in the comprehensive course or either of the inclusive courses. The custom design of air distribution systems according to the particular needs of the structure is covered. Included are advanced psychrometrics, duct design, diffuser selection and air-flow patterns. Laboratory fee. (90 Contact Hours)

(AC) 256 Advanced Psychrometrics-Residential (1)

This course is the specific study of advanced psychrometrics for residential use. Included are use of the psychrometric chart in air mixtures problems, apparatus dew point and by-pass factor selection, air properties and the determination of actual system performance. Laboratory fee. (30 Contact Hours)

(AC) 257 Air Distribution Equipment Selection (2)

This course is the specific study of equipment selection as indicated by calculated heating and cooling loads. Topics include the selection of air distribution duct systems, diffusers and air-flow patterns. Emphasis is on energy conservation. Laboratory fee. (60 Contact Hours)



(AC) 260 Special Commercial Refrigeration Applications (3)

This is a comprehensive course that includes Air Conditioning/Refrigeration 261, 262, and 263. Students may register in the comprehensive course or in any of the inclusive courses. Commercial refrigeration principles are applied to special cases. Included are ice makers (flakers and cubers), beverage coolers and special display cases. Laboratory fee. (90 Contact Hours)

(AC) 261 Ice Makers-Flakers (1)

This course focuses on ice makers (flakers). Topics include the diagnosis, service, repair and replacement of components of ice makers (flakers). Emphasis is on mechanical and control systems. Laboratory fee. (30 Contact Hours)

(AC) 262 Ice Makers-Cubers (1)

This course focuses on ice makers (cubers). Topics include the diagnosis, service, repair and replacement of components of ice makers (cubers). Emphasis is on harvest methods and control systems. Laboratory fee. (30 Contact Hours)

(AC) 263 Beverage Coolers And Special Display Cases (1)

This course focuses on beverage coolers and special display cases. Topics include the diagnosis and service of beverage coolers, water fountains, dairy cases and special display cases that require close temperature and/or humidity ranges. Laboratory fee. (30 Contact Hours)

(AC) 265 Advanced Commercial Refrigeration Systems (3)

This is a comprehensive course that includes Air Conditioning/Refrigeration 266 and 267. Students may register in the comprehensive course or in either of the inclusive courses. Advanced commercial refrigeration systems are presented. Included are multiple compressors, evaporators, condensers and metering devices. Product and structural loads are calculated and analyzed. Laboratory fee. (90 Contact Hours)

(AC) 266 Multiple Systems (1)

This course covers multiple systems. Included are the diagnosis, service, repair and replacement of components of the multiple compressor, evaporator, condenser, and metering device system. Emphasis is on control systems. Laboratory fee. (30 Contact Hours)

(AC) 267 Product And Structural Load Analysis (2)

This course covers the calculation and analysis of product and structural loads. The relationship of these loads to the total environmental system is included. Laboratory fee. (60 Contact Hours)

(AC) 270 Industrial Air Conditioning Systems (3)

This is a comprehensive course that includes Air Conditioning/Refrigeration 271, 272, and 273. Students may register in the comprehensive course or in any of the inclusive courses. Industrial air conditioning systems are surveyed. Topics include the principles and operation of water-cooled condensing systems, water-treatment, water towers and piping. Also included are centrifugal and reciprocating compression systems. Absorption system principles are applied to industrial air conditioning. Laboratory fee. (90 Contact Hours)

(AC) 271 Water-Cooled Condensing System (1)

This course examines water-cooled condensing systems, water towers and water treatment. Applicable principles, pipe-sizing and piping practices are covered. Laboratory fee. (30 Contact Hours)

(AC) 272 Centrifugal And Reciprocating Compressor Systems (1)

This course examines the principles and operation of centrifugal and large reciprocating compressor systems. Emphasis is on the compressor components. Laboratory fee. (30 Contact Hours)

(AC) 273 Principles Of Absorption Systems (1)

This course examines the principles of absorption systems. Topics include the identification of components, operational theory of absorption systems and advantages and disadvantages of industrial absorption systems. Laboratory fee. (30 Contact Hours)

(AC) 275 Industrial Air Conditioning Service (3)

This is a comprehensive course that includes Air Conditioning/Refrigeration 276, 277, and 278. Students may register in the comprehensive course or any of the inclusive courses. The servicing of industrial air conditioning systems is presented. Included are the service, repair and replacement of capacity control systems and lubrication systems. Also covered are principles and practices of refrigerant circuit piping, leak detection and repair, evacuation and system charging for best performance, and preventive maintenance and schedules. (90 Contact Hours)

(AC) 276 Capacity Control And Lubrication Systems (1)

This course focuses on the adjustment, service, repair, and replacement of components of capacity control systems. Lubrication systems and oil pressure control devices are included. Laboratory fee. (30 Contact Hours)

(AC) 277 Refrigerant Circuit Service (1)

This course focuses on refrigerant circuit service. Included are leak detection and repairs, evacuation, charging procedures for best system performance and piping principles and practices. Laboratory fee. (30 Contact Hours)

(AC) 278 Preventive Maintenance Procedures (1)

This course focuses on system components requiring preventive maintenance. The preparation of preventive maintenance schedules is covered. Laboratory fee. (30 Contact Hours)

(AC) 280 Hydronic Systems (3)

This is a comprehensive course that includes Air Conditioning/Refrigeration 281 and 282. Students may register in the comprehensive course or in either of the inclusive courses. Hydronic air conditioning systems are studied. Water chiller, and low-pressure boiler systems are included. Laboratory fee. (90 Contact Hours)

(AC) 281 Water Chillers (1)

This course covers specifically the principles of operation and service of systems using water chillers as a secondary refrigerant. Control and protective devices are included. Laboratory fee. (30 Contact Hours)

(AC) 282 Low-Pressure Boilers (2)

This course covers specifically low-pressure boilers. Included are the combustion process, burner assemblies, fuel circuit devices, heat exchanger control and protection devices. The electrical system is also studied. Laboratory fee. (60 Contact Hours)

(AC) 285 Advanced Industrial Air Conditioning Systems (3)

This is a comprehensive course that includes Air Conditioning/Refrigeration 286, 287, and 288. Students may register in the comprehensive course or in any of the inclusive courses. Advanced industrial air conditioning systems are presented. Applied psychrometrics in air mixtures, coil by-pass factors, evaporator coil dew point, total system load are included. Multi-zone systems, air distribution systems, and air balancing are covered. Laboratory fee. (90 Contact Hours)

(AC) 286 Advanced Psychrometrics-Industrial Air Conditioning (1)

use of the psychrometric chart and air-measuring instruments in air mixtures, evaporator coil performance, calculating total system load and balancing system components. Laboratory fee. (30 Contact Hours)

(AC) 287 Multi-Zone Systems (1)

This course examines multi-zone systems. Topics include components of the multi-zone system, operation and diagnostic procedures, and balancing system performance. Laboratory fee. (30 Contact Hours)

(AC) 288 Air Distribution Systems And Air Balancing (1)

This course examines air distribution systems and air balancing. Principles of industrial air conditioning distribution systems, flow patterns, face and by-pass dampers are included as well as air balancing for total system performance. Laboratory fee. (30 Contact Hours)

(AC) 290 Industrial Air Conditioning Control Systems (3)

Control systems for industrial air conditioning are presented. Included are the diagnosis, service, repair and replacement of components of electrical, pneumatic, and electronic control systems. Emphasis is on control system principles. Laboratory fee. (90 Contact Hours)

(AC) 703, 713, 803, 813 (3)

(See Cooperative Work Experience)

(AC) 704, 714, 804, 814 (4)

(See Cooperative Work Experience)

ANIMAL MEDICAL TECHNOLOGY

(AMT) 101 Medical Terminology For Technicians (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.)

(AMT) 110 Animal Care And Sanitation: Canine (2)

This course covers the common diseases of the canine species and 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 Animal Medical Technology Program for various courses. Laboratory fee. (1 Lec., 2 Lab.)

(AMT) 111 Animal Care And Sanitation: Feline, Porcine (2)

This course covers the common diseases of the feline and porcine species and 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 Animal Medical Technology Program for various courses. Laboratory fee. (1 Lec., 2 Lab.)

(AMT) 112 Animal Care And Sanitation: Equine (2)

This course covers the common diseases of the equine and 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 Animal Medical Technology Program for various courses. Laboratory fee. (1 Lec., 2 Lab.)

(AMT) 130 Introduction To Animal Medical Terminology (4)

This course is an introduction to employment areas, ethical and professional requirements, terminology and basic animal handling and care. Included are: a survey of common breeds of domestic livestock, pets and research animals 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.)

(AMT) 137 Comparative Mammalian Anatomy And Physiology (4)

Mammalian structure is presented on a comparative basis. A histological and gross study of selected organ systems is made using the dog, cat and selected organs of the cow. Laboratory fee. (3 Lec., 3 Lab.)

(AMT) 138 Applied Biochemistry (5)

This course surveys animal cell structure and function. Emphasis is on the relationship of carbohydrate, protein and lipid utilization. Physio-chemical laws involved in cellular homeostatic maintenance are used. Laboratory fee. (4 Lec., 3 Lab.)

(AMT) 140 Introduction to General, Organic, and Biochemistry (5)

Prerequisite: High school biology or chemistry or the equivalent; Math 139 or concurrent enrollment. This course is an introductory survey of the three areas of chemistry: general, organic and biochemistry. The basic principles of inorganic chemistry: metric system, matter and energy, atomic structure, nomenclature, chemical reactions and equations will be presented. Emphasis will also be placed on organic and biochemical aspects: hydrocarbons, alcohols, acids, esters, carbohydrates, lipids, proteins, enzymes, nucleic acids and their metabolism. Laboratory exercises will involve the practical applications of the above principles. Laboratory fee. (4 Lec., 2 Lab.)

(AMT) 210 Animal Care And Sanitation: Bovine (2)

The course covers the common diseases of the bovine and 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 Animal Medical Technology Program for various courses. Laboratory fee. (1 Lec., 2 Lab.)

(AMT) 230 Anesthetic And Surgical Assisting Techniques (4)

Prerequisite: Animal Medical Technology 137. 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., 3 Lab.)

(AMT) 231 Comparative Mammalian Anatomy And Physiology II (4)

Prerequisite: Animal Medical Technology 137. This course is a continuation of Animal Medical Technology 137. Laboratory fee. (3 Lec., 3 Lab.)

(AMT) 237 Principles And Practice Of Radiography (3)

Prerequisite: Animal Medical Technology 230. Lectures 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.)

(AMT) 241 Clinical Pathology Techniques And Practices I (5)

Prerequisite: Credit or concurrent enrollment in Animal Medical Technology 231. Clinical laboratory methods are covered. Topics include parasitological, microbiological and tissue sample collection, analysis, identification and reporting to the veterinarian. Laboratory emphasis on identification of common parasites, morphology, cultural and staining characteristics of pathogenic bacteria and preparation of routine microbiological culture media. Blood analysis is introduced, including preparation of routine microbiological culture media, preparation of blood smears, differential cell counts, hemoglobin and packed cell volume determinations. The importance of understanding parasite life cycles and spread of disease by bacteria as well as host tissue changes occurring is stressed. Laboratory fee. (3 Lec., 6 Lab.)

(AMT) 242 Exotic And Research Animal Care And Management (3)

Prerequisite: Animal Medical Technology 130 and 231. This course introduces handling, restraint, sexing and uses of the common research laboratory and exotic animal species. Methods of husbandry and management to control or prevent common diseases 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 animal medical technicians employed in research institutions as compared to employment in veterinary hospitals are emphasized. Laboratory fee. (2 Lec., 3 Lab.)

(AMT) 243 Clinical Pathology Techniques And Practice II (5)

Prerequisite: Animal Medical Technology 241. This course continues the study and practice of lab methods for blood analysis. Included are red and white cell counts, reticulocyte counts, clotting time, sedimentation rates, cross-matching, serology and various blood chemistry analyses. Practice is provided in urine collection, chemical analysis, and urinary sediment and cellular identification. Emphasis is placed on correlating sample data with changes in affected physiological parameters. Laboratory fee. (3 Lec., 6 Lab.)

(AMT) 244 Large Animal Assisting Techniques (3)

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, surgical assistance, bleeding and fluid administration, mastitis control, foot and hoof care, reproductive management assisting and record-keeping. Laboratory fee. (2 Lec., 4 Lab.)

(AMT) 245 Clinical Seminar (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.)

(AMT) 249 Animal Hospital Nursing (4)

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 non-infectious disease pet animal nursing, emergency first aid, intensive care techniques, dental problems and prophylaxis and client management and relations. Laboratory fee. (3 Lec., 3 Lab.)

(AMT) 250 Special Projects In AMT (2)

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. It is the responsibility of the faculty advisor to provide proper liaison and coordination with personnel in the Learning Resources Center if the student's special project involves software production of specialized animal medical techniques. (3 Lec.)

(AMT) 702 (2)

(See Cooperative Work Experience)

(AMT) 703 (3)

(See Cooperative Work Experience)

ANTHROPOLOGY

(ANT) 100 Introduction To Anthropology (3)

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 given to those of North America. Included are the concepts of culture, social and political organization, language, religion and magic, and elementary anthropological theory. (This course is offered on campus and may be offered via television.) (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 CONTINUED

Anthropology 110 but may receive credit for only one of the two. (3 Lec.)

(ANT) 208 Multicultural Studies (3)

Prerequisite: Anthropology 101 or demonstrated competence approved by the instructor. This course is a multicultural approach to the study of modern Texas. Emphasis is on African, Anglo and Hispanic cultures. Field experiences and interviews are interspersed with lecture to provide opportunities for personal contact with various cultural behaviors. (3 Lec.)

(ANT) 210 Language, Culture And Personality (3)

Prerequisite: Anthropology 101 or demonstrated competence approved by the instructor. Interrelated aspects of language, culture and personality are presented. Special consideration is given to intellectual, social and behavioral problems characteristic of multilingual, multicultural societies. (3 Lec.)

(ANT) 231 Introduction To Archeology (3)

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 work-room 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) 128 History Of Architecture I (3)

This course includes the development of influences on architecture from ancient man through the Byzantine period. (3 Lec.)

(ARC) 129 History Of Architecture II (3)

This course includes the development of influences on architecture from the Romanesque period to the Industrial Revolution. (3 Lec.)

(ARC) 130 Architectural Graphics I (3)

Orthographic projection, isometric and oblique drawing, shade and shadow are studied. Linework 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, linework 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) 135 Freehand Drawing II (3)

Drawing with pen and ink is the main focus. Also included is the use of brush with ink and ink washes for tonal effects. Exercises use book references, human models and indoor-outdoor sketching. Laboratory fee. (2 Lec., 4 Lab.)

(ARC) 146 Architectural Design-Grade I (3)

Basic design principles and their application to architectural design are studied. Human awareness and reaction to the environment and its effect on architectural problem-solving are emphasized. Laboratory fee. (2 Lec., 4 Lab.)

(ARC) 147 Architectural Design-Grade I (3)

Prerequisite: Architecture 146. The application of design principles to architectural experiences is investigated. Analysis, schematic study, and the development of spatial problems related to human occupancy and needs are studied. Emphasis is placed on the development and integration of skills needed to formulate and communicate design concepts. Laboratory fee. (2 Lec., 4 Lab.)

(ARC) 150 Building Technology I-Materials And Methods (3)

Architectural materials and their uses are analyzed. Specifications and codes are introduced, and structural systems are investigated. Laboratory fee. (2 Lec., 4 Lab.)

(ARC) 153 Construction Drawings-Wood Frame (3)

Prerequisite: Architecture 130 or demonstrated competence approved by the instructor. Construction drawing 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) 220 Personalities In Art And Architecture (3)

This course includes an in-depth study of the influential people throughout history who were the motivating human factors behind the evolutionary development of art and architecture. (3 Lec.)

(ARC) 226 History Of Interior Architecture I (3)

This course includes a survey of historical interior architecture development beginning with the ancient civilizations. (3 Lec.)

(ARC) 227 History Of Interior Architecture II (3)

This course is a continuation of Architecture 226. This course includes the historical development of interior architecture to the present. (3 Lec.)

(ARC) 230 History Of Modern Architecture (3)

Prerequisite: Sophomore standing. The influences and architectural expressions of man are examined. The time period spaces the Industrial Revolution to the present day. (3 Lec.)

(ARC) 232 Basic Architectural Photography (3)

Prerequisites: Architecture 147, 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) 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. (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. (2 Lec., 4 Lab.)

(ARC) 242 Presentation I (3)

Prerequisites: Architecture 133 or Interior Design 123 or Art 115 or demonstrated competence approved by the instructor. This is a course in professional delineation wherein the student produces from a given set of architectural drawings finished interior and exterior renderings utilizing the principles of design, perspective, composition, freehand, and mechanical drawing capabilities and rendering techniques. Laboratory fee. (2 Lec., 4 Lab.)

(ARC) 243 Presentation II (3)

Prerequisites: Architecture 133 or Interior Design 123 or Art 115 or demonstrated competence approved by the instructor. This course is a continuation of Presentation I. Laboratory fee. (2 Lec., 4 Lab.)

(ARC) 245 Design Sketching (3)

Prerequisites: Architecture 133 or Interior Design 123 or Art 115 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 students' own design. Concepts in various media are the main activities. Laboratory fee. (2 Lec., 4 Lab.)

tor. 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 students' own design. Concepts in various media are the main activities. Laboratory fee. (2 Lec., 4 Lab.)

(ARC) 246 Architectural Design-Grade II (3)

Prerequisites: Architecture 130 and 147. Research into design theory is conducted to solve architectural problems. Emphasis is on functional and aesthetic values through three-dimensional problem solving studies. Laboratory fee. (2 Lec., 4 Lab.)

(ARC) 247 Architectural Design-Grade II (3)

Prerequisite: Architecture 246. This course is a continuation of Architecture 246. Emphasis is on functional and aesthetic solutions based upon individual programming and research. Laboratory fee. (2 Lec., 4 Lab.)

(ARC) 251 Building Technology II-Heavy Construction (3)

Prerequisite: Architecture 150. 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 150 and Architecture 153 or demonstrated competence approved by the instructor. Introduction and practice is 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 150 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) 255 Construction Drawings III-Concrete And Masonry (3)

Prerequisite: Architecture 153. This course involves the study of concrete and masonry construction techniques and their construction drawings. Included are structural drawings, details, schedules, plans, sections, and elevations. 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.)

ARCHITECTURE CONTINUED

(ARC) 802, 812 (2)

(See Cooperative Work Experience)

(ARC) 803, 813 (3)

(See Cooperative Work Experience)

(ARC) 804, 814 (4)

(See Cooperative Work Experience)



ART

(ART) 103 Introduction To Art (1)

Materials and techniques of studio art are introduced for the non-major. Included are basic design concepts and traditional media. Laboratory fee. (3 Lab.)

(ART) 104 Art Appreciation (3)

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)

This course covers the history of art from prehistoric time through the Renaissance. It explores the culture, geographical and personal influences on art styles. (3 Lec.)

(ART) 106 Survey Of Art History (3)

This course covers the history of art from the Baroque period through the present. It explores the cultural, geographical and personal influences on art styles. (3 Lec.)

(ART) 110 Design I (3)

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)

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)

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)

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. (2 Lec., 4 Lab.)

(ART) 116 Introduction To Jewelry I (3)

Prerequisites: Art 110, Art 111, or demonstrated competence approved by the instructor. The basic techniques of fabrication and casting of metals are presented. Emphasis is on original design. Laboratory fee. (2 Lec., 4 Lab.)

(ART) 117 Introduction to Jewelry II (3)

Prerequisite: Art 116. This course continues Art 116. Advanced fabrication and casting techniques 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 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) 122 Advertising Design (3)

Prerequisite: Art 110, Art 111, Art 115, or demonstrated competence approved by the instructor. Advertising concepts are presented. Emphasis is on the development of logo designs, magazine ads, TV story boards, posters, letterheads and envelopes. (2 Lec., 4 Lab.)

(ART) 199 Problems In Contemporary Art (1)

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)

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)

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)

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)

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) 211 Commercial Art II (3)

Prerequisite: Art 210. This course continues Art 210. Added emphasis is on layout and design concepts. Work with simple art form reproduction techniques and the development of a professional portfolio are also included. Laboratory fee. (2 Lec., 4 Lab.)

(ART) 212 Advertising Illustration (3)

Prerequisite: Art 210. Problems of the illustrator are investigated. Elements used by the illustrator are explored. Problem-solving projects are conducted. (2 Lec., 4 Lab.)

(ART) 213 Commercial Design Group (3)

Prerequisite: Art 210. Students operate a design studio and work directly with clients to solve their particular visual communication needs. They create graphic art products, such as brochures, identity programs and posters. Printed samples for portfolios may be acquired. (2 Lec., 4 Lab.)

(ART) 215 Ceramics I (3)

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)

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)

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)

Prerequisite: Art 217. This course continues the development of skills in water base media. (2 Lec., 4 Lab.)

(ART) 220 Printmaking I (3)

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)

Prerequisite: Art 220. This course is a continuation of Printmaking I. Laboratory fee. (2 Lec., 4 Lab.)

(ART) 227 Design III (3)

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)

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)

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)

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)

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. (This course is offered on campus and may be offered via television.) (3 Lec.)

ASTRONOMY CONTINUED

(AST) 102 General Astronomy (3)

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)

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 course includes night observations. Laboratory fee. (3 Lab.)

(AST) 104 Astronomy Laboratory II (1)

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)

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)

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. Filing 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 covered 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 covered 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)

Prerequisite: Concurrent enrollment in Auto Body 222. 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)

Prerequisite: Concurrent enrollment in Auto Body 221. 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) 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) 803 (3)

(See Cooperative Work Experience)

(AB) 804 (4)

(See Cooperative Work Experience)

AUTOMOTIVE PARTS SALES AND SERVICE

(AP) 100 Orientation To The Auto Parts Industry (2)

This course is an orientation to the automotive parts industry. The industry's importance in the total automotive field is described. The history and development of the industry, its current role in the U.S. economy, and future trends and issues are covered. (60 Contact Hours)

(AP) 110 Auto Parts Safety (1)

Safety practices are presented. Emphasis is on proper working conditions and safety precautions within an auto parts facility. (30 Contact Hours)

(AP) 130 Automotive Equipment, Tools, And Accessories (2)

Automotive hand tools and equipment are covered. Both selection and use are included, as well as the identification of accessories and product knowledge. (60 Contact Hours)

(AP) 150 Auto Parts Sales Techniques (2)

This course is a study of counter sales techniques. Included is analysis of the sales invoice. Emphasis is on customer sales, telephone use, and customer relations. (60 Contact Hours)

(AP) 160 Auto Parts Inventory Operations (3)

The course covers the receiving, stocking, and shipping of automobile parts. Various topics are included, such as methods of opening packages and the storing of merchandise. Inventory and stock control are also covered. (90 Contact Hours)

(AP) 170 Automotive Vehicle Components (3)

The terminology, operation, and replacement of parts are presented. Specific attention is given to the parts of the engine, transmission, brake systems, and suspension and steering assemblies. (90 Contact Hours)

(AP) 180 Order Processing And Analysis (2)

This course focuses on placing and processing orders. Topics include indexing and filing systems, price sheets, and the manufacturers' specialized catalogs. (60 Contact Hours)

(AP) 190 The Role Of The Counterperson (1)

Duties of the auto parts salesperson are presented. Specific topics are sales techniques, office procedures, delivery, and housekeeping duties. (30 Contact Hours)

AUTOMOTIVE TECHNOLOGY APPRENTICESHIP

(ATA) 100 Automotive Fundamentals (3)

This course introduces general auto maintenance procedures. Topics include shop safety, hand tools, shop equipment, and manuals and schematics. Apprentices who believe they are qualified by experience or previous training may take an examination to establish credit for this course. (48 Contact Hours)

(ATA) 101 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. (48 Contact Hours)

(ATA) 102 Automotive Service Department Management (3)

This course examines the auto service department. Topics include organizational structure, operation, marketing and promotional methods, management, and financial aspects. (48 Contact Hours)

(ATA) 103 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 apprentice is prepared for the N.I.A.S.E. Front End and Brake Systems Examinations (2). (48 Contact Hours)

(ATA) 104 Automotive Parts Department Management (3)

This course examines the auto parts department. Topics include organizational structure, catalog interpretation, terminology, inventory control, warehousing, and distribution. (48 Contact Hours)

(ATA) 105 Engine Tune-Up Procedures (3)

Prerequisite: Automotive Technology Apprenticeship 101. Tune-up procedures are presented. The fuel system, carburetor, ignition system, and emission control systems are covered. Emphasis is on precision diagnosis by use of the engine analyzer as well as troubleshooting procedures. Upon successful completion of this course, the apprentice is prepared for the N.I.A.S.E. Engine Tune-Up Examination. (48 Contact Hours)

(ATA) 191 Internship I (3)

Supervised, on-the-job training, coordinated with classroom activities. (640 Contact Hours)

(ATA) 192 Internship II (3)

Supervised, on-the-job training, coordinated with classroom activities. (640 Contact Hours)

(ATA) 193 Internship III (3)

Supervised, on-the-job training coordinated with classroom activities. (640 Contact Hours)

(ATA) 200 Advanced Electrical Systems (3)

Prerequisite: Automotive Technology Apprenticeship 101. Advanced electrical systems are presented. Topics include chassis electrical systems, integrated circuits, instrument panel controls, wiring vacuum systems, and accessory controls. Emphasis is on interpretation of diagrams and schematics. Systematic troubleshooting procedures are also stressed. Upon completion of this course, the apprentice is prepared for N.I.A.S.E. Electrical Systems Examination. (48 Contact Hours)

(ATA) 201 Automotive Air Conditioning And Heating Systems (3)

This course covers basic thermodynamics principles and 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 apprentice is prepared for the N.I.A.S.E. Heating and Air Conditioning Systems Examination. (48 Contact Hours)

(ATA) 202 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 all included. Cooling and lubrication systems, valves and valve trains, cylinder head reconditioning, and the diagnosis of engine problems are studied. (48 Contact Hours)

(ATA) 203 Engine Overhaul Procedures (3)

Prerequisite: Automotive Technology Apprenticeship 202. Procedures to remove, disassemble, rebuild, assemble, and install the engine are covered. Emphasis is on preci-

sion measuring techniques. Also included are tune-up and road testing. Upon completion of this course, the apprentice is prepared for the N.I.A.S.E. Engine Repair Examination. (48 Contact Hours)

(ATA) 209 Standard Transmissions And Power Trains (3)

This course includes the study of clutches, standard transmissions, drive lines, 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 apprentice is prepared for the N.I.A.S.E. Manual Transmission and Rear Axle Examination. (3 Lec.)

(ATA) 210 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 conventional and transverse applications. Upon completion of this course, the apprentice is prepared for the N.I.A.S.E. Automatic Transmission Examination. (3 Lec.)

(ATA) 294 Internship IV (3)

Supervised on-the-job training, coordinated with classroom activities. (640 Contact Hours)

(ATA) 295 Internship V (3)

Supervised on-the-job training, coordinated with classroom activities. (640 Contact Hours)

(ATA) 296 Internship VI (3)

Supervised on-the-job training, coordinated with classroom activities. (640 Contact Hours)

AUTOMOTIVE TECHNOLOGY

(AT) 108 Minor Vehicle Services (4)

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. (120 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 Engine Repair I. Engine rebuilding is continued with emphasis on in-service automobile 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 igni-

tion 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) 118 Electrical Systems (4)

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. (120 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) 221 Heating And Air Conditioning Systems (4)

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. (120 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 transmission 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 Automatic Transmissions I. Transmission rebuilding is continued with emphasis on in-service automobile repair. Laboratory fee. (120 Contact Hours)

(AT) 723 Cooperative Work Experience (3)

Prerequisite: Enrollment in the General Motors Automotive Service Educational Program. This course consists of weekly seminars meeting 2 hours per week and 8 weeks of full-time on-the-job experience. Theory and instruction received in the previous courses taught with a GM emphasis are applied to work in the sponsoring dealership. (176 Contact Hours)

(AT) 733 Cooperative Work Experience (3)

Prerequisite: Enrollment in the General Motors Automotive Service Educational Program. This course consists of weekly seminars meeting 2.5 hours per week and 7 weeks of full-time on-the-job experience. Theory and instruction received in the previous courses taught with a GM emphasis are applied to work in the sponsoring dealership. (156 Contact Hours)

(AT) 823 Cooperative Work Experience (3)

Prerequisite: Enrollment in the General Motors Automotive Service Educational Program. This course consists of weekly seminars meeting 2.75 hours per week and 6 weeks of full-time on-the-job experience. Theory and instruction received in the previous courses taught with a GM emphasis are applied to work in the sponsoring dealership. (136 Contact Hours)

(AT) 824 Cooperative Work Experience (4)

Prerequisite: Enrollment in the General Motors Automotive Service Educational Program. This course consists of weekly seminars meeting 1.5 hours per week and 13 weeks of full-time on-the-job experience. Theory and instruction received in the previous courses taught with a GM emphasis are applied to work in the sponsoring dealership. (276 Contact Hours)

(AT) 834 Cooperative Work Experience (4)

Prerequisite: Enrollment in the General Motors Automotive Service Educational Program. This course consists of weekly seminars meeting 1.25 hours per week and 12 weeks of full-time on-the-job experience. Theory and instruction received in the previous courses taught with a GM emphasis are applied to work in the sponsoring dealership. (256 Contact Hours)

(AT) 704, 804 (4) Brookhaven

(See Cooperative Work Experience)

(AT) 713, 813 (3) Brookhaven, Cedar Valley
(See Cooperative Work Experience)

(AT) 714, 814 (4) Brookhaven, Cedar Valley
(See Cooperative Work Experience)

(AT) 803, 813 (3) Brookhaven, Eastfield
(See Cooperative Work Experience)

AVIATION MAINTENANCE TECHNOLOGY

(APM) 100 Aircraft Basic Science (5)

This course covers mathematics and physics of flight used in computing aircraft weight and balance. It also is an introduction to mechanic's privileges and limitations, Federal Aviation Regulations, and forms and publications used by the aircraft industry. (150 Contact Hours)

(APM) 101 Applied Aircraft Science (5)

Aircraft hardware and materials, nondestructive testing, and precision measurements are presented. The fabrication and installation of fluid lines and fittings are included. Servicing methods and ground operations are also covered, as well as cleaning and corrosion control. (150 Contact Hours)

(APM) 102 Basic Electricity (5)

The nature and relationships of voltage, current, and resistance designed specifically for aircraft electrical systems are studied. Topics include batteries, generators, alternators, and motors. Service and maintenance are both emphasized. The interpretation of aircraft drawings, charts, and wiring diagrams is also covered. (150 Contact Hours)

(APM) 200 Airframe Structures (5)

This course introduces wooden structures for aircraft. Covering materials, finishes, and application procedures are included. Fuel systems, the use of oxyacetylene welding equipment, and the inspection of aircraft welds are also covered. (150 Contact Hours)

(APM) 201 Sheet Metal Structures (5)

Sheet metal structures are the focus of this course. Included are honeycomb and laminated structures as well as doors and windows. The identification, selection, and installation of rivets and fasteners are also covered. (150 Contact Hours)

(APM) 202 Hydraulics And Landing Gear (5)

Hydraulic and pneumatic principles are presented and applied to basic units and systems. Topics include wheels, tires, brakes, and fixed and retractable landing gear. Inspection, maintenance and repair are all stressed. (150 Contact Hours)

(APM) 203 Airframe Electrical Systems (5)

Electrical components and related wiring are studied. Topics include instrument systems, communications, navigation equipment, power requirements, and antenna use. Proper methods of installation, removal, disassembly, and repair are emphasized. (150 Contact Hours)

(APM) 204 Utility Systems (5)

This course covers atmospheric conditions and their modification for cabin heating, cooling, ventilation, and pressurization. It is an introduction to protection systems for ice, rain, and fire. Emphasis is on assembly and rigging by the use of manuals to install, inspect, align, and balance structural components. (150 Contact Hours)

(APM) 205 Inspection And Review (5)

Methods and procedures for completing required inspections are presented. Included is a review of all general and airframe material. FAA examinations for the Airframe Certificate are taken upon the completion of this course. (150 Contact Hours)

(APM) 220 Reciprocating Engines (5)

This course focuses on the reciprocating engine. Topics include piston displacement; compression ratio, and horsepower calculations. The classification and description of engine types are also covered. Emphasis is on the disassembly, inspection, overhaul, assembly, and testing of reciprocating engines. (150 Contact Hours)

(APM) 221 Gas Turbine Powerplants (5)

10 This course focuses on gas turbine engines. Basic operating principles are examined, the effects of temperature, pressure, volume, and velocities of the working gases are explored. Components and functions are identified. Emphasis is on the disassembly, inspection, assembly, and testing of turbine engines. (150 Contact Hours)

(APM) 222 Powerplant Electrical Systems (5)

Powerplant systems and their parts are studied. Topics include powerplant magnetos and ignition systems, starter and generator systems, engine instrument systems, and engine fire protection systems. Emphasis is on the theory, construction, control, operation, maintenance, and servicing of these systems. (150 Contact Hours)

(APM) 223 Powerplant Accessory Systems (5)

Accessory systems are covered. Included are aircraft propellers and their control systems. Lubricating, induction and supercharging, cooling and exhaust systems are also included. (150 Contact Hours)

(APM) 224 Fuel Metering And Troubleshooting (5)

This course provides information about the various fuel systems used for aircraft engines. The principles, operation, overhaul, and repair of various carburetors and direct fuel injection units are presented. Emphasis is on the recognition, analysis, and elimination of common powerplant troubles as well as engine installation and removal. (150 Contact Hours)

(APM) 225 Powerplant Review And Inspection (5)

Methods and procedures for completing an airworthiness inspection are the focus of this course. Included is a review of all general and powerplant material. FAA examinations for the Powerplant Certificate are taken at the completion of this course. (150 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. The 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 Certificate. 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 is designed to fulfill the Ground School Requirements of the FAA 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 ram-jet. 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). Pre-flight 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 Business 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 the consent of 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. Laboratory fee. (2 Lec., 2 Lab.)

(AVT) 223 Airline Management (3)

Prerequisites: Required core courses and Business 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 and Business 233. The significance and functions of marketing are stressed from the airline viewpoint. Topics include market research,

AVIATION TECHNOLOGY CONTINUED

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) 227 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) 228 Flight Commercial II (3)

Prerequisite: Aviation Technology 227 and concurrent enrollment in Aviation Technology 123. This course provides 46 hours of flight instruction (10 hours dual instrument instruction, 6 hours dual instruction, and 30 hours of solo flight) to apply toward the Commercial Pilot Certificate. Pre-flight instruction and briefing are included, as are 5 hours of night flight. Flight and laboratory fee. (8 Lab., 46 Flight)

(AVT) 229 Flight Commercial III (3)

Prerequisite: Aviation Technology 123 and 228. 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. Pre-flight instruction and briefing are included. Students receive course credit upon completion of the flight prerequisite to the Commercial Pilot Flight Examination. Flight and laboratory fee. (4 Lab., 46 Flight)

(AVT) 230 Flight Commercial IV-Instrument (3)

Prerequisite: Private or Commercial Pilot Certificate. This course provides 45 hours of instrument flight instruction. Pre-flight instruction and briefing are included. Flight fee. (46 Contact Hours)

(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 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., 32 Contact Hours)

(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 includes 20 hours of flight training in the science of flight instruction 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 pre-flight 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 pre-flight, 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 (4)

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. Ten hours are required in the Simulated Flight Trainer. (Simulated instrument flight hours can be accumulated both on and off campus but must be verified by the instructor.) Simulator fee. (58 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) 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 its 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 enroute 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) 701, 711, 801, 811 (1)

(See Cooperative Work Experience)

(AVT) 702, 712, 802, 812 (2)

(See Cooperative Work Experience)

(AVT) 703, 713, 803, 813 (3)

(See Cooperative Work Experience)

(AVT) 704, 714, 804, 814 (4)

(See Cooperative Work Experience)

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 pre- or co- requisites: 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 pre- or co- requisites: 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 should gain practical experience in avionics equipment in the aircraft and on the bench. Laboratory fee. (3 Lec., 3 Lab.)

(AV) 701, 711, 801, 811 (1)

(See Cooperative Work Experience)

(AV) 702, 712, 802, 812 (2)

(See Cooperative Work Experience)

(AV) 703, 713, 803, 813 (3)
(See Cooperative Work Experience)

(AV) 704, 714, 804, 814 (4)
(See Cooperative Work Experience)

BIOLOGY

(BIO) 101 General Biology (4)

This course is a prerequisite for all higher level biology courses. Topics include the structure and function of cells, tissues and organ systems in plants and animals. Laboratory fee. (3 Lec., 3 Lab.)

(BIO) 102 General Biology (4)

This course is a continuation of Biology 101. Topics include Mendelian and molecular genetics, evolutionary mechanisms, and plant and animal development. The energetics and regulation of ecological communities are also studied. Laboratory fee. (3 Lec., 3 Lab.)

(BIO) 110 Introductory Botany (4)

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)

Selected topics in biological science are presented for the non-science major. Topics include the cell concept and basic chemistry as it relates to biology. An introduction to genetics, evolution, cellular processes, such as mitosis, meiosis, respiration, and photosynthesis, and plant and animal reproduction is also covered. Laboratory fee. (This course is offered on campus and may be offered via television.) (3 Lec., 3 Lab.)

(BIO) 116 Biological Science (4)

Selected topics in biological science are presented for the non-science major. Topics include the systems of the human body, disease, drug abuse, aging, evolution, ecology, and people in relation to their environment. 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 sys-

tems: 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. Laboratory fee. (3 Lec., 3 Lab.)

(BIO) 211 Invertebrate Zoology (4)

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)

Prerequisite: Biology 102 or demonstrated competence approved by the instructor. Topics include growth reproduction, nutrition, genetics, and ecology of microorganisms, 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) 217 Field Biology (4)

Prerequisite: Eight hours of biological science or demonstrated competence approved by the instructor. 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. (3 Lec., 4 Lab.)

(BIO) 221 Anatomy And Physiology I (4)

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)

Prerequisite: Biology 221 or demonstrated competence approved by the instructor. Second course of a two course sequence. Structure and function as related to the human circulatory, respiratory, urinary, digestive, reproductive, and endocrine systems. Emphasis is placed on the interrelationships of these systems. Laboratory fee. (3 Lec., 3 Lab.)

(BIO) 224 Environmental Biology (4)

Prerequisite: Six hours of biology. 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)

This course focuses on genetics. Topics include Mendelian inheritance, recombination 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)

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 multiview 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., 64 Contact Hours)

(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., 64 Contact Hours)

BUSINESS**(BUS) 105 Introduction To Business (3)**

This course provides an overall picture of business operations. Specialized fields within business organizations are analyzed. The role of business in modern society is identified. (This course is offered on campus and may be offered via television.) (3 Lec.)

**(BUS) 136 Principles Of Management (3)**

The process of management is studied. The functions of planning, organizing, leading, and controlling are included. Particular emphasis is on policy formulation, decision-making processes, operating problems, communications theory, and motivation techniques. (This course is offered on campus and may be offered via television.) (3 Lec.)

(BUS) 143 Personal Finance (3)

Personal financial issues are explored. Topics include financial planning, insurance, budgeting, credit use, home ownership, savings, investment, and tax problems. (3 Lec.)

(BUS) 157 Small Business, Bookkeeping And Accounting Practices (3)

The essentials of business accounting followed by how to prepare and analyze basic financial statements pertinent to all business operators. (3 Lec.)

(BUS) 234 Business Law (3)

This course presents the historical and ethical background of the law and current legal principles. Emphasis is on contracts, property, and torts. (3 Lec.)

(BUS) 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.)

(BUS) 701, 711, 801, 811 (1)

(See Cooperative Work Experience)

(BUS) 702, 712, 802, 812 (2)

(See Cooperative Work Experience)

(BUS) 703, 713, 803, 813 (3)

(See Cooperative Work Experience)

(BUS) 704, 714, 804, 814 (4)

(See Cooperative Work Experience)

CARPENTRY

(CAR) 101 Woodworking Tools And Materials (3)

This course focuses on the use of woodworking tools and equipment. Machines used include the table saw, jointer, planer, radial arm saw, router, sander, and various portable power tools. Proper safety procedures are emphasized. Laboratory fee. (90 Contact Hours)

(CAR) 102 Site Preparation (3)

Knowledge and skills for site preparation are presented. Included are laying out and constructing foundations for domestic buildings, constructing and placing piers, erecting concrete foundation forms, and pouring concrete foundations. Laboratory fee. (90 Contact Hours)

(CAR) 103 Construction Safety (1)

Construction safety is covered. This course is based on standards of the Occupational Safety and Health Administration for residential commercial construction. (30 Contact Hours)

(CAR) 104 Residential Framing (3)

Erection of frame structures is the focus of this course. Both balloon and western framing are included. The construction of floor systems, ceilings, and walls is also covered. Safety procedures are emphasized. Laboratory fee. (90 Contact Hours)

(CAR) 105 Roof Framing I (3)

This course covers the knowledge and skills needed to lay rafters of all types. The cutting and erecting of rafters for gable, shed, and gambrel roof are included. The styles and terminology of roof framing are also included. Laboratory fee. (90 Contact Hours)

(CAR) 106 Exterior Trim And Finish (3)

Exterior wall coverings, roof cornice, and roofing are the topics of this course. Wall coverings, roof sheathing, shingles, and cornice are applied to different styles of roofs and buildings. Laboratory fee. (90 Contact Hours)

(CAR) 107 Construction Cost Estimating (3)

Prerequisite: Blueprint Reading 177. This course covers cost estimates for residential and small commercial structures. Estimates are made from blueprints and specifications. Emphasis is on the process of bid preparation. (48 Contact Hours)

(CAR) 108 Modern Construction Practices (3)

The basic terminology used in commercial construction is surveyed. The design and erection of tilt-up wall construction are studied. The erection and study of pre-cast panels and other new systems for commercial building are included. Laboratory fee. (90 Contact Hours)

(CAR) 109 Concrete Slabs In Commercial Building (3)

The different designs and systems used in concrete slabs are examined. Both below grade and suspended slabs are included. Emphasis is on practical knowledge in the erection, shoring and scaffolding of slabs. Laboratory fee. (90 Contact Hours)

(CAR) 201 Cabinet Building I (3)

The design and layout of modern cabinets are presented.

Emphasis is on quality work. Included are making material lists, drafting cabinet details, and installing factory-built cabinets. Laboratory fee. (90 Contact Hours)

(CAR) 202 Cabinet Building II (3)

This course focuses on cabinet designs and construction. All stages from rough materials to a finished product are covered. Laboratory fee. (90 Contact Hours)

(CAR) 203 Stair Building (3)

The knowledge and skills needed in building stairs are presented. Included are riser and tread calculation, material estimates, layout, and construction. The course also covers the construction of stair forms for concrete stairs. Laboratory fee. (90 Contact Hours)

(CAR) 204 Commercial Wall Forms (3)

Wall systems are examined. Different types and systems of construction are covered. Included are basement walls, retaining walls, patented walls, and job-built walls. Emphasis is on the erection of these walls. Laboratory fee. (90 Contact Hours)

(CAR) 205 Roofing Framing II (3)

Hip and mansard roof systems are presented. Layouts and cutting and erection of each type of roof system are covered. The design and erection of a truss system is also included. Laboratory fee. (90 Contact Hours)

(CAR) 206 Vertical Piers And Columns (3)

The construction of piers and concrete columns is the focus of this course. Different forms are studied. Emphasis is on the layout and erection of different systems. Laboratory fee. (90 Contact Hours)

(CAR) 208 Interior Finish I (3)

This course covers interior finish. Cutting, applying, and finishing panelling is included. Dry wall and trim are also included. The fitting and hanging of interior doors and installing of hardware are covered. Laboratory fee. (90 Contact Hours)

(CAR) 209 Interior Finish II-Commercial (3)

This course covers interior finish of commercial buildings. Included are store fronts, metal frame walls and floor systems, moveable partitions, and dropped and suspended ceiling systems. Layout and erection of systems are practiced. Laboratory fee. (90 Contact Hours)

(CAR) 210 Horizontal Beam Form And Fire Encasement Forms (3)

The design of horizontal beams and fireproof encasement forms is studied. Different types of materials and commercial systems are included. Emphasis is on safety. Laboratory fee. (90 Contact Hours)

(CAR) 211 Properties Of Concrete (1)

The nature of concrete is explored. Emphasis is on the manufacturing of concrete, the selection and design of concrete, and methods used in placing and finishing concrete. Laboratory fee. (30 Contact Hours)

(CAR) 703, 704, 713, 714 (3)

(See Cooperative Work Experience)

(CAR) 803, 804, 813, 814 (4)

(See Cooperative Work Experience)

CHEMISTRY

(CHM) 101 General Chemistry (4)

Prerequisites: Developmental Mathematics 093 or equivalent and any one of the following: high school chemistry, Chemistry 115, or equivalent. This course is for science and science-related majors. It covers the laws and theories of matter. The laws and theories are used to understand the properties of matter, chemical bonding, chemical reactions, the physical states of matter, and changes of state. The fundamental principles are applied to the solution of quantitative problems relating to chemistry. Laboratory fee. (3 Lec., 3 Lab.)

(CHM) 102 General Chemistry (4)

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 solutions and colloids, chemical kinetics and equilibrium, electrochemistry, and nuclear chemistry. Qualitative inorganic analysis is also included. Laboratory fee. (3 Lec., 3 Lab.)

(CHM) 115 Chemical Sciences (4)

Prerequisite: Developmental Mathematics 091 or the equivalent. This course is for non-science majors. It traces the development of theoretical concepts. These concepts are used to explain various observations and laws relating to chemical bonding reactions, states of matter, solutions, electrochemistry, and nuclear chemistry. Also included is the descriptive chemistry of some common elements and inorganic compounds. Laboratory fee. (3 Lec., 3 Lab.)

(CHM) 116 Chemical Sciences (4)

Prerequisite: Chemistry 115 or demonstrated competence approved by the instructor. This course is for non-science majors. It covers organic chemistry and biochemistry. The important classes of organic compounds are surveyed. The concept of structure is the central theme. Biochemistry topics include carbohydrates, proteins, lipids, chemistry of heredity, disease and therapy, and plant biochemistry. Laboratory fee. (3 Lec., 3 Lab.)

(CHM) 170 Chemistry Of Flammable Materials (3)

Prerequisite: Chemistry 116. Characteristics and behavior of various materials that burn or react violently are studied. Flammable liquids, combustible solids, and gasses are included. Storage, transportation, and handling are covered. Emphasis is on emergency situations and methods of control. (3 Lec.)

(CHM) 201 Organic Chemistry I (4)

Prerequisite: Chemistry 102. This course is for science and science-related majors. It introduces organic chemistry. The fundamental types of organic compounds are presented. Their nomenclature, classification, reactions, and applications are included. The reactions of aliphatic and aromatic compounds are discussed in terms of modern electronic theory. Emphasis is on reaction mechanisms, stereo-chemistry, transition state theory, and organic synthesis. Laboratory fee. (3 Lec., 4 Lab.)

(CHM) 202 Organic Chemistry II (4)

Prerequisite: Chemistry 201. This course is for science and science-related majors. It is a continuation of Chemistry

201. Topics include aliphatic and aromatic systems, poly-functional compounds, amino acids, proteins, carbohydrates, sugars, and heterocyclic and related compounds. Instrumental techniques are used to identify compounds. Laboratory fee. (3 Lec., 4 Lab.)

(CHM) 203 Quantitative Analysis (4)

Prerequisite: Chemistry 102, Mathematics 101 or Mathematics 104 or the equivalent. Principles for quantitative determinations are presented. Topics include gravimetry, oxidation-reduction, indicators, and acid-base theory. Gravimetric and volumetric analysis is emphasized. Colorimetry is introduced. Laboratory fee. (2 Lec., 6 Lab.)

(CHM) 205 Chemical Calculations (2)

Prerequisite: Chemistry 102. Chemical calculations are reviewed. Emphasis is on stoichiometry and chemical equilibrium. (2 Lec.)

(CHM) 234 Instrumental Analysis (4)

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. (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) 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 par-

CHILD DEVELOPMENT CONTINUED

ticipation with pre-schools and child-care centers in the community. (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. (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. (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 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, teacher 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. (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) 238 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. (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. (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. (2 Lec., 5 Lab.)

(CD) 246 Advanced Administrative Practices For Child Care Facilities (3)

Prerequisite: Child Development 238. 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. (3 Lec.)

(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. (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. (2 Lec., 2 Lab.)

(CD) 813 (3)

(See Cooperative Work Experience)

CHINESE

(CHI) 101 Beginning Chinese I (4)

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)

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)

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)

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. (1 Lec.)

COMMUNICATIONS

(COM) 131 Applied Composition And Speech (3)

Communication skills are studied as a means of preparing for one's vocation. Practice in writing letters, applications, resumes, and short reports is included. (3 Lec.)

(COM) 132 Applied Composition And Speech (3)

Prerequisite: Communications 131 or demonstrated competence approved by the instructor. The study of communication processes is continued. Emphasis is on written persuasion directly related to work. Expository techniques in business letters and documented reports are covered. Practice in oral communication is provided. (3 Lec.)

COMPUTER SCIENCE

(CS) 174 Fundamentals Of Computing (3)

Prerequisite: Two years of high school algebra or Developmental Mathematics 093. This course is an introductory course designed primarily for students desiring credit towards a minor or major in computer science or other scientific field. It includes a study of algorithms and an introduction to a procedure-oriented language with general applications. (3 Lec.)

(CS) 175 Introduction To Computer Science (3)

This course is an introduction to the fundamentals of information processing machines. Topics include history of computers, vocabulary, cultural impact, development of basic algorithms, number systems, and applications of elementary programming logic made through the use of

the BASIC programming language. Laboratory fee. (3 Lec.)

(CS) 181 Introduction To FORTRAN Programming (3)

Prerequisites: Computer Science 174 or 175 and Math 101 or demonstrated competence approved by the instructor. This course is an introduction to computer techniques using the FORTRAN language. Emphasis is on applications used to solve numeric problems in engineering, physical science, and mathematics. Laboratory fee. (2 Lec., 2 Lab.)

(CS) 182 Introduction To BASIC Programming (3)

Prerequisites: Computer Science 174 or 175 or demonstrated competence approved by the instructor. This course is an introduction to the BASIC programming language. Proficiency will be developed as the student codes and executes several BASIC programs using interactive computer equipment. Laboratory fee. (2 Lec., 2 Lab.)

(CS) 183 Introduction To PL/1 Programming (3)

Prerequisites: Computer Science 174 or 175 or demonstrated competence approved by the instructor. This course covers the numeric and non-numeric applications of PL/1 programming. Computing techniques will be developed in such areas as program design, basic aspects of string processing, recursion, internal search/sort methods, and simple data structures. Laboratory fee. (2 Lec., 2 Lab.)

(CS) 184 Introduction To COBOL Programming (3)

Prerequisites: Computer Science 174 or 175 or demonstrated competence approved by the instructor. This course is an introduction to the COBOL programming language. Topics will include algorithmic processes, problem solving methods, programming style, flow charts, and various files processing techniques. Emphasis is on the language, its flexibility and power rather than on applications. Laboratory fee. (2 Lec., 2 Lab.)

(CS) 185 Pascal Programming (3)

Prerequisites: Computer Science 174 and Math 101 or demonstrated competence approved by the instructor. This course expands the development of the Pascal language to include algorithmic analysis and basic aspects of string processing, recursion, internal search/sorting methods and data structures. Concepts for the design and testing of more complex programs are covered. Laboratory fee. (2 Lec., 2 Lab.)

(CS) 186 Introduction To Assembly Language (3)

Prerequisites: Computer Science 174 or 175 and three additional semester hours of computer programming or demonstrated competence approved by the instructor based on equivalent experience. This course is an introduction to ASSEMBLY language programming. Topics will include machine representation of data and instructions, logical input/output control systems, subroutine and addressing concepts, and presentation of selected macro instructions. Laboratory fee. (2 Lec., 2 Lab.)

(CS) 249 Contemporary Topics In Computer Science (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. Topics may include introduction to micro/mini computer systems, programming languages, or other advanced data processing concepts such as CICS. This course may be repeated for credit when topics vary. (1 Lec.)

(CS) 250 Contemporary Topics In Computer Science (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. Topics may include introduction to micro/mini computer systems, programming languages, or other advanced data processing concepts such as CICS. May be repeated as topics vary. (3 Lec.)

(CS) 251 Special Topics In Computer Science (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 science and data processing are studied. Such topics may include advanced programming language concepts in BASIC, RPG II and RPG III, and PASCAL, or advanced data entry concepts. May be repeated as topics vary. Laboratory fee. (3 Lec., 3 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. Free hand sketching and basic drafting required of construction supervisors are also included. Laboratory fee. (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. The design theories and uses of the completed systems are introduced. (3 Lec., 3 Lab.)

(CMT) 132 The Construction Industry (3)

This course surveys the growth, magnitude, and economic importance of the construction industry. Emphasis is on understanding the interrelationship between the many trades, professions, and agencies in construction. (3 Lec.)

(CMT) 136 Surveying And Measurements (4)

Prerequisite: Mathematics 195 or the equivalent. This course is for students with little or no training in surveying. It

covers the theory, methods, equipment, and problems of surveying and measurement. Field work provides the opportunity to apply the theory. (2 Lec., 6 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: Math 196 and Construction Management Technology 136 or the equivalent. This course reviews the basic principles of surveying and measurements. It covers advanced theory, methods, equipment and problems of surveying and measuring in the construction industry. Field problems put the theory into practice. Laboratory fee. (2 Lec., 6 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, locating and correcting budget overruns are discussed and then implemented in various lab exercises as a means of cost and quality control. Laboratory fee. (3 Lec., 3 Lab.)

(CMT) 231 Construction Contracts And Specifications (3)

Prerequisite: 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) 234 Estimating (4)

Prerequisite: Credit or concurrent enrollment in Construction Management and Technology 123 and 231 or demonstrated competence approved by the instructor. Construction estimation is presented. Topics include quality surveying and the interpretation and uses of bid documents. Students learn to compute and assemble labor and material costs, unit and lump sum costs, and preliminary and final estimates. Laboratory fee. (2 Lec., 6 Lab.)

(CMT) 236 Building Codes And Safety (4)

This course presents construction methods in relation to zoning and building codes and occupational safety standards and regulations. The interrelationships among federal, state and municipal authorities and construction operations are examined in detail. Emphasis is placed on

the development and implementation of effective loss and accident prevention planning. (3 Lec., 3 Lab.)

(CMT) 237 Soils, Foundations And Reinforced Concrete (4)

Prerequisite: 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.)

COOPERATIVE WORK EXPERIENCE

701, 711, 801, 811 (1)

702, 712, 802, 812 (2)

703, 713, 803, 813 (3)

704, 714, 804, 814 (4)

Prerequisite: Completion of two courses in the student's major or instructor or coordinator approval. These courses consist of seminars and on-the-job experience. Theory and instruction received in the courses of the students' major curricula are applied to the job. Students are placed in work-study positions in their technical occupational fields. Their skills and abilities to function successfully in their respective occupations are tested. These work internship courses are guided by learning objectives composed at the beginning of each semester by the students, their instructors or coordinators, and their supervisors at work. The instructors determine if the learning objectives are valid and give approval for credit.

CRIMINAL JUSTICE

(CJ) 130 Fundamentals of Criminal Law (3)

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)

The judiciary in the criminal justice 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, and adjudication process, types of rules of evidence and sentencing. (3 Lec.)

(CJ) 139 Crime in America (3)

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 of specific crimes. The prevention of crime is emphasized. (3 Lec.)

(CJ) 140 Introduction to Criminal Justice (3)

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) 146 Patrol Administration (3)

All aspects of patrol are presented. The philosophy, history, role, functions, organization, and operations are included. Operational and administration problems are studied and alternate solutions analyzed. (3 Lec.)

(CJ) 233 Introduction to Criminalistics (3)

Prerequisites: Criminal Justice 140 and 240. Physical evidence in criminal investigations is studied. Topics include the recognition, collection, preservation, and laboratory processing of evidence. Instrumental methods are surveyed. Photographs of evidence from actual cases are examined using various identification and comparison techniques. (3 Lec.)

(CJ) 240 Criminal Investigation (3)

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)

Prerequisite: Criminal Justice 140. The 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)

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) 245 Traffic Law (3)

Prerequisite: Criminal Justice 140. This course focuses on the principles of traffic control, traffic law enforcement, and traffic court procedures. Texas traffic laws are stressed.

Topics include professional approaches to deal with traffic law violators and the police role in accident prevention and investigation. The principles of education, enforcement and engineering are also included. (3 Lec.)

(CJ) 247 Legal Aspects of Law Enforcement

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)

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)

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)

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)

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)

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)

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)

A history of dance forms is presented. Primitive, classical, and contemporary forms are included. (3 Lec.)

(DAN) 161 Beginning Ballet 1 (2)

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)

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)

This course explores basic contemporary techniques. Emphasis is on technique development, 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)

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)

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) 252 Coaching And Repertoire (1)

Prerequisite: Dance 251 and 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)

Prerequisites: Dance 151 or Dance 156. 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)

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)

Prerequisite: Dance 255. This course is a further exploration of Dance 255. Laboratory fee. (3 Lab.)

(DAN) 258 Intermediate Ballet I (2)

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)

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. Laboratory fee. (1 Lec., 3 Lab.)

(DAN) 265 Intermediate Contemporary Dance I (2)

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)

Prerequisite: Dance 265. This course is a further exploration of Dance 265. Laboratory fee. (1 Lec., 2 Lab.)

DATA PROCESSING

(DP) 120 Data Communications (3)

Prerequisite: Computer Science 175. Topics include vocabulary, configuration of data communications networks, including terminals, multiplexors, modems and communications facilities. Network protocols and teleprocessing monitors are overviewed. (3 Lec.)

(DP) 129 Data Entry Concepts (4)

Prerequisite: Office Careers 172 or one year of typing in high school or equivalent. This course provides skills using buffered display equipment. Emphasis is on speed and accuracy. Topics include performing the basic functions record formatting with protected and variable fields, and using a variety of source documents. Program control, multiple programs, and program chaining are also covered. Laboratory fee. (2 Lec., 5 Lab.)

(DP) 133 COBOL Programming I (4)

Prerequisite: Computer Science 175 or demonstrated competence approved by the instructor. Concurrent or prior enrollment in Data Processing 138 is advised. Knowledge of typewriter keyboard recommended. This course introduces programming skills using the COBOL language. Skills in problem analysis, design tools, coding, testing, and documentation are developed. Laboratory fee. (3 Lec., 4 Lab.)

(DP) 136 COBOL Programming II (4)

Prerequisites: Data Processing 133 and Data Processing 138 or demonstrated competence approved by the instructor. The study of COBOL language continues. Included are levels of totals, group printing concepts, table build and search techniques, elementary sort techniques, disk file organization concepts, matching records, and file maintenance concepts using disk. Laboratory fee. (3 Lec., 4 Lab.)

(DP) 137 Data Processing Mathematics (3)

Prerequisites: One year of high school algebra or Developmental Math 091 or demonstrated competence approved by the instructor. This course introduces the principles of computer computation. Topics include the number system, fundamental processes, number bases, and the application of mathematics to typical business problems and procedures. (3 Lec.)

(DP) 138 Computer Program Logic And Design (3)

Prerequisite: Computer Science 175 or the demonstrated competence approved by the instructor. This course presents basic logic needed for problem solving with the computer. Topics include design tools, techniques for basic logic operations, structured charting, table search and build techniques, types of report printing, conditional tests, multiple record types, and sequential file maintenance. (3 Lec.)

(DP) 139 Operations Technician (3)

Prerequisite: Credit or concurrent enrollment in Computer Science 175 or the demonstrated competence approved by the instructor. The interrelationships among computer systems, hardware, software, and personnel are covered. The role of personnel in computer operations, data entry, scheduling, data control, and librarian functions is included. Other topics include the importance of job documentation, standards manuals, and error logs. The relationship between operating procedures and the operating system is described. Job control language and system commands are also stressed. The flow of data between the user and the data processing department, and the relationship between operations and the other functional areas within the data processing department are covered. An introduction to word processing is presented. Laboratory fee. (2 Lec., 4 Lab.)

(DP) 140 Operations-Console (4)

Prerequisites: Data Processing 137 or any business math, and Data Processing 139, or demonstrated competence approved by the instructor. Operating systems are presented. Emphasis is on operation in a multiprocessing environment. Data communications, data base management systems, and query languages are also introduced as used on mainframes, as well as microcomputer systems. Laboratory fee. (3 Lec., 3 Lab.)

(DP) 142 RPG Programming (3)

Prerequisite: Previous programming experience or demonstrated competence approved by the instructor. This course introduces programming skills using the RPG II language. Programming problems emphasize card images and disk processing. Basic listings with levels of totals, multi-card records, exception reporting, look ahead feature, and multi-file processing are included. Laboratory fee. (2 Lec., 3 Lab.)

(DP) 144 BASIC Programming (3)

Prerequisite: Computer Science 175 or demonstrated competence approved by the instructor. This course covers the fundamentals of the basic programming language. Students gain proficiency by writing and debugging programs using interactive microcomputers. Laboratory fee. (2 Lec., 2 Lab.)

(DP) 145 Pascal Programming for Business (3)

Prerequisite: Data Processing 133 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.)

(DP) 231 Assembly Language I (4)

Prerequisite: Data Processing 136 or demonstrated competence approved by the instructor. This course focuses on basic concepts and instructions using a current assembler language. Decimal features and fixed point operations using registers are emphasized. Selected macro instructions, table handling, editing printed output, and reading memory dumps are included. Laboratory fee. (3 Lec., 4 Lab.)

(DP) 232 Applied Systems (4)

Prerequisite: Data Processing 136 or demonstrated competence approved by the instructor. This course introduces and develops skills to analyze existing systems and to design new systems. Emphasis is on a case study involving all facets of system design from the original source of data to final reports. Design tools and documentation are included. Laboratory fee. (3 Lec., 4 Lab.)

(DP) 233 Operating Systems And Communications (4)

Prerequisite: Data Processing 133 or demonstrated competence approved by the instructor. Concepts and technical knowledge of an operating system, JCL, and utilities are presented. The internal functions of an operating system are analyzed. Training is given in the use of JCL and utilities. The emphasis of the operating system depends on the computer system used. Laboratory fee. (3 Lec., 4 Lab.)

(DP) 236 Advanced COBOL Techniques (4)

Prerequisites: Data Processing 136 or demonstrated competence approved by the instructor. This course provides advanced contemporary programming techniques using the COBOL language. Random and sequential updating of disk files, table handling, report writer, memory dump analysis, and the use of the internal sort verb, and call and copy techniques are presented. Laboratory fee. (3 Lec., 4 Lab.)

(DP) 241 Teleprocessing (4)

Prerequisites: Data Processing 120 and Data Processing 136 or demonstrated competence approved by the instructor. This course covers teleprocessing monitors and introduces the concepts required to program in an on-line/real-time environment. Topics include the nature of on-line/real-time applications, the functions of a teleprocessing monitor, program coding techniques, testing methods and file handling. The CICS Command Level interface to the COBOL language will be used. Laboratory fee. (3 Lec., 4 Lab.)

(DP) 243 Computer Center Management (3)

Prerequisites: Computer Science 175 or Data Processing 139 or demonstrated competence approved by the instructor. The management of a computer center is examined. Topics include analyzing, planning, organizing and controlling installations. The organization, production orientation, control, and personnel of the data processing department are covered. The effects of these functions on information and on-line systems are explored. Methods for computer selection and evaluation are described. (3 Lec.)

(DP) 245 Assembly Language II (4)

Prerequisite: Data Processing 231 or demonstrated competence approved by the instructor. Advanced programming skills will be developed using a current assembler language. Topics include indexing, indexed and sequential file organization, table search methods, data and bit manipulation techniques, macro writing, sub-program linkages, advanced problem analysis, and debugging techniques. Floating point operations are introduced. Laboratory fee. (3 Lec., 4 Lab.)

(DP) 246 Data Base Systems (4)

Prerequisites: Data Processing 136 or demonstrated com-

petence approved by the instructor. This course is an introduction to applications program development in database environment with emphasis on loading, modifying, and querying a database using a higher-level language. Discussion and application of data structures; indexed and direct file organizations; storage devices, data analysis, design, and implementation; and data administration are included. Laboratory fee. (3 Lec., 4 Lab.)

(DP) 701, 711, 801, 811 (1)

(See Cooperative Work Experience)

(DP) 702, 712, 802, 812 (2)

(See Cooperative Work Experience)

(DP) 703, 713, 803, 813 (3)

(See Cooperative Work Experience)

(DP) 704, 714, 804, 814 (4)

(See Cooperative Work Experience)

DENTAL ASSISTING**(DA) 138 General And Dental Anatomy And Physiology (3)**

Prerequisite: Admission to the Dental Assisting Program and concurrent enrollment in all first semester Dental Assisting courses, or the demonstrated competence approved by the Program Coordinator. This course is designed to give an overview of the human body and its related structures. Study will focus on the head, mouth, and neck. Laboratory fee. (2 Lec., 2 Lab.)

(DA) 141 Dental Anatomy And Physiology (4)

This course covers the study of embryology and the development of the face and oral cavity. Oral histology, eruption and exfoliation of the primary dentition, and eruption of the secondary dentition are included. The morphology of the teeth and the anatomy and physiology of the head and neck are also covered. Terminology relating to this is included. Laboratory fee. (3 Lec., 3 Lab.)

(DA) 142 Dental Assisting I (3)

The function of the dental assistant in chairside assisting is studied. Topics include terminology, safety rules and regulations, care and preparation of equipment and operatories, and seating the patient. The identification and use of dental instruments are covered, including use of high-velocity suction apparatus. Four-handed sit-down dentistry is also covered, including different methods of passing instruments. The application and removal of rubber dam, application of topical anesthetics, preparation of local anesthetics, and different methods of charting the oral cavity findings are also covered. Laboratory fee. (2 Lec., 4 Lab.)

(DA) 147 Dental Microbiology, Sterilization And Pathology (3)

Prerequisite: Admission to the Dental Assisting Program and concurrent enrollment in all first semester courses, or the demonstrated competence approved by the Program Coordinator. This course focuses on microbiology, relating to methods of sterilization and disinfectants used in caring for dental instruments, equipment, and operatories. Oral pathology is studied, including signs and symptoms of

DENTAL ASSISTING CONTINUED

diseases of the hard and soft dental tissues and of the oral cavity. Terminology relating to this course is covered. Laboratory fee. (2 Lec., 2 Lab.)

(DA) 148 Dental Materials (3)

Prerequisite: Admission to the Dental Assisting Program and concurrent enrollment in all first semester Dental Assisting courses, or the demonstrated competence approved by the Program Coordinator. The student will study the history, terminology, structure, and properties of dental materials. A wide variety of dental materials currently used in a dental operator are discussed. Laboratory fee. (3 Lec., 2 Lab.)

(DA) 149 Dental Roentgenology I (4)

Prerequisite: Admission to the Dental Assisting Program and concurrent enrollment in all first semester Dental Assisting courses, or demonstrated competence approved by the Program Coordinator. The student will study the history, terminology, and theory of roentgenology. Application and care of equipment, safety measures, and mounting of various x-rays will be discussed. The students will develop skills in how to expose an x-ray using the open cone bisecting angle technique. Laboratory fee. (3 Lec., 3 Lab.)

(DA) 150 Dental Roentgenology II (3)

Prerequisite: Minimum grade of "C" in all first semester Dental Assisting courses, or demonstrated competence approved by the Program Coordinator. The student will continue to study dental x-ray procedures, with an introduction to long cone, parallel techniques, occlusal films, extraoral films, and panoramic procedures. Laboratory fee. (2 Lec., 3 Lab.)

(DA) 152 Dental Assisting II (3)

Prerequisite: Minimum grade of "C" in all first semester Dental Assisting courses, or demonstrated competence approved by the Program Coordinator. The student will study all eight dental specialties, along with the required instrumentation for each specialty. Vital signs and related patient care skills will be demonstrated and practiced. Laboratory fee. (3 Lec., 2 Lab.)

(DA) 158 Preventive Dentistry (3)

Prerequisite: Minimum grade of "C" in first semester Dental Assisting courses, or demonstrated competence approved by the Program Coordinator. This course focuses on a variety of topics related to preventive dentistry, including oral hygiene, diet and nutrition, and use of a phase microscope to prepare dental plaque smears. Pharmacology and drug and prescription laws applying to the dental office are also presented. (3 Lec.)

(DA) 161 Dental Internship I (3)

Prerequisite: Minimum grade of "C" in all first semester Dental Assisting courses, or demonstrated competence approved by the Program Coordinator. The student will receive practical dental assisting experience in either a private dental office or other health agency. The focus of the practicum will be to increase skills in chairside assisting and front desk procedures. (10 Lab.)

(DA) 162 Dental Internship II (2)

Prerequisite: Minimum grade of "C" or above in all previous Dental Assisting courses, or demonstrated competence approved by the Program Coordinator. This course is a continuation of Dental Internship I. The student will receive practical dental assisting experience in either a private dental office or other health agency. The focus of the practicum will be to increase skills in chairside assisting and front desk procedures. (16 Lab.)

(DA) 163 Dental Internship III (4)

Prerequisite: Minimum grade of "C" in all previous Dental Assisting courses, or demonstrated competence approved by the Program Coordinator. The student will receive practical dental assisting experience in either a private dental office or other health agency. The focus of the practicum will be to increase skills in chairside assisting and front desk procedures. (28 Lab.)

(DA) 171 Dental Seminar I (2)

Prerequisite: Minimum grade of "C" or above in all first semester Dental Assisting courses, concurrent enrollment in Dental Internship I, or demonstrated competence approved by the Program Coordinator. Integration of theoretical, laboratory and clinical instruction and experience is the main focus of this course. Opportunity is provided for the student to present individual clinical experiences. (2 Lec.)

(DA) 172 Dental Seminar II (1)

Prerequisite: Minimum grade of "C" or above in all previous Dental Assisting courses, concurrent enrollment in Dental Internship II, or demonstrated competence approved by the Program Coordinator. Integration of theoretical, laboratory and clinical instruction and experience is the main focus of this course. Opportunity is provided for the student to present individual clinical experiences. (2 Lec.)

(DA) 173 Dental Seminar III (1)

Prerequisite: Minimum grade of "C" in all previous Dental Assisting courses, or demonstrated competence approved by the Program Coordinator. Integration of theoretical, laboratory and clinical instruction and experience is the main focus of this course. Opportunity is provided for the student to present individual clinical experiences. (2 Lec.)

(DA) 175 Office Administration (4)

Prerequisite: Admission to the Dental Assisting Program, or demonstrated competence approved by the Program Coordinator. This course provides a detailed study of office management procedures commonly associated with a modern day dental practice. Topics include dental team responsibilities, telephone procedures, appointment control, and financial management procedures. (10 Lec.)

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 Produced 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 153. 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 153. The standard production pattern is emphasized. Both large and small sizing is included. 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)
Prerequisite: Design 135. 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)
Prerequisite: Design 234 or demonstrated competence approved by the instructor. 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

(DM) Developmental Mathematics
Developmental Mathematics Courses offer a review of mathematics skills. Developmental Mathematics 093 satisfies prerequisites for Mathematics 101, 104, 111, and 115. Developmental Mathematics 091 satisfies prerequisites for Mathematics 130, 139, 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 (I)
This course is designed to give an understanding of fractions. Selected topics include primes, factors, least common multiples, percent, 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, area and volume. (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 Nursing (1)
This course is designed to develop an understanding of the measurements and terminology in medicine and calculations used in problems dealing with solutions and dosages. It is designed primarily for students in the nursing program. (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.

DEVELOPMENTAL MATHEMATICS CONTINUED

alent. 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 addition, subtraction, multiplication, and division of whole numbers, fractions, decimals and percentages and to strengthen basic skills in mathematics. It is the most basic mathematics course and includes an introduction to algebra. (3 Lec.)

(DM) 091 Elementary Algebra (3)

Prerequisite: Developmental Mathematics 090. This course is comparable to the first-year algebra course in high school. It includes special products and factoring, fractions, equations, graphs, functions, and an introduction to geometry. (3 Lec.)

(DM) 093 Intermediate Algebra (3)

Prerequisite: One year of high school algebra or Developmental Mathematics 091. This course is comparable to the second-year algebra course in high school. It includes terminology of sets, properties of real numbers, fundamental operations of polynomials and fractions, products, factoring, radicals, and rational exponents. Also covered are solutions of linear, fractional, quadratic and systems of linear equations, and graphing. (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 English 102 and the sophomore-level literature courses. See the catalog descriptions in reading for full course content.

(DR) 090 Techniques Of Reading/Learning (3)

Comprehension, vocabulary development, and study skills are the focus of this course. Emphasis is on learning how to learn. Included are reading and learning experiences to strengthen the total educational background of each student. Meeting individual needs is stressed. (3 Lec.)

(DR) 091 Techniques Of Reading And Learning (3)

This course is a continuation of developmental reading 090. Meeting individual needs is stressed. (3 Lec.)

DEVELOPMENTAL WRITING

(DW) Developmental Writing

Students can improve their writing skills by taking Developmental Writing. These courses are offered for one to three hours of credit. Emphasis is on organization skills and research paper styles, and individual writing weaknesses.

(DW) 090 Writing (3)

Basic writing skills are developed. Topics include spelling, grammar, and vocabulary improvement. Principles of sentence and paragraph structure are also included. Organization and composition are covered. Emphasis is on individual needs and strengthening the student's skills. (3 Lec.)

(DW) 091 Writing (3)

This course is a sequel to Writing 090. It focuses on composition. Included are skills of organization, transition, and revision. Emphasis is on individual needs and personalized assignments. Brief, simple forms as well as more complex critical and research writing may be included. (3 Lec.)

(DW) 092 Writing Lab (1)

This course is a writing workshop. Students are given instruction and supervision in written assignments. The research paper and editing are both included. (3 Lab.)

DIESEL MECHANICS

(DME) 104 Caterpillar Diesel Engine (5)

The complete overhaul of a Caterpillar Diesel Engine is conducted which includes the removal, disassembly, servicing, and assembly of each major component. Laboratory fee. (150 Contact Hours)

(DME) 105 Cummins Diesel Engine (5)

A Cummins Diesel Engine is completely overhauled which includes the removal, disassembly, servicing, and assembly of each major component. Laboratory fee. (150 Contact Hours)

(DME) 106 Detroit Diesel Engine (5)

This course focuses on the complete overhaul of a Detroit Diesel Engine which includes the removal, disassembly, servicing, and assembly of each major component. Laboratory fee. (150 Contact Hours)

(DME) 123 Air Brake Systems (2)

This course focuses on air brake systems used in heavy trucks. The inspection, repair, and adjustment of these systems are covered. Laboratory fee. (60 Contact Hours)

(DME) 124 Differentials And Drive Lines (2)

Differentials are examined. Included are removal, disassembly, repair, reassembly, and installation. Laboratory fee. (60 Contact Hours)

(DME) 125 Automatic Transmissions (2)

Automatic transmissions are studied. Included are removal, inspection, repair, and assembly. Laboratory fee. (60 Contact Hours)

(DME) 126 Heavy Truck Air Conditioning (2)

This course is a study of the theory, principles, operating procedures, troubleshooting and component repair of the automotive air conditioning system found in the heavy trucking industry. Laboratory fee. (60 Contact Hours)

(DME) 127 Shop Practices (2)

Shop practices is designed to acquaint the student with hand and power tools used in the repair of diesel engines and diesel powered equipment. The use of hand and power tools, precision measuring tools, pullers and cleaning equipment are taught. Laboratory fee. (60 Contact Hours)

(DME) 128 Standard Transmissions And Heavy Duty Clutches (3)

Prerequisite: Credit or concurrent enrollment in Physics 131 or demonstrated competence approved by the instructor. Standard transmissions are examined using 5-speed and 10-speed transmissions. Emphasis is placed on theory of operation, removal, disassembly, inspection, assembly and installation. Heavy duty clutches are examined emphasizing removal, repair, and installation. Laboratory fee. (90 Contact Hours)

(DME) 137 Fundamentals Of Oxygen/Acetylene And Arc Welding (3)

Two methods of welding are included in this course, oxy-acetylene and arc. Topics include the source of heat, application of each method, supplies necessary for a high weld, safety practices, and metals and their properties. Laboratory fee. (90 Contact Hours)

(DME) 141 Caterpillar Diesel Engine Tune-Up And Fuel Systems (2)

This course focuses on diagnosing, locating, and correcting troubles in Caterpillar Diesel Engines. Included are the removal, inspection, testing, adjustment and installation of fuel system components, such as pumps, injectors, filters, lines, and governors. Laboratory fee. (60 Contact Hours)

(DME) 142 Cummins Diesel Engine Tune-Up And Fuel System (2)

This course focuses on diagnosing, locating, and correcting troubles in Cummins Diesel Engines. Included are the removal, inspection, testing, calibrating, adjustment, and installation of fuel system components, such as pumps, injectors, filters, lines, and governors. Laboratory fee. (60 Contact Hours)

(DME) 143 Detroit Diesel Engine Tune-Up And Fuel System (2)

This course focuses on diagnosing, locating, and correcting troubles in Detroit Diesel Engines. Included are the removal, inspection, testing, repair, adjustment, and installation of fuel system components, such as injectors,

filters, lines and governors. Laboratory fee. (60 Contact Hours)

(DME) 147 Heavy Truck Electrical Systems (3)

The fundamentals of electricity and magnetism are introduced. Starting motors, alternators, regulators, switches, and wiring circuits are examined. Emphasis is on troubleshooting, maintenance and repair. Laboratory fee. (90 Contact Hours)

(DME) 148 Diesel Engine Air Induction Cooling And Lubrication/Systems (2)

The theory of operation of the diesel engine is studied which includes engine air induction, cooling, and lubrication systems. Course emphasis is on troubleshooting and servicing. Laboratory fee. (60 Contact Hours)

(DME) 703, 713, 803, 813 (3)

(See Cooperative Work Experience)

(DME) 704, 714, 804, 814 (4)

(See Cooperative Work Experience)

DISTRIBUTION TECHNOLOGY

(DT) 130 Introduction To Distribution (3)

This course studies the place of wholesale distribution among producers; institutional and industrial customers, and ultimate consumers. The role of the wholesale distributor in the channels of distribution is examined, and wholesaling functions are surveyed. This course is also appropriate for existing new employees in entry-level positions with a demonstrated capacity for advancement. (3 Lec.)

(DT) 133 Transportation Management (3)

Students will study the role of the transportation function within the physical distribution system. Special emphasis will be placed upon modern planning and control techniques associated with the design and operation of efficient and cost effective transportation systems. Carrier services, pricing structures, documentation, liability, claims and regulation of transportation will also be included. (3 Lec.)

(DT) 134 Wholesale Marketing (3)

Prerequisite: Management 206. This course concentrates upon wholesale marketing principles and procedures. The present and predicted wholesale marketing environment is presented through study of the wholesale functions of marketing and the personnel performing and managing the activities. (3 Lec.)

(DT) 231 Purchasing, Pricing, And Inventory Management (3)

Prerequisites: Mathematics 130 and Business 234. The planning and implementation of wholesale distribution strategies are introduced. Purchasing strategies, typical "buy plans" integrating sales forecasts, lead time and storage, and distribution capabilities are investigated. Alternate price and discounting tactics, inventory management systems (cardex, computer, etc.), inventory levels, and cost controls are evaluated. (3 Lec.)

(DT) 232 Warehouse Operations (3)

The planning, operation, and management of personnel, facilities and materials used in the handling and distributing of goods in warehouses are examined. Warehouse layout, selection of fixtures and equipment, and the training of warehouse personnel are experienced through field visits and practical exercises. (3 Lec.)

(DT) 803, 813 (3)

(See Cooperative Work Experience)

DRAFTING**(DFT) 135 Reproduction Processes (2)**

Equipment and processes used to reproduce technical art are studied. Included are the graphic arts process camera, lithographic offset printing, diazo reproduction, blueprinting, photodrafting, microfilming, photocopying, silk screen printing, printed circuit board etching, thermography, typographics, xerography, engravings, and others. The rapidly expanding field of computergraphics is also covered. Lab work includes the preparation of flats for offset printing of brochures. Laboratory fee. (1 Lec., 3 Lab.)

(DFT) 136 Geological And Land Drafting (3)

Prerequisite: Drafting 183 or the equivalent and Mathematics 196. Equivalent 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 a traverse and contour lines and to determine area and volumes. A set of drawings is prepared for residential subdivision, a shopping center, or some other type of land development. (2 Lec., 4 Lab.)

(DFT) 160 Manufacturing Fundamentals (2)

Manufacturing fundamentals and production methods are studied. Modern fabrication techniques and equipment used in industry are presented. The functions and role of drafting are described. (2 Lec.)

(DFT) 182 Technician Drafting (2)

This course focuses on the reading and interpretation of engineering drawings. Topics include multiview drawings, pictorial drawings, dimensioning, measurement with scales, schematic diagrams, and printed circuit boards. Laboratory fee. (1 Lec., 3 Lab.)

(DFT) 183 Basic Drafting (4)

This course is for students who have had little or no previous experience in drafting. Skill in orthographic, axonometric, and oblique sketching and drawing is developed. Topics include lettering, applied geometry, fasteners, sectioning, tolerancing, and auxiliaries. Experience is provided in using handbooks and other resource materials and in developing design skills. U.S.A.S.I., government, and industrial standards are used. Emphasis is on both mechanical skills and graphic theory. Laboratory fee. (2 Lec., 6 Lab.)

(DFT) 184 Intermediate Drafting (3)

Prerequisite: Drafting 183 or the equivalent. Equivalent is based on high school drafting courses or on student's work experience. Sample of drawings and/or high school transcript must be presented. Drafting problems, design function, and specialized drafting areas are examined. Included are the detailing and assembling of machine parts, gears, cams, jigs, fixtures, metals, and metal forming processes. Drawing room standards and reproducing drawings are studied. Detail and assembly drawings are made. Laboratory fee. (2 Lec., 4 Lab.)

(DFT) 185 Architectural Drafting (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. (2 Lec., 6 Lab.)

(DFT) 230 Structural Drafting (3)

Prerequisites: Drafting 184 and Mathematics 196. 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. (2 Lec., 4 Lab.)

(DFT) 231 Electronic Drafting (3)

Prerequisite: Drafting 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. (2 Lec., 4 Lab.)

(DFT) 232 Technical Illustration (3)

Prerequisite: Drafting 183. The rendering of three-dimensional drawings is covered. Orthographic views and engineer's sketches are developed into isometric, dimetric, perspective, and diagrammatic drawings of equipment and their environments. Technical sketching, and hand mechanical lettering, air brush retouching of photographs, handling of commercially prepared pressure sensitive materials, and layout of schematics, charts, and graphs are practiced. Laboratory fee. (2 Lec., 4 Lab.)

(DFT) 233 Machine Design (4)

Prerequisites: Drafting 184, Physics 131, and credit or concurrent enrollment in Engineering 186 and Mathematics 196. The principles of physics, statics, strength of materials, and physical properties of materials are applied to the design of machine elements. Topics include function, environment, production, problems and cost. Emphasis is on the practical application of design principles in graphic form. (2 Lec., 6 Lab., 128 Contact Hours)

(DFT) 234 Advanced Technical Illustration (4)

Prerequisite: Drafting 232. An area of specialization is chosen and pursued in depth. Examples are pictorials for color separation printing, air brush renderings, letterforms for logos and hand lettering, complex exploded views in isometric, perspective renderings, design of commercial displays and art for slide presentations. Laboratory fee. (2 Lec., 6 Lab.)

(DFT) 235 Building Equipment (Mechanical And Electrical) (3)

Prerequisite: Drafting 183 or Drafting 185. Plans and details for mechanical equipment are drawn. Equipment includes air conditioning, plumbing, and electrical systems. Emphasis is on the use of appropriate symbols and conventions. Mechanical and electrical features are coordinated with structural and architectural components. Laboratory fee. (2 Lec., 4 Lab.)

(DFT) 236 Piping And Pressure Vessel Design (3)

Prerequisites: Drafting 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 and isometric projections. Laboratory fee. (2 Lec., 4 Lab.)

(DFT) 240 Printed Circuit Design (3)

Prerequisite: Drafting and Design Technology 231, concurrent enrollment in Drafting and Design Technology 231 or equivalent. This course develops skills in the design of double sided and multilayer 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 digitized inputs for artworks. Laboratory fee. (2 Lec., 4 Lab.)

(DFT) 241 Integrated Circuit Design (3)

Prerequisites: Drafting and Design Technology 240, Electronics Technology 190, or 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 diagram and given design rules. Laboratory fee. (2 Lec., 4 Lab.)

(DFT) 242 Advanced Integrated Circuit Design (3)

Prerequisite: Drafting and Design Technology 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.)

(DFT) 243 Advanced Printed Circuit Design (3)

Prerequisite: Drafting 240. This course includes the design of double-sided or multilayer boards containing several types of electronic components, requiring selection of integrated circuit chips and combination of gates. Industry standards are followed in design development. Laboratory fee. (2 Lec., 4 Lab.)

(DFT) 245 Computer Aided Design (3)

Prerequisites: Drafting 183 or Engineering 105. 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.)

(DFT) 246 Advanced CAD-Electronic (3)

Prerequisite: Drafting 231 and 245. Advanced uses of the electronic computer as an aid to the designer are studied. Special emphasis is given to printed circuit board and integrated circuit design. Menu and library construction will be practiced while using the interactive graphic system. Laboratory fee. (2 Lec., 4 Lab.)

(DFT) 247 Applied Printed Circuit Design (3)

Prerequisite: Drafting 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.)

(DFT) 248 Advanced CAD-Mechanical (3)

Prerequisite: Drafting 245. 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 system. Laboratory fee. (2 Lec., 4 Lab.)

(DFT) 249 Advanced CAD-Architectural (3)

Prerequisite: Drafting 185 and 245. Advanced uses of the electronic computer as an aid to the designer are studied. Special emphasis is given to the single-family residence. Menu and library construction will be practiced while using the interactive graphic system. Laboratory fee. (2 Lec., 4 Lab.)

(DFT) 250 Sheet Metal Design (3)

Prerequisite: Drafting 183. This course includes the preparation of drawings for sheet metal developments. Topics include bend allowance, relief, standard bends for specific applications, cost factors to consider in manufacturing, metal specifications, finishing, coating, fasteners, and weldments. Laboratory fee. (2 Lec., 4 Lab.)

(DFT) 251 Industrial Design (3)

Prerequisite: Drafting 250. This course includes the design of metal and plastic packages for electronic, optical, and mechanical components. Topics include standard boxes, panels, mounts, brackets, fasteners, grommets, and other standard parts used in the design of packages. Standard catalogs and manuals are used to design packages for specific situations. Laboratory fee. (2 Lec., 4 Lab.)

(DFT) 255 Selected Topics In Drafting (3)

Prerequisite: Demonstrated competence as 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.)

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. Laboratory fee. (This course is offered on campus and may be offered via television.) (3 Lec., 3 Lab.)

ECOLOGY

(ECY) 291 People And Their Environment II (3)

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. (This course may be offered via television.) (3 Lec.)

ECONOMICS

(ECO) 105 Economics Of Contemporary Social Issues (3)

This course is a study of the economics of current social issues and public policy, including such matters as anti-trust 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 not intended for economics or business administration majors. (3 Lec.)

(ECO) 201 Principles Of Economics I (3)

Sophomore standing is recommended. The principles of macroeconomics are presented. Topics include economic organization, national income determination, money and banking, monetary and fiscal policy, economic fluctuations, and growth. (This course is offered on campus and may be offered via television.) (3 Lec.)

(ECO) 202 Principles Of Economics II (3)

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 on international economics and contemporary economic problems. (3 Lec.)

EDUCATIONAL PARAPROFESSIONAL

(EP) 129 Communication Skills For Educational Paraprofessional (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 (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 the educational paraprofessional 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 For Educational Paraprofessionals (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) 245 Diversified Studies (1)

This course provides for specialized study by the educational paraprofessional. 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. Laboratory fee. (1 Lec.)

(EP) 246 Diversified Studies (2)

This course provides for specialized study by the educational paraprofessional. 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 four credit hours. (2 Lec.)

(EP) 247 Diversified Studies (3)

This course provides for specialized study by the educational paraprofessional. 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 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 conditions on children. (3 Lec.)

(EP) 701, 711, 801, 811 (1)

(See Cooperative Work Experience)

(EP) 702, 712, 802, 812 (2)
(See Cooperative Work Experience)

(EP) 703, 713, 803, 813 (3)
(See Cooperative Work Experience)

(EP) 704, 714, 804, 814 (3)
(See Cooperative Work Experience)

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.)

ELECTRICITY

(ELE) 105 Introduction Of Electrical Technology (2)
This course focuses upon 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 upon 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 upon types of low voltage electrical circuits. Theory, installation, and testing of low voltage circuits such as bells, chimes, and alarm systems are presented. Laboratory fee. (2 Lec., 2 Lab.)

(ELE) 116 General Electrical Wiring (3)
Practices in general wiring with emphasis upon safety and procedure are presented. Topics include materials selection, splicing, switches, receptacles, and lighting circuits applied to 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 Electric Code. (2 Lec.)

(ELE) 205 Commercial Wiring (3)
Topics in this course are centered upon accepted procedures and practices 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) 215 Electrical Motor Fundamentals (3)
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. (3 Lec., 1 Lab.)

(ELE) 216 Motor Controls (3)
This course focuses upon 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) 217 Solid State Controls (2)
Solid state digital logic concepts and applications for motor controls are presented. System diagnostic procedures are covered. Laboratory fee. (2 Lec., 1 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 upon major student projects. Laboratory fee. (2 Lec., 4 Lab.)

(ELE) 703, 713, 803, 813 (3)
(See Cooperative Work Experience)

(ELE) 704, 714, 804, 814 (4)
(See Cooperative Work Experience)

ELECTRO-MECHANICAL TECHNOLOGY

(EMT) 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 electromechanical controls. Reliance on pre-assembled or commercially available circuits is emphasized especially semiconductor and integrated circuits. Laboratory fee. (3 Lec., 3 Lab.)

(EMT) 232 Applied Mechanics (4)

Prerequisite: Mathematics 196 or 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.)

(EMT) 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.)

(EMT) 237 Electromagnetic And Digital Machine Control (3)

Prerequisite: Electronics Technology 191. This course emphasizes electromechanical and solid state industrial machine control systems. Control components, control and power circuit diagrams, manual and automatic AC and DC machine starters, manual and automatic AC and DC machine speed control, and solid state logic elements are studied. Problem identification, problem solving, and reporting techniques are emphasized. Laboratory fee. (2 Lec., 3 Lab.)

(EMT) 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.)

(EMT) 242 Digital Control Circuits (4)

Prerequisite: Electronics Technology 193 or 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.)

ELECTRONICS TECHNOLOGY

(ET) 135 DC-AC Theory And Circuit Analysis (6)

Prerequisites: 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 double 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 troubleshooting a circuit. Laboratory fee. (1 Lec., 1 Lab.)

(ET) 190 DC Circuits And Electrical Measurements (4)

Prerequisite: Mathematics 195 or the equivalent recommended. 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., 96 Contact Hours)

(ET) 191 A.C. Circuits (4)

Prerequisite: 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 include 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., 96 Contact Hours)

(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) 210 Basic CRT Display And Television Theory And Service (4)

Prerequisites: 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 Electronics 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 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 electronics 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 students 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)

Prerequisites: 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 buses data basis, addressing, coding, and programming of typical microprocessor units are included. Microprocessor system is constructed, 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 Electronics 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 intro-

duction 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 Drafting and Design Technology 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. 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. Waveform 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 192. 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)

Prerequisite: Electronics Technology 192. 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, distributor, 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 and 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. (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. Hardware trouble-shooting techniques for both computer mainframe and input and output devices are covered. Laboratory fee. (3 Lec., 3 Lab.)

(ET) 267 Microprocessors (4)

Prerequisite: Electronics Technology 192. 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 Troubleshooting and Interface (4)

Prerequisite: Electronic Technology 267. This course studies troubleshooting techniques on microprocessor, disk controls, CRT controls and interfaces. Emphasis is on hardware troubleshooting and peripheral interface. Laboratory fee. (3 Lec., 3 Lab.)

(ET) 802 (2)

(See Cooperative Work Experience)

(ET) 713, 803 (3)

(See Cooperative Work Experience)

(ET) 804 (4)

(See Cooperative Work Experience)

ELECTRONICS TELECOMMUNICATIONS

(ET) 101 Introduction to Telecommunications (4)

This course is an introduction to the fundamentals of telecommunications, with an emphasis on analog and digital voice transmission techniques and technology. Laboratory fee. (3 Lec., 3 Lab.)

(ET) 290 Advanced Electronic Devices (4)

Prerequisite: Electronics Technology 193 and 101. 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, I.C. timers, and selected linear integrated circuits. Laboratory fee. (3 Lec., 3 Lab.)

(ET) 292 Telephony Switching Systems (4)

Prerequisites: 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)

Prerequisites: 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 sideband 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 longhaul transmission techniques utilized in the telecommunication industry will be covered in this course. Microwave transmission, fiberoptics 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) 296 System Installation and Testing (6)

Prerequisites: Electronics Technology 295 or concurrent enrollment in Electronics Technology 295. This course is designed to make the student familiar with the installation of telecommunication switching equipment. The student will become familiar with the theory, operation, and maintenance of switching equipment along with troubleshooting techniques. Laboratory fee. (5 Lec., 2 Lab.)

ENGINEERING

(EGR) 101 Engineering Analysis (2)

Prerequisite: Two years of high school algebra or Developmental Mathematics 093 or demonstrated competence approved by the instructor. This course surveys the field of engineering. Topics include the role of the engineer in society and branches and specialties in engineering. Engineering analysis and computer programming are introduced. Practice is provided in analyzing and solving engineering problems. Computational methods and devices with an introduction to computer programming are also covered. (2 Lec.)

(EGR) 105 Engineering Design Graphics (3)

Graphic fundamentals are presented for engineering communications and engineering design. Topics include standard engineering graphical techniques, auxiliaries, sections, graphical analysis, and pictorial and working drawings. Laboratory fee. (2 Lec., 4 Lab.)

**(EGR) 106 Descriptive Geometry (3)**

Prerequisite: Drafting 183 or Engineering 105. This course provides training in the visualization of three dimensional structures. 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, developments, auxiliaries, and revolutions. Laboratory fee. (2 Lec., 4 Lab.)

(EGR) 107 Engineering Mechanics I (3)

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.

(EGR) 108 Computer Methods In Engineering (3)

Prerequisite: Credit or concurrent enrollment in Mathematics 126. Fundamental methods of numerical analysis with applications by computer programming are presented. Topics include computer programming, recursion formulas, successive approximations, error analysis, nonlinear equations, and systems of linear equations and matrix methods. Probabilistic models, interpolation, determination of parameters, numerical integration, and solution of ordinary differential equations are also covered. (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., 48 Contact Hours)

(EGR) 187 Manufacturing Processes (2)

Prerequisite: Engineering 186. This course is a continuing study of metal working processes; chipless machining, threads, gears, jigs, fixtures, surface treatments, automation, and operations planning. Laboratory fee. (1 Lec., 2 Lab.)

(EGR) 188 Statics (3)

Prerequisite: Credit or concurrent enrollment in Mathematics 196. This course is a study of force and force systems, resultants, friction, centroids, conditions of equilibrium, analysis of trusses, and frame structures. Both numerical and graphical methods are used. (3 Lec., 48 Contact Hours)

(EGR) 189 Characteristics And Strengths Of Materials (3)

Prerequisites: Engineering 188. The characteristics and strengths of materials are examined. Emphasis is on loads, stresses, and deformations within the elastic range. (3 Lec., 48 Contact Hours)

(EGR) 201 Engineering Mechanics II (3)

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)

Prerequisites: Engineering 107 and credit or concurrent enrollment in Mathematics 225. Simple structural elements are studied. Emphasis is on forces, deformation, and 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) 203 Engineering Production (3)

Prerequisite: Engineering 105 or demonstrated competence approved by the instructor. The standard machining of metals is covered. Layout, turning, boring, shaping, drilling, threading, milling, and grinding are all included. The manufacturing of interchangeable parts, fixtures, and jigs with applications is studied. Laboratory fee. (1 Lec., 5 Lab.)

(EGR) 204 Electrical Systems Analysis (3)

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)

Prerequisites: Mathematics 102 or 196 and Engineering 105 or Drafting 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)

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) 289 Mechanics Of Structures (3)

Prerequisite: Mathematics 195. This is a basic course in engineering mechanics for technology students. Topics include forces and force systems, equilibrium, moments, centroids, stresses and strains. Methods analysis and design of bolted and welded joints, trusses, beams, and columns are introduced. (3 Lec.)

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) 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) 142 Instrumentation And Testing (3)

Prerequisite: Credit or concurrent enrollment in Electronics Technology 191. Industrial instrumentation and testing are introduced. The characteristics of various instruments are investigated. The static and dynamic characteristics of measuring devices used in such areas as heat flow, liquid flow, electronic control, pressure and related areas in instrumentation, control, and materials handling are studied. Laboratory fee. (2 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) 243 Robotics I (3)

This course provides an introduction to robot technology. The basic components and systems used in industrial robots are studied. The set-up 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 and 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) 803 (3)

(See Cooperative Work Experience)

(EGT) 804 (4)

(See Cooperative Work Experience)

(ENG) 101 Composition And Expository Reading (3)

The development of skills is the focus of this course. Skills in writing and in the critical analysis of prose are included. (This course is offered on campus and may be offered via television.) (3 Lec.)

(ENG) 102 Composition And Literature (3)

Prerequisite: English 101. This course continues the development of skills in writing. Emphasis is on analysis of literary readings, expository writing, and investigative methods of research. (This course is offered on campus and may be offered via television.) (3 Lec.)

(ENG) 201 British Literature (3)

Prerequisite: English 102. Significant works of British literature are studied. The Old English Period through the 18th century is covered. (3 Lec.)

(ENG) 202 British Literature (3)

Prerequisite: English 102. Significant works of British literature are studied. The Romantic Period to the present is covered. (3 Lec.)

(ENG) 203 World Literature (3)

Prerequisite: English 102. Significant works of continental Europe are studied. The Greek Classical Period through the Renaissance is covered. (3 Lec.)

(ENG) 204 World Literature (3)

Prerequisite: English 102. Significant works of continental Europe, England, and America are studied. The time period since the Renaissance is covered. (3 Lec.)

(ENG) 205 American Literature (3)

Prerequisite: English 102. Significant works of American writers before Walt Whitman are studied. Emphasis is on the context of the writers' times. (3 Lec.)

(ENG) 206 American Literature (3)

Prerequisite: English 102. Significant works of American writers from Walt Whitman to the present are studied. (3 Lec.)

(ENG) 209 Creative Writing (3)

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)

Prerequisite: English 101 and 102 or Communications 131 and 132. 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)

Prerequisite: English 102. Selections in literature are read, analyzed, and discussed. Selections are organized by genre, period, or geographical region. Course titles and descriptions are available each semester prior to registration. This course may be repeated for credit. (3 Lec.)

(ENG) 216 Studies In Literature (3)

Prerequisite: English 102. Selections in literature are read, analyzed, and discussed. Selections are 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**English**

(Also see Developmental Reading and Developmental Writing.) Additional instruction in writing and reading is available through the Learning Skills Center.

English In The Sophomore Year

English 201, 202, 203, 204, 205, 206, 215 and 216 are independent units of three credit hours each, from which any combination of two will be selected to satisfy degree requirements in sophomore English. Student should consult catalog of the senior college he expects to attend for requirements in his major before choosing English courses.

FASHION MARKETING

(MKT) 137 Principles of Retailing

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) 210 Special Topics in Fashion Marketing (1)

Prerequisite: The demonstrated competence approved by the instructor. 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 minimum of three credit hours. (1 Lec.)

(MKT) 230 Salesmanship

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

This course introduces the principles, practices, and media of persuasive communication. Topics include buyer behavior, use of advertising media, and methods of stimulating salespeople and retailers. The management of promotion programs is covered, including goals, strategies, evaluation, and control of promotional activities. (3 Lec.)

(MKT) 245 Sales Management (3)

The qualities and characteristics of the sales executive are examined. Emphasis is on pricing, distribution, promotion, and brand management. The recruiting, selecting, training, and motivating of salespersons are also covered. (3 Lec.)

(MKT) 246 Marketing and Management Cases (3)

Prerequisites: Management 136 and Marketing 206. Selected case studies in marketing and management are presented. Emphasis is on business decision making. (3 Lec.)

(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)

Fashion design is presented. History, color theory, and styling terminology are included. Emphasis is on silhouette, color, and accessories. (3 Lec.)

(MKT) 703, 803 (3)

(See Cooperative Work Experience).

FINANCIAL MANAGEMENT

(FM) 104 Money And Financial Institutions (3)

Prerequisite: Economics 201. Basic economic principles related to money are presented. Emphasis is on the practical application of the economics of money to the financial institution. Topics are related to the nature and functions of money. Investments, loans, earnings, and capital are also covered. The Federal Reserve System, The Treasury Department, and the changing international monetary system are included. (3 Lec.)

(FM) 105 Comparative Financial Institutions (3)

This course is a study of the historical development, organizational structure, internal operation, regulatory agencies, and other distinct characteristics of the banking industry, credit union financial system network, savings and loan industry, and other credit and financial institutions. A comparative analysis is presented of the similarities and differences in the philosophy, target market, and customer services within these financial industries. (3 Lec.)

(FM) 107 Savings Association Operations (2)

This course is an overview of the internal operations of a savings association. Topics include the responsibilities to various departments and the interrelationship of all job assignments. (2 Lec.)

(FM) 115 Credit And Collection Principles (3)

This course examines credit and collections. Topics include the nature and function of credit, types of credit and bank and commercial credit. Also covered are credit risk, sources of information, analysis of agency reports, interchange services and collection procedures. (3 Lec.)

(FM) 116 Construction Lending (1)

Construction lending in commercial banks is presented. Topics include an analysis of applications, permanent financing and loan participations and servicing. Commitment procedures, bonding and developer guarantees, and advances are covered. Inspections, legal work, unsecured construction financing, and land development loans are studied. Bank relationships with mortgage bankers are also included. (1 Lec.)

(FM) 117 Letters Of Credit (2)

This course focuses on letters of credit. Shipping documents, mechanics of letters of credit, payment, reimbursement, and document examination are all included. (2 Lec.)

(FM) 118 Installment Loan Interviews (1)

This course introduces the techniques of interviewing a loan customer. Topics include Regulation B requirements and the handling of problem customers. (1 Lec.)

(FM) 119 New Accounts (1)

Basic problems in working with new bank accounts are surveyed. The function of the new account and its relationship with marketing are described. Various legal questions are explored, and the legal rights of survivorship are examined. (1 Lec.)

(FM) 120 Selling Bank Services (1)

The recognition and meeting of customer's needs are the

focus of this course. Topics include checking accounts, savings accounts, savings services, loans to individuals, safe deposit, travelers checks and cross-selling. (1 Lec.)

(FM) 121 Loss Prevention (1)

This course covers check examination and cashing. Check swindles, identification with and without credentials, hold-ups and security procedures are all included. (1 Lec.)

(FM) 122 Safe Deposit (1)

Safe deposit operations are presented. Security concerns, access, insurance, contracts, and powers of attorney are included. Customer relations, recordkeeping and safe-keeping procedures are also covered. (1 Lec.)

(FM) 123 Loan And Discount (1)

This course emphasizes promissory notes. Topics include calculating interest and discounting commercial paper. Guarantees and general collateral agreements are also covered. Processing documents are also covered. Processing documents which accompany notes secured by stocks, bonds and savings account passbooks is presented. The concepts of attachment, perfection, priority, default and foreclosure are also included. (1 Lec.)

(FM) 124 Stocks And Bonds (1)

The nature and function of stocks and bonds are presented. Topics include the transfer of ownerships and the kinds of stocks, bonds, and government securities. (1 Lec.)

(FM) 127 Trust Functions And Services (2)

This course covers the services of institutions engaged in trust business. Topics include the history of trust services and institutions, trust powers and government supervision, and trust department services. Also included are property, wills, estates, personal agencies, different kinds of trusts, and guardianship. Investment of trust funds and management of property and mortgages are also presented. (2 Lec.)

(FM) 129 Credit Card Banking (2)

This course examines the operation of a bank charge plan. It briefly examines the marketing of credit cards. (2 Lec.)

(FM) 130 Teller Training (2)

The basics of teller operation are presented. The fundamentals of negotiable instruments and the care and handling of money are included. Other topics are deposits, checking and savings transactions, special teller functions, and balancing, cashing, and paying checks. The importance of public relations in the teller's job, security measures, fraud and robbery are also covered. (2 Lec.)

(FM) 200 Credit Union Management And Administration (3)

This course covers administration and provision of member services. Topics include loan policies, financial planning and analysis, personnel policies, member relations, delinquency control and collections and risk management. (3 Lec.)

(FM) 201 Advanced Credit Analysis (3)

Prerequisites: Accounting 201 and Financial Management 205. The techniques of making decisions about credit are

studied. Methods of financial analysis are discussed and applied to the solution of business problems. Risk appraisal is also studied in terms of general economic conditions, the natures of particular businesses and the conditions and trend in various industries. (3 Lec.)

(FM) 202 Credit Law (3)

Laws regarding credit are examined. Emphasis is on credit regulation and commercial and consumer laws in Texas. (3 Lec.)

(FM) 203 Public Relations And Marketing Of Financial Services (3)

This course describes the importance of public relations to the finance industry. Public relations is considered for the industry as a whole and also for individual institutions, such as commercial banks, savings and loan associations and credit unions. Emphasis is also placed on the promotion and marketing of financial services and the evaluation of different marketing practices. (3 Lec.)

(FM) 205 Analyzing Financial Statements (3)

Prerequisite: Accounting 201. This course focuses on the characteristics and analysis of financial statements. The goals, methods, and tools of analysis are covered. Topics for analysis include profit and loss, accounts receivable, inventories, projected statements, cash budgets, and balance sheets. The relationship of balance sheet accounts to sales is also covered. (3 Lec.)

(FM) 206 Negotiable Instruments And The Payments Mechanism (3)

This course presents the legal aspects of negotiable instruments. Emphasis is on federal and state banking statutes, court decisions, and administrative regulations. Topics include the legal aspects of deposit, collection, dishonor and return, and payment of checks and cash items. The relationship of various parties within a bank and between depositors are explored. Some legal aspects of other bank operations are also introduced. (3 Lec.)

(FM) 208 Financial Counseling And Credit Granting (3)

This course covers credit applicant interview and relations, credit investigation, determining credit worthiness, the credit/loan decision, loan rejections, legal considerations, and disclosure. Family resource management, consumer decision making, member benefits, counseling techniques, and applicant personalities are also presented and discussed. (3 Lec.)

(FM) 209 Federal Regulations Of Banking (2)

The federal regulation of banking is covered. Topics include regulatory agencies, bank charters, bank reports and examinations, limitations on operations, and the regulation of expansion. Emphasis is on bank supervision rather than influence through fiscal and monetary policies. (2 Lec.)

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 the 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 pre-planning, 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 lay-out, 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)

Prerequisite: Chemistry 170. 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.)

FLUID POWER TECHNOLOGY

(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. 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.)

(FLP) 222 Fundamentals Of Pneumatics (3)

Pneumatic power units, pneumatic controls, and pneumatic cylinders are studied. Both construction and operation are covered. Pneumatic circuits, power operated holding devices, safety circuits, and remote controlled circuits are presented. Manual, mechanical, pilot, and solenoid operated circuits are all included. Laboratory fee. (2 Lec., 3 Lab.)

(FLP) 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 set-up, operation, and testing of various fluid power circuits are covered. Laboratory fee. (3 Lec., 3 Lab.)

FOOD SERVICE

(FS) 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.)

(FS) 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.)

(FS) 116 Supervision For Hospitality Services (3)

Recruiting, selecting, training and supervising personnel for food and lodging service are studied. Personnel policies, job descriptions, training methods, scheduling and work improvement are included. (3 Lec.)

(FS) 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 clean-up 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.)

(FS) 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.)

(FS) 122 Advanced Food Preparation (3)

Prerequisite: Food Service 120. This course is a continuation of Food 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 on high preparation techniques for high quality. Laboratory fee. (2 Lec., 4 Lab.)

(FS) 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.)

(FS) 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.)

(FS) 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.)

(FS) 138 Food Service Cost Control (3)

Prerequisites: Food Service 132 and Math 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.)

(FS) 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.)

(FS) 201 Special Topics In Food Service (1)

Prerequisite: The demonstrated competence approved by the instructor. Students participate in identifying, defining, and analyzing current topics of interest in food service. 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 service processes. This course may be repeated for credit. (1 Lec.)

(FS) 202 Special Topics In Food Service (2)

Prerequisite: The demonstrated competence approved by the instructor. Students participate in identifying, defining, and analyzing current topics of interest in food service. 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 service processes. This course may be repeated for credit. (2 Lec.)

(FS) 203 Special Topics In Food Service (3)

Prerequisite: The demonstrated competence approved by the instructor. Students participate in identifying, defining, and analyzing current topics of interest in food service. 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 service processes. This course may be repeated for credit. (3 Lec.)

(FS) 220 Quantity Food Preparation And Service (4)

Prerequisite: Food 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 required. (3 Lec., 5 Lab.)

(FS) 222 Advanced Quantity Food Preparation And Service (4)

Prerequisite: Food 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.)

(FS) 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.)

(FS) 238 Garde-Manger Training (3)

Prerequisite: Food 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 set-up of the garde-manger station. Laboratory fee. (2 Lec., 4 Lab.)

(FS) 239 Saucier Training (3)

Prerequisite: Food 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 set-up of the saucier station is also included. Laboratory fee. (2 Lec., 4 Lab.)

(FS) 242 Community Nutrition (4)

Prerequisite: Food Service 135. Nutrition knowledge is applied to the care for people. How people eat and why they eat are studied. Other topics include the racial and cultural aspects of food and nutrition, the socio-economic and psychological aspects of providing nutrition throughout the life cycle, and techniques of evaluating nutrition care. Laboratory fee. (3 Lec., 3 Lab.)

(FS) 243 Clinical Nutrition (4)

Prerequisite: Food Service 135. This course focuses on changes in nutrition necessary in illness and for special problems. Included are changes for individuals with cardiovascular disease, diabetes, weight control, malnutrition, and other health problems. Laboratory fee. (3 Lec., 3 Lab.)

(FS) 244 Child Nutrition (4)

Prerequisite: Food 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. Laboratory fee. (3 Lec., 3 Lab.)

(FS) 245 Advanced Pastry Shop Training (3)

Prerequisite: Food 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.)

(FS) 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.)

(FS) 248 Advanced Nutrition And Dietetics (3)

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.)

(FS) 804, 814 (4)

(See Cooperative Work Experience)

FRENCH**(FR) 101 Beginning French (4)**

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

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)

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)

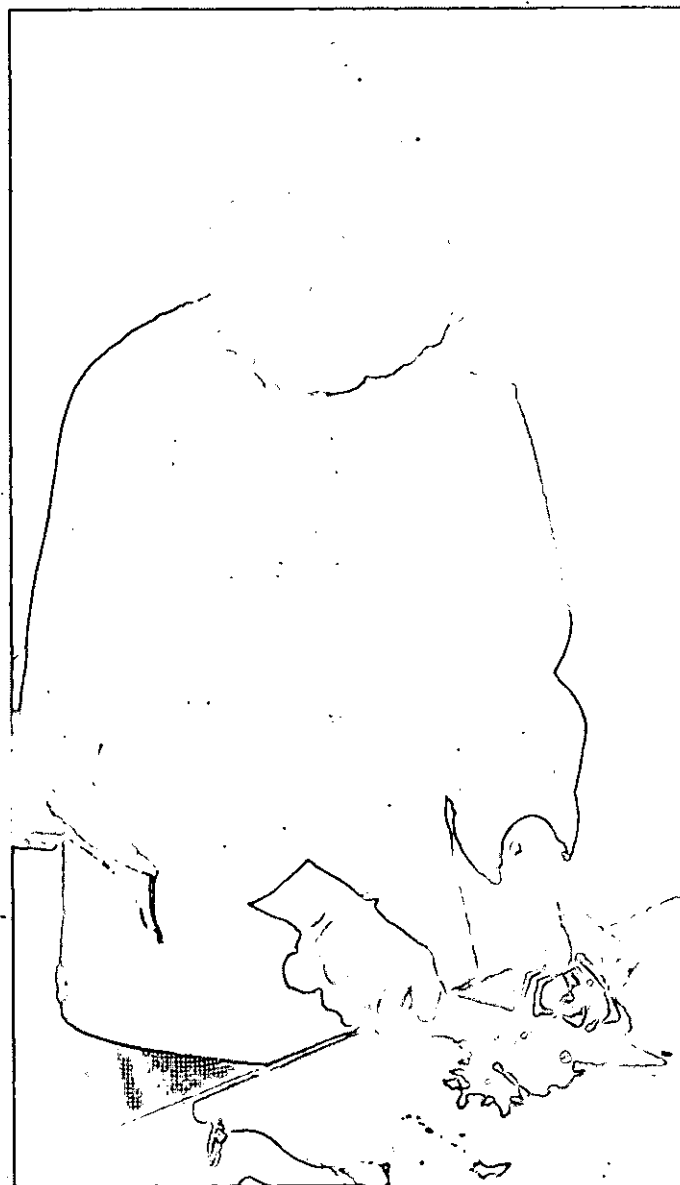
Prerequisite: French 201 or the equivalent. This course is a continuation of French 201. Contemporary literature and composition are studied. (3 Lec.)

(FR) 203 Introduction To French Literature (3)

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)

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.)

**GEOGRAPHY****(GPY) 101 Physical Geography (3)**

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)

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.)

GEOLOGY

(GEO) 101 Physical Geology (4)

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)

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)

The physical and chemical characteristics of ocean water, its circulation, relationship with the atmosphere, and the effect on the adjacent land is 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)

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. This course is not intended for geology majors. Laboratory fee. (3 Lec., 3 Lab.)

(GEO) 202 Introduction To Rock And Mineral Identification (3)

Prerequisites: Geology 101 and Geology 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. (1 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)

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; phase equilibria. Laboratory fee. (3 Lec., 3 Lab.)

GERMAN

(GER) 101 Beginning German (4)

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)

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)

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)

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)

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. The course satisfies requirements for Texas State Teacher's Certification. (This course is offered on campus and may be offered via television.) (3 Lec.)

(GVT) 202 American Government (3)

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. This course satisfies requirements for Texas State Teacher's Certification. (This course is offered on campus and may be offered via television.) (3 Lec.)

(GVT) 205 Studies In Government (3)

Prerequisite: Sophomore standing and 6 hours of history or government. Selected topics in government are presented. The course may be repeated once for credit when different topics are presented. (3 Lec.)

(GVT) 231 Municipal And County Government (3)

The structure of municipal and county government is examined. Topics include organs of government, administration, court systems, taxation, utilities and public works, education, welfare, and other public services. Presentations are given by local officials. Surveys of area problems are stressed. (3 Lec.)

GRAPHIC ARTS

(GA) 131 Graphic Processes (3)

This course focuses on industrial requirements of employees in graphic arts. Habits and abilities are included. An overview of equipment is provided and its use demonstrated. Laboratory fee. (2 Lec., 4 Lab.)

(GA) 134 Basic Camera Operations (3)

Prerequisite: Graphic Arts 131. The operations and mechanics of the photo-lithographic camera are described. Included are fundamentals of halftone photography, lithographic negative stripping, and plate making. Laboratory fee. (2 Lec., 4 Lab.)

(GA) 136 Copy Preparation (3)

Prerequisite: Concurrent enrollment in Graphic Arts 131. The basic operations of the varityper and headliner are studied. Letters, memos, manuals, tables, graphs, charts, reports, and booklets are produced. The drafting table and modern drafting tools are used. Steps from setting bold heading to finishing rough copy and preparing for the photographic master are included. Laboratory fee. (2 Lec., 4 Lab.)

(GA) 140 Offset Printing I (3)

Prerequisite: Credit or concurrent enrollment in Graphic Arts 131. The principles of offset lithography are covered. Included is operation of the small offset lithographic press. Laboratory fee. (2 Lec., 4 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) 240 Offset Printing II (3)

Prerequisite: Graphic Arts 140. Continuing development of the student in offset lithography is offered. Capabilities and limitations of presses are explored. Printed products are planned and produced. Emphasis is on standard production requirements and maintenance of equipment. Laboratory fee. (2 Lec., 4 Lab.)

(GA) 714, 814 (4)

(See Cooperative Work Experience)

GREEK

(GRK) 101 Beginning Classical Greek (4)

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 (4)

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)

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)

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)

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)

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) 105 Western Civilization (3)

The civilization in the West from ancient time 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)

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)

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)

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)

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)

Prerequisites: Sociology 101 or 6 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 Studies In U.S. History (3)

Prerequisite: Sophomore standing and 6 hours of American history. Selected topics in the history of the United States are presented. The course may be repeated once for credit when different topics are presented. (3 Lec.)

HOROLOGY**(HOR) 139 Antique Clock Theory And Repair (8)**

The history, design, and repair of clocks are covered. French, German, English, and Early American clocks are included, and both weight-driven and spring-driven clocks are studied. Types of clock movements to be reconditioned include grandfather, wall, shelf, and Westminster chime. Emphasis is on cleaning, rebushing plates, repivoting wheels, and adjusting chime and strike trains for count wheel and rack-and-snail types. The use and care of specialized hand tools and equipment are also covered. Laboratory fee. (2 Lec., 23 Lab., 275 Contact Hours)

(HOR) 140 Modern Clock Theory And Repair (8)

This course presents design factors and repair techniques of American, German, and Swiss clocks. Included are clocks with weight, spring, motor, and battery power in the 1-day, 8-day, and 400-day, and continuous synchronous electric variations. Repair and adjustment of anniversary, cuckoo, travel, alarm, timers, electric, cordless, and atom clocks are included. Laboratory fee. (2 Lec., 23 Lab., 275 Contact Hours)

(HOR) 141 Watch Cleaning And Assembly (8)

Hand cleaning and ultrasonic machine cleaning of watch movements are covered. Included are the removal of rust and scale, inspection, and lubrication of subassemblies. Pocket watches and gent's wrist and ladies' baguette sizes are included. Emphasis is on the use and care of precision hand tools, personal work habits, and attitudes. The polishing case, crystal, and band is also stressed. Timing

record analysis is introduced. Laboratory fee. (2 Lec., 23 Lab., 275 Contact Hours)

(HOR) 142 Watch Part Replacement (8)

The precise selection and replacement of damaged watch parts are the focus of this course. Detailed procedures are covered for changing balance staffs, stems, crown, gaskets, hands, roller jewels, balance and plate jewels, pallet jewels, and mainsprings. Emphasis is on nomenclature, movement identification, and metric measurement. The use and care of many special tools are introduced, with particular emphasis on the staking tool. Laboratory fee. (2 Lec., 23 Lab., 275 Contact Hours)

(HOR) 143 Advanced Watchmaking I (8)

This course emphasizes the jeweled lever escapement principles, hairspring manipulations, and position adjusting. Electronic timing machine records are analyzed to find causes of error and to make corrections. Self-winding devices and calendar watch features are thoroughly presented. Laboratory fee. (2 Lec., 23 Lab., 275 Contact Hours)

(HOR) 144 Advanced Watchmaking II (8)

The repair and adjustment of complicated watches are presented, including the stopwatch and wrist chronograph. Also covered are electric and electronic movements with tuning fork and quartz crystal resonators and electronic modules. Customer and business relations are practiced through estimating repairs, ordering parts, and participation in local and national craft organizations. Laboratory fee. (2 Lec., 23 Lab., 275 Contact Hours)

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) 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. 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) 148 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) 149 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) 150 Horticulture Career Preparation (1)

Prerequisite: Concurrent enrollment in one other horticulture course. This course provides the student with career exploration opportunities. Students are encouraged to examine their potential in fields of ornamental horticulture by following interests and aptitudes in guided horticulture activities. Laboratory fee. (3 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)

Prerequisite: 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. Laboratory fee. (2 Lec., 6 Lab.)

(HLN) 232 Landscape Planning And Management (4)

Prerequisite: Horticulture Technology 145 and 231. Landscape business operations and landscape principles are studied in depth. Topics include the landscape horticulture industry, management practices, marketing methods, and advanced skills in landscape planning. Laboratory fee. (2 Lec., 6 Lab.)

(HLN) 233 Nursery Operations (3)

Prerequisite: 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)

Prerequisites: Horticulture Technology 235; Horticulture Technology 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 Horticulture Technology 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) 236 Florist Management (4)

Prerequisite: Horticulture Technology 141. Operations and design skills in the retail florist business are studied. Topics include the florist industry, management practices, marketing methods, and advanced techniques in floral art. Laboratory fee. (2 Lec., 6 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) 245 Problems And Practices In Industry (4)

The student researches current regional problems and practices in industry, prepares reports and makes presentations. The student visits on-site with specialists, observes operations, studies problems, performs innovative procedures and participates in new production and marketing techniques. Laboratory fee. (2 Lec., 6 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. (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) 704 (4)

(See Cooperative Work Experience)

HOTEL-MOTEL OPERATIONS**(HMO) 110 Principles Of Hotel Administration (3)**

The physical aspects of hotel-motel operations are analyzed. Included are procedures for emergencies, check cashing, use of credit cards, and collection 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.)

(HMO) 112 Hotel-Motel Housekeeping (3)

This course focuses on the methods, procedures, and policies of housekeeping in a hotel or motel. Topics include departmental organization, employee supervision, work organization and assignments, materials and equipment, and room design and layout. (3 Lec.)

(HMO) 114 Front Office Procedures (3)

The everyday procedures of the front desk are covered. The use of the guest registration card and other forms are

included. Also included are the operation of the room rack, selling of rooms, reservations and inquiries, and general problems. Methods of handling accounts in hotels of various sizes are presented. The operation of NCR 4200 is covered, and its uses are thoroughly analyzed. (2 Lec., 4 Lab.)

(HMO) 116 Hotel-Motel Maintenance And Engineering (3)

This course examines the maintenance and engineering departments. Preventive programs and maintenance procedures are covered. (3 Lec.)

(HMO) 201 Special Topics In Hotel-Motel Operations (1)

Prerequisite: The demonstrated competence approved by the instructor. Students participate in identifying, defining and analyzing current topics of interest in the operation of a lodging property. The course emphasizes present industry needs and problems and students are guided to other realistic and workable solutions which include the total knowledge of food service processes. This course may be repeated for credit. (1 Lec.)

(HMO) 202 Special Topics In Hotel-Motel Operations (2)

Prerequisite: The demonstrated competence approved by the instructor. Students participate in identifying, defining and analyzing current topics of interest in the operation of a lodging property. The course emphasizes present industry needs and problems and students are guided to other realistic and workable solutions which include the total knowledge of food service processes. This course may be repeated for credit. (2 Lec.)

(HMO) 203 Special Topics In Hotel-Motel Operations (3)

Prerequisite: The demonstrated competence approved by the instructor. Students participating in identifying, defining and analyzing current topics of interest in the operation of lodging property. The course emphasizes present industry needs and problems and students are guided to other realistic and workable solutions which include the total knowledge of food service processes. This course may be repeated for credit. (3 Lec.)

(HMO) 210 Hotel-Motel Sales Development (3)

The techniques 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.)

(HMO) 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.)

(HMO) 804, 814 (4)

(See Cooperative Work Experience)

HUMAN DEVELOPMENT

(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. (1 Lec.)

(HD) 102 Special Topics In Human Development (1)

This is a course intended to help the student succeed in college. Topics such as stress management, communications training for the handicapped, career exploration techniques, or educational concerns of adult students may be included. This course may be repeated for credit. (1 Lec.)

(HD) 104 Educational And Career Planning (3)

This course is designed to teach students the on-going 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 increase self-awareness and learn to relate more effectively to others. Students are made aware of their feelings, values, attitudes and behaviors. The course content focuses on developing communication skills such as assertiveness, verbal and non-verbal behavior, listening, and conflict resolution. (3 Lec.)

(HD) 106 Personal And Social Growth (3)

This course focuses on the interaction between the individual and society. Societal influences, adjustment to social change, personal roles, and problem-solving are stressed. Components of a healthy personality, alternative behaviors, and lifestyles that demonstrate a responsibility to self and society are studied. (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) 110 Assessment Of Prior Learning (1)

Prerequisite: Limited to students in Technical/Occupational programs. The 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 non-collegiate experiences which have contributed to college-level learning, and documentation of such experiences. This course may be repeated for credit. (1 Lec.)

HUMAN SERVICES

(HS) 131 Orientation To Human Services (3)

This course introduces the field of human services. Students explore their interest and potential for working in a social service agency. Contacts with community social service agencies are made. (3 Lec.)

(HS) 220 Aging In America (3)

This course is designed to educate the general population about aging. It focuses on understanding older people and the aging process. Topics will include opportunities for full participation in community affairs; means of improving quality of life for older persons; and the effects of discrimination against older people. (3 Lec.)

(HS) 222 Gerontological Social Work (3)

This course is intended to provide pre-service and in-service education for professionals and practitioners for work in the field of aging. The emphasis of the course is upon preparation or upgrading of personnel for employment in agencies and institutions that serve older people. (3 Lec.)

(HS) 224 Aging And Learning (3)

This course is designed for middle-aged and older persons and focuses on the modification of attitudes and behaviors. Areas of study will be the changing age structure of society; educational opportunities for aging persons; the rapidity of social change; career pattern changes; the changing roles of men and women; and changing attitudes toward education. (3 Lec.)

(HS) 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.)

(HS) 233 Counseling For The Paraprofessional (3)

Prerequisite: Permission of the coordinator of the Human Services Program, or concurrent enrollment in Human Services 242. The principles and practices of interviewing and counseling are introduced. The effectiveness of these techniques are explored for counselor aides, mental health or social worker associates, and other "new careers" in people-to-people services. (3 Lec.)

(HS) 235 Introduction To Mental Health (3)

Prerequisite: Psychology 105 or demonstrated competence approved by the coordinator of the Human Services Program. Concurrent enrollment in Human Services 240-field work. This course focuses on the field of mental health. Topics include history, terms, concepts, and ethics. Behavior and environmental factors promoting mental health are analyzed. Skills for identifying symptoms of maladjustment are developed. Ways to provide for emotional outlets and emotional control are considered. (3 Lec.)

HUMAN SERVICES CONTINUED

(HS) 244 Social Work Problems And Practices (3)

Prerequisite: Concurrent enrollment in Human Services 803. Social work experiences are discussed and problems analyzed with other students in the Human Services Program, meeting three hours per week with the program coordinator. (3 Lec.)

(HS) 245 Social Work Problems And Practices (3)

Prerequisite: Concurrent enrollment in Human Services 813. Social work experiences are discussed and problems analyzed with other students in the human services program meeting three hours per week with the program coordinator. (3 Lec.)

(HS) 703, 713 (3)

(See Cooperative Work Experience)

(HS) 704, 714 (3)

(See Cooperative Work Experience)

(HS) 802, 812 (4)

(See Cooperative Work Experience)

(HS) 803 (3)

(See Cooperative Work Experience) Prerequisite: Concurrent enrollment in Human Services 244.

(HS) 813 (3)

(See Cooperative Work Experience) Prerequisite: Concurrent enrollment in Human Services 245.

(HS) 804, 814 (4)

(See Cooperative Work Experience)

HUMANITIES

(HUM) 101 Introduction To The Humanities (3)

Related examples of humans' creative achievements are examined. Emphasis is on understanding the nature of humans and the values of human life. (This course is offered on campus and may be offered via television. Laboratory fee required for television course.) (3 Lec.)

(HUM) 102 Advanced Humanities (3)

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, filmmakers, 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) 120 Basic Planning (3)

Prerequisites: Interior Design major and concurrent enrollment in Interior Design 121. This course focuses on basic drawing and the use of drafting instruments. Included are the drawing of two and three-dimensional forms, floor plans, interior elevations, sections, and furniture. The read-

ing of architectural drawings, producing good quality lettering and line work, use of architectural symbols, and printing are emphasized. Laboratory fee. (2 Lec., 4 Lab.)

(INT) 121 Basic Color Theory For Interior Design (3)

Prerequisites: Interior Design major and concurrent enrollment in Interior Design 120. Color theory and systems are studied. Mixing techniques for transparent and opaque pigments are covered. The use of values, tints, and intensities is practiced. Basic color schemes and color psychology are studied and applied to interior design projects. (2 Lec., 4 Lab.)

(INT) 123 Advanced Planning And Perspective (3)

Prerequisites: Interior Design 120 and Interior Design 121 and concurrent enrollment in Interior 124 and 225. The student studies methods and principles of one and two point perspective. Basic interior design principles are investigated and applied to furniture layouts and space distribution. Advanced plans and elevations are incorporated into portfolio presentations. (2 Lec., 4 Lab.)

(INT) 124 Color And Lighting (3)

Prerequisites: Interior Design 120 and 121 and concurrent enrollment in Interior Design 123 and 225. The interrelationship of color and lighting is applied to total space concepts. Qualitative and quantitative aspects of lighting are assessed in relation to color schemes. A study is made of lighting fixtures. Electrical plans and specifications are correlated with projects in Interior Design 225. (2 Lec., 4 Lab.)

(INT) 144 Philosophy Of Design (1)

Prerequisites: Current enrollment in the Interior Design Program or demonstrated competence approved by the instructor. The course includes readings and discussion of selected topics influencing design practice including the works of major designers and architects of the 20th Century, materials and methods of construction, and organization and structure of the design profession, including professional organizations. (1 Lec.)

(INT) 224 Interior Graphics And Illustration (3)

Prerequisites: Interior Design 222, 226, 233 and 235 and concurrent enrollment in Interior Design 223. Design projects based on traditional styles are developed. Both formal and informal presentations are made. Projects include working drawings. Laboratory fee. (2 Lec., 4 Lab.)

(INT) 225 Architectural Drawings I (3)

Prerequisites: Interior Design 120 and 121 and concurrent enrollment in Interior Design 123 and 124. Wood frame construction is studied. Introduction is made to construction drawings. A basic residential floor plan, from which working drawings are prepared, is given to the student. The working drawings include floor plans, sections, elevations, schedules, and details. Lettering, line quality, and dimensioning are emphasized. Laboratory fee. (2 Lec., 4 Lab.)

(INT) 226 Architectural Drawing II (3)

Prerequisites: Interior Design 123, 124, and 225 and concurrent enrollment in Interior Design 222, 223 and 235. Three-dimensional objects are rendered from interior and architectural forms. Renderings are completed in several media. (2 Lec., 4 Lab.)

(INT) 233 Fabrications I (3)

Prerequisites: Interior Design 123, 124, and 225 and concurrent enrollment in Interior Design 222, 226 and 235. This course provides the student with a practical working knowledge of crafts and techniques involved in construction and installations. The student is required to study and implement good design principles using the materials studied in the course. Laboratory fee. (2 Lec., 4 Lab.)

(INT) 235 Inner Space Composition And Presentation (3)

Prerequisites: Interior Design 123, 124, and 225, and concurrent enrollment in Interior Design 222, 226, 233. All elementary principles of interior design are used for problem solving assignments. Emphasis is on quick sketch solutions by informal presentation. Laboratory fee. (2 Lec., 4 Lab.)

(INT) 237 Advanced Principles Of Interior Design (4)

Prerequisites: Interior Design 223, 224, 233 and 240, and concurrent enrollment in Interior Design 345 and 811. This course focuses on the organization of all aspects of interior space and its relationship to exterior space. Color and design of all materials are coordinated. Professional problem-solving and formal presentation for contemporary design are stressed. Emphasis is on contemporary residential interior projects. Laboratory fee. (3 Lec., 3 Lab.)

(INT) 238 Professional Practice: Interiors (4)

Prerequisites: Interior Design 237, 345, and 811 and concurrent enrollment in Interior Design 239 and 343. This course is the study of designer and client relations and standard interior design practice and procedures. Topics include the analysis of the client's needs by interview and survey, the calculation of the proper design and presentation for the individual client, and the application of client psychology principles. The use of source catalogs, showrooms, local crafts and workrooms is also included. Cost estimates, contracts, studio organization, professional ethics, and the coordination of orders, fabrics, and installations are also included. (3 Lec., 3 Lab.)

(INT) 239 Principles Of Commercial Interior Design (4)

Prerequisites: Interior Design 237, 345, and 811 and the concurrent enrollment in Interior Design 238 and 343. This course is a continuation of Interior Design 237. Emphasis is on the study of commercial interiors. The latest trends and materials are surveyed and used. Barrier-free interior design for the handicapped is included. (3 Lec., 3 Lab.)

(INT) 240 Design Sources (1)

Prerequisites: Interior Design 123 and 124. This is a study (seminar) course designed to allow students to do in-depth research of existing sources of materials, furnishings, accessories, fabricators, and workrooms that is necessary to implement design projects. (1 Lec.)

(INT) 250 History Of Interior Arts I (4)

Prerequisites: Interior Design 123, 124, 225 and concurrent enrollment in Interior Design 226, 233, and 235. The evolution of the interior arts and related architectural developments are surveyed. The Antiquities, Gothic, Renaissance, and French styles are studied. (4 Lec.)

(INT) 251 History Of Interior Arts II (4)

Prerequisites: Interior Design 222, 226, 233, and 235 and concurrent enrollment in Interior Design 224 or Architecture 245. The study of the history of interior arts is continued. The English, American, and Oriental styles are studied. (4 Lec.)

(INT) 341 Special Project (1)

This course may be taken as an alternative to Interior Design 811 with the demonstrated competence approved by the instructor. A design problem is assigned to each student. All work is accomplished outside of class, with complete presentation of the problem and its solution due at the end of the semester. Analysis, plan, illustration, and presentation are included. The scope of the problem is directed and controlled by the instructor. (1 Lec.)

(INT) 343 Research And Presentation (2)

Prerequisites: Interior Design 237, 345, and 341 or 811 and concurrent enrollment in Interior Design 238 and 239. This is an independent study course to allow the student to improve upon areas of individual weakness. A research problem is studied in depth and solved through the development of the complete design process. All steps are included from the survey to the defense of the final presentation. (2 Lec.)

(INT) 345 History Of Modern Design (5)

Prerequisites: Interior Design 223, 224, and concurrent enrollment in Interior Design 237 and 801. This course surveys the evolution of modern (contemporary) design from the industrial revolution to the present. Focus is made on the influences of technological advances, art movements, and the changes in society's attitudes on the development of contemporary design. Special attention is given to significant designers, architects, furniture designers, and their effect on the modern movement. Research projects are required. (5 Lec.)

(INT) 801, 811 (1)

(See Cooperative Work Experience)

(INT) 802, 812 (2)

(See Cooperative Work Experience)

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

JOURNALISM CONTINUED

complex stories, such as features, profiles, followup stories, and sidebars. Students are required to write for the campus newspaper. (2 Lec., 3 Lab.)

(JN) 104 Student Publications (1)

Prerequisite: The 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. Students are required to work at prescribed periods under supervision and must attend staff meetings. (3 Lab.)

(JN) 105 Student Publications (1)

Prerequisite: The 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: The demonstrated competence approved by the instructor. This course may not be taken for credit concurrently with Journalism 102 or 103. The course is a continuation of Journalism 105. (3 Lab.)

(JN) 201 Feature Writing (3)

Prerequisite: Six hours of journalism or demonstrated competence approved by the instructor. This course covers research, interviewing techniques, and the development of feature stories for use in newspapers and magazines. (3 Lec.)

(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)

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)

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)

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)

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: Concurrent enrollment in 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 Transaction (3)

Prerequisites: Legal Assistant 131 and 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 and 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 Legal Systems (3)

Prerequisite: Concurrent enrollment in Legal Assistant 131. The court system of Texas is studied. Legal practices related to the courts and principles of court administration are examined. The federal court system is reviewed. (3 Lec.)

(LA) 139 Legal Research And Drafting (2)

Prerequisite: Legal Assistant 131 and 135 and English 101. This course familiarizes the beginning legal assistant student with the use of a law library and the various research materials and tools contained in a standard law library and provides the student with a more comprehensive vocabulary of legal terminology. Research techniques for case reporters, federal and state statutes and constitutions, secondary research materials and Shepard's Citators are studied. Basic citation form for all resource materials is discussed. Students are given opportunities to research rudimentary legal problems and to write short memoranda. Laboratory fee. (1 Lec.; 2 Lab.)

(LA) 225 Business Organizations (3)

Prerequisites: Legal Assistant 131 and 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 and 135, English 101 or demonstrated competence approved by the instructor. This course is an overview of civil litigation in both states and federal court with particular emphasis on the areas in which a legal assistant can assist the trial attorney. Particular attention is paid to preparation for litigation (interviewing client and witnesses, reviewing public information), discovery proceedings (interrogatories, requests for admissions, depositions and document production), pre-trial proceedings (motions to dismiss, motions for summary judgment, pre-trial orders), and trial (witnesses and exhibits). Attention is also devoted to practical techniques required to cope with protracted or complex litigation, including organization of pleadings, documents and depositions; preparation of summaries, chronologies and indices; and maintaining a complex file in an orderly manner. Mention is made of the legal theories involved in complex litigation (e.g., product liability, civil rights, securities and antitrust). Principal emphasis is on procedural techniques rather than substantive areas of law. (3 Lec.)



(LA) 231 Wills, Trusts, And Probate Administration (3)
Prerequisites: Legal Assistant 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 Texas Probate Law 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 and 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) 233 Income Taxation And Legal Accounting (3)

Prerequisites: Legal Assistant 131 and 135 and Business 202 or demonstrated competence approved by the instructor. This course is a study of federal, state and local income taxation. Individuals and taxpaying entities such as estates, trusts and corporations are all included. Emphasis is on the preparation of basic tax returns and other tax-related documents. Accounting related to legal problems is also introduced. (3 Lec.)

(LA) 234 Personal Property, Sales And Credit Transactions (3)

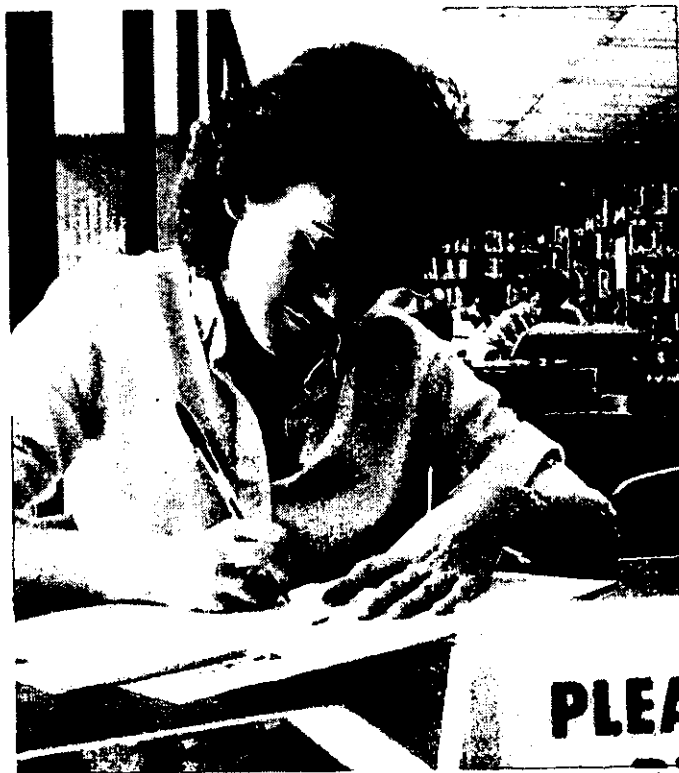
Prerequisites: Legal Assistant 131 and 135 and English 101 or demonstrated competence approved by the instructor. The law of personal property and contracts is presented. Included are the special forms related to the law of sales and credit transactions and special drafting problems of various instruments and legal research projects. The uniform commercial code and its effect are also included. (3 Lec.)

(LA) 235 Techniques Of Legal Practice And Procedures (4)

Prerequisites: Legal Assistant 131, 133, 135, and 231 and English 101. This course provides training in the preparation of legal documents. Topics include the statute of limitations, client interviews and interview forms, complaints, interrogatories, depositions, answers, motions, and orders to show cause. Also included are third-party practice, orders, medical records, judgments, pre-trials, settlements, and releases. Laboratory fee. (3 Lec., 3 Lab.)

(LA) 236 Legal Office Management (2)

Prerequisites: Legal Assistant 231 and 233 and Business 202. All aspects of law office management are covered. Topics include ethics, office organization, bookkeeping and accounting, fees and billing procedures, scheduling and calendaring, and legal research. Management of personnel, proofreading, investigations, file preparation, legal drafting, and procedures for specialized areas of law are also included. Trust accounts, law office forms, check list and files, and disbursement on behalf of clients are covered. (2 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. (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) 255 Oil And Gas Law (3)

Prerequisites: 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) 803, 813 (3)

(See Cooperative Work Experience)

(LA) 804, 814 (4)

(See Cooperative Work Experience)

LIBRARY SKILLS

(LS) 101 Introduction To Library Research (3)

In this course the student explores the various types of print and non-print sources of information and learns to document research. Emphasis is on practical skills with a great deal of hands-on experience. The course skills consist of lectures as well as the following learning experiences: (1) examination of the specific materials covered in the lecture, (2) completion of appropriate exercises. (3 Lec.)

MACHINE PARTS INSPECTION

(MPI) 122 Industrial Quality Control And Procedures (3)

Prerequisite: The demonstrated competence approved by the instructor. An overview of the history of industrial practices, present trends and opportunities in the field of quality control are explored. Emphasis is on stimulating interest in the quality control field, and information is provided to help prepare the student for possible future employment. (3 Lec.)

(MPI) 124 Basic Inspection Fundamentals (5)

Prerequisite: The demonstrated competence approved by the instructor. The basics of inspection fundamentals are stressed and include terminology, use of basic measuring instruments, and measuring techniques. The student gains a respect for the complex nature of industrial quality control techniques in practice today. The laboratory experiences bring together theory and practical applications appropriate to prepare for the entrance into productive industrial experiences. The use and care of measuring instruments becomes a familiar daily task through laboratory exercises. (1 Lec., 8 Lab.)

(MPI) 135 Intermediate Inspection Concepts (5)

Prerequisite: Machine Parts Inspection 124 or demonstrated competence approved by the instructor. The more complicated aspects of industrial inspection are emphasized as the basics are reviewed and applied through the laboratory experiences. Inspection bookkeeping is introduced as a more specific part of the curriculum, and more complex measuring and holding devices are explored. Accuracy and reliability are stressed as more amplification is introduced in each measuring technique. Optical and pneumatic comparators are introduced, and light wave systems are discussed. (1 Lec., 8 Lab.)

(MPI) 138 Geometric Tolerancing And True Positioning (3)

Prerequisite: The demonstrated competence approved by the instructor. This basic course is designed to prepare students entering the manufacturing industries for the complex techniques and practices using geometric symbols related to engineering, production, and quality control operations. The advantages of a system of geometric symbols which provides dimensioning and tolerancing with respect to actual function and relationship of part features are stressed. Practical application connects this theory with the practical world of automated, computerized industry today. (2 Lec., 2 Lab.)

(MPI) 220 Introduction To Materials And Processes (3)

Prerequisite: Machine Parts Inspection 122 and Quality Control Technology 122 or demonstrated competence approved by the instructor. Information concerning properties of materials inherent and acquired in industry today is presented, including basic information to help prepare a student for making decisions concerning future training in specialized fields. The areas covered include metals, woods, plastics and natural products and their relationship to industry in the natural state, during processing, and the final usage. (3 Lec.)

(MPI) 223 Advanced Inspection Concepts (5)

Prerequisite: Machine Parts Inspection 124 and 135 or demonstrated competence approved by the instructor. Reviews of all inspection techniques are covered before embarking on the study of the most complex equipment and techniques. Coordinate measuring instruments, optical flats, X-ray inspection and electronic comparators are studied. Calibration of all types of measuring and inspection equipment is studied under classroom and laboratory-field trip on-the-job conditions. The most complex systems and techniques are encountered and explored. (1 Lec., 8 Lab.)

(MPI) 227 Non-Destructive Testing (3)

Prerequisite: Machine Parts Inspection 121, 220 and Quality Control Technology 122 or demonstrated competence approved by the instructor. An in-depth study is made of ultrasonic, radiographic, and magnetic particle techniques relating to industrial testing. An overview of all the related areas of non-destructive testing is included in the program. (3 Lec.)

(MPI) 23Q Introduction To Statistical Quality Control Techniques (3)

Prerequisite: The demonstrated competence approved by the instructor. This course provides a review of the basic application of statistical methods in a simplified form. Concepts of tolerances, acceptance sampling, standard sampling plans, control chart, and analysis of process variation are introduced. Only basic arithmetic is required. (3 Lec.)

(MPI) 237 Gage Control Standardization And Precision Measurement (3)

Prerequisite: The demonstrated competence approved by the instructor. Inventory and gage security and calibration are stressed with emphasis on a general knowledge of all inspection equipment and a practical use of all items. Statistical treatment of data is introduced. (2 Lec., 4 Lab.)

(MPI) 803, 813 (3)

(See Cooperative Work Experience)

MACHINE SHOP

(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 workholding 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) 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 workholding 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 machinist, toolmaker, 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 of 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 (2)

(See Cooperative Work Experience)

(MS) 704 (4)

(See Cooperative Work Experience)

MAJOR APPLIANCE REPAIR**(MAR) 201 Motors And Motor Circuits (1)**

This course focuses on motors and motor circuits used in domestic refrigeration systems. The diagnosis of problems is included. Laboratory fee. (30 Contact Hours)

(MAR) 202 Defrost Circuits And Components (1)

This course focuses on manual defrost, off-cycle defrost, semi-automatic defrost and frost-free defrost systems. Identification, repair, and replacement are included. Laboratory fee. (30 Contact Hours)

(MAR) 203 Sealed System Repair And Compressor Replacement (2)

This course focuses on the detection and repair of leaks and on the replacement of compressors. Evacuation, charging, and performance evaluation of sealed systems are included. Laboratory fee. (60 Contact Hours)

(MAR) 204 Domestic Ice Makers (1)

This course focuses on flex tray and rigid mold domestic ice makers. Diagnosis, repair, and adjustment are included. Laboratory fee. (30 Contact Hours)



MAJOR APPLIANCE REPAIR CONTINUED

(MAR) 205 Troubleshooting And Diagnosis, Domestic Refrigerators And Freezers (1)

This course focuses on troubleshooting techniques for domestic refrigeration systems. The diagnosis of problems is included. Laboratory fee. (30 Contact Hours)

(MAR) 206 Domestic Refrigerators Electrical Systems (3)

Prerequisite: Air Conditioning 150. This course includes a study of motors and motor circuits, manual defrost, and off-cycle defrost. Other topics are semi-automatic defrost and frost free defrost systems, rigid mold and flex tray ice makers used in domestic refrigeration systems. Identification, diagnosis and repair are included. Laboratory fee. (90 Contact Hours)

(MAR) 207 Domestic Refrigerators Sealed-Systems (3)

Prerequisites: Air Conditioning 150 and Air Conditioning 160. This course focuses on the detection and repair of leaks and on the replacement of compressors. Troubleshooting and diagnosis of domestic refrigeration systems are included. Laboratory fee. (90 Contact Hours)

(MAR) 208 Domestic Dishwashers (3)

Prerequisite: Air Conditioning 150. This course examines motors, water valves, heaters, timers, pumps, water seals and water/detergent relationships. Diagnosis, repair, and replacement are included. Laboratory fee. (90 Contact Hours)

(MAR) 209 Domestic Disposers And Trash Compactors (3)

Prerequisite: Air Conditioning 150. This course examines the electrical and mechanical parts of domestic disposers and trash compactors. Diagnosis, service, repair, and replacement are included. Laboratory fee. (90 Contact Hours)

(MAR) 211 Electrical Systems-Dishwashers (1)

This course examines motors, water valves, heaters, timers, and dispensing electrical circuits. Diagnosis, repair, and replacement are included. Laboratory fee. (30 Contact Hours)

(MAR) 212 Mechanical Systems And Washability (1)

This course examines water valve assemblies, pumps, water seals, and water/detergent relationships (washability). Conditioning 150. This course is the specific study of dryer motors and motor circuits, heating elements, gas valve circuits, timers. Blowers, belts and pulleys, bearings, and drum assemblies are also included. Diagnosis, adjustment, repair, and replacement are included. Laboratory fee. (30 Contact Hours)

(MAR) 213 Disposers And Trash Compactors (2)

This course examines the electrical and mechanical parts of domestic disposers and trash compactors. Diagnosis, service, repair, and replacement are included. Laboratory fee. (60 Contact Hours)

(MAR) 214 Troubleshooting And Diagnosis-Dishwashers, Disposers, And Trash Compactors (2)

This course examines troubleshooting techniques for domestic dishwashers, disposers, and trash compactors. The diagnosis of problems is included. Laboratory fee. (60 Contact Hours)

(MAR) 215 Domestic Laundry Equipment-Washers (3)

Prerequisite: Air Conditioning 150. This course includes the study of the electrical systems, water systems, and drive systems of the automatic washer. Diagnosis, repair, and adjustments are included. Laboratory fee. (90 Contact Hours)

(MAR) 216 Domestic Laundry Equipment-Dryers (3)

Prerequisite: Air Conditioning 150. This course is the specific study of dryer motors and motor circuits, heating elements, gas valve circuits, timers. Blowers, belts and pulleys, bearings, and drum assemblies are also included. Diagnosis, adjustment, repair, replacement are included. Laboratory fee. (90 Contact Hours)

(MAR) 217 Domestic Electric Cooking Equipment (3)

Prerequisite: Air Conditioning 150. This course covers heating elements, switches, thermostats, timers, hydraulic controls, cooktops, oven circuits and principles of self-cleaning ovens. Diagnosis, wiring, repair, and replacement are included. Laboratory fee. (90 Contact Hours)

(MAR) 218 Domestic Gas And Microwave Cooking Equipment (3)

Prerequisite: Air Conditioning 150. This course covers manual, hydraulic, electrical controls and burner adjustment of gas ranges and ovens. The principles of microwave cooking, magnetron, and microwave circuitry are included. Diagnosis, service and repair are also included. Laboratory fee. (90 Contact Hours)

(MAR) 221 Electrical Systems And Motors-Washers (1)

This course is the specific study of washer motors and motor circuits, water valve circuits, timers, and dispensing circuits for bleach, softener, and detergent. Both diagnosis and repair are included. Laboratory fee. (30 Contact Hours)

(MAR) 222 Water Systems-Washers (1)

This course is the specific study of washer water valve, pump, and inlet and drain assemblies. Diagnosis, repair, and adjustment are included. Laboratory fee. (30 Contact Hours)

(MAR) 223 Drive Systems-Washers (1)

This course is the specific study of washer clutch and belt assemblies, transmissions, drive shafts, and inner and outer tub assemblies. Diagnosis, adjustment, repair, and replacement are included. (30 Contact Hours)

(MAR) 224 Electrical Systems And Motors-Dryers (1)

This course is the specific study of dryer motors and motor circuits, heating elements, gas valve circuits, and timers. Diagnosis and repair are included. Laboratory fee. (30 Contact Hours)

(MAR) 225 Mechanical Systems-Dryers (1)

This course is the specific study of dryer blowers, venting assemblies, belts and pulleys, bearings, and drum assemblies. Diagnosis, adjustment, repair, and replacement are included. Laboratory fee. (30 Contact Hours)

(MAR) 226 Troubleshooting And Diagnosis-Washers And Dryers (1)

This course is the specific study of troubleshooting techniques for domestic washers and dryers. The diagnosis of problems is included. Laboratory fee. (30 Contact Hours)

(MAR) 231 Gas Cooking Equipment (1)

This course covers manual, hydraulic, and electrical controls of gas ranges and ovens. Burner adjustment is also covered. Diagnosis, service, repair, and replacement are included. Laboratory fee. (30 Contact Hours)

(MAR) 232 Electric Cooking Equipment (2)

This course covers heating elements, switches, thermostats, timers, cook tops and oven circuits of electric ranges and ovens. Diagnosis, wiring, repair, and replacement are included. Laboratory fee. (60 Contact Hours)

(MAR) 233 Self-Cleaning Ovens (1)

This course covers electronic and hydraulic controls and principles of self-cleaning ovens. Diagnosis, service, repair and replacement are included. Laboratory fee. (30 Contact Hours)

(MAR) 234 Microwave Ovens (1)

This course covers the principles of microwave cooking. Diagnosis and troubleshooting of magnetrons and associated microwave circuitry are included. Laboratory fee. (30 Contact Hours)

(MAR) 235 Troubleshooting And Diagnosis-Domestic Cooking Equipment (1)

This course covers troubleshooting techniques for domestic cooking equipment. The diagnosis of problems is included. Laboratory fee. (30 Contact Hours)

(MAR) 240 Professional Service Skills (3)

Professional skills for the service industry are emphasized. Topics include invoices, service records, maintenance agreements, customer relations, inventory, salaries, working conditions, and advancement opportunities. (48 Contact Hours)

MANAGEMENT**(MGT) 136 Principles Of Management (3)**

The process of management is studied. The functions of planning, organizing, leading, and controlling are included. Particular emphasis is on policy formulation, decision-making processes, operating problems, communications theory, and motivation techniques. (3 Lec.)

(MGT) 150 Management Training (4)

Prerequisite: Concurrent enrollment in Management 154 or demonstrated competence approved by the instructor. This course consists of supervised on-the-job training, giving practical experience to students of business management. The course is designed to develop the student's

managerial skills through the completion of job-related projects which will enhance and complement classroom knowledge. (20 Lab.)

(MGT) 151 Management Training (4)

Prerequisite: Concurrent enrollment in Management 155 or demonstrated competence approved by the instructor. This course consists of supervised on-the-job training, giving practical experience to students of business management. The course is designed to develop the student's managerial skills through the completion of job-related projects which will enhance and complement classroom knowledge. (20 Lab.)

(MGT) 153 Small Business Management (3)

The student will be studying the fundamental approaches to planning, establishing and operating a small business. The day-to-day operation of the business and reporting procedures will be studied as well as exploring the concepts of general management. (48 Contact Hours)

(MGT) 154 Management Seminar:Role Of Supervision (2)

Prerequisite: Concurrent enrollment in Management 150 or demonstrated competence approved by the instructor. This seminar is designed to explore the role of the supervisor from an applied approach. Emphasis is on improving leadership skills, motivational techniques, effective time management, goal-setting, planning and overcoming communication problems. (2 Lec.)

(MGT) 155 Management Seminar:Personnel Management (2)

Prerequisite: Concurrent enrollment in Management 151 or demonstrated competence approved by the instructor. This course is designed to explore the manager's role in attracting, selecting, and retaining qualified employees. Planning for and recruiting employees, selecting high performers, improving interviewing skills, conducting performance appraisals, training, EEO, legislation, and labor relations are emphasized through an applied approach. (2 Lec.)

(MGT) 157 Small Business Bookkeeping And Accounting (3)

This course focuses on basic bookkeeping and accounting techniques for the small business. The techniques are applied to the analysis and preparation of basic financial statements. (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)

Prerequisite: Enrollment in Technical/Occupational program or demonstrated competence approved by the instructor. 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

MANAGEMENT CONTINUED

others, motivating, communicating, handling grievances, recruiting, counseling, and cost accounting. (3 Lec.)

(MGT) 210 Small Business Capitalization, Acquisition And Finance (3)

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)

Problems of daily operations of small business are introduced. Topics include compliance with regulations, personnel administration, accounts receivable management, and business insurance. (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 upon 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 hours credit. (1 Lec.)

(MGT) 220 Materials Management (3)

A study of the materials management concept, which includes the separate functions of purchasing, transportation, production, inventory control, warehousing, and trafficking is provided. Special emphasis is given to cost effectiveness, the materials cycle, contribution to organizational objectives, performance measurement, inventory cost trade-offs, and forecasting. (3 Lec.)

(MGT) 224 Quality Assurance (3)

A study of the techniques, concepts, and systems utilized in controlling quality is included. Special emphasis is placed on sampling techniques (methodology and results), acceptance/rejection procedures, procurement quality assurance, tooling inspection, and quality program planning and maintenance. (3 Lec.)

(MGT) 242 Personnel Administration (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) 250 Management Training (4)

Prerequisite: Concurrent enrollment in Management 254 or demonstrated competence approved by the instructor. This course consists of supervised on-the-job training, giving practical experience to students of business management. The course is designed to develop the student's managerial skills through the completion of job-related projects which will enhance and complement classroom knowledge. (20 Lab.)

(MGT) 251 Management Training (4)

Prerequisite: Concurrent enrollment in Management 255 or demonstrated competence approved by the instructor. This course consists of supervised on-the-job training, giving practical experience to students of business management. The course is designed to develop the student's managerial skills through the completion of job-related projects which will enhance and complement classroom knowledge. (20 Lab.)

(MGT) 254 Management Seminar:Organizational Development (2)

Prerequisite: Concurrent enrollment in Management 250 or demonstrated competence approved by the instructor. The role of managers in managing human resources, group interaction and team building, motivational dynamics, improving interpersonal communication skills, and dealing with company politics and conflict are explored in this course through an applied approach. (2 Lec.)

(MGT) 255 Management Seminar:Planning, Strategy, And The Decision Process (2)

Prerequisite: Concurrent enrollment in Management 251 or demonstrated competence approved by the instructor. This course is designed to develop managerial skills in individual and group decision-making and cause analysis. Rational and creative problem-solving skills are developed. Personal and organizational strategy skills are enhanced. (2 Lec.)

(MGT) 280 Industrial Management (3)

Prerequisite: Management 136. This course is an overview of the relationship of industrial functions. The philosophy and practices of management are included. Topics cover plant location and layout, process design, equipment selection, and methods analysis. Work measurement, materials control, production planning and control, quality control, cost control, and industrial relations are also presented. (3 Lec.)

(MGT) 703 (3)

(See Cooperative Work Experience)

(MGT) 704 (4)

(See Cooperative Work Experience)



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.)

MATHEMATICS

(MTH) Mathematics

(See also Developmental Mathematics. Supplementary instruction in mathematics is available through the Learning Resources Center.)

(MTH) 101 College Algebra (3)

Prerequisite: Two years of high school algebra or Developmental Mathematics 093. This course is a study of functions and relations, absolute values, variation, quadratic equations, complex numbers, functions of two variables, systems of equations and inequalities, elementary aspects of the theory of equations, progressions, the binomial theorem, and algebraic proof. (3 Lec.)

(MTH) 102 Plane Trigonometry (3)

Prerequisite: Mathematics 101 or equivalent. This course is a study of angular measure, functions of angles, identities, solution of triangles, equations, inverse trigonometric functions, logarithms, and complex numbers. (3 Lec.)

(MTH) 104 Elementary Functions And Coordinate Geometry I (5)

Prerequisites: Two years of high school algebra or Developmental Mathematics 093. This course includes the concept of function, polynomials of one or more variables, arithmetic and geometric sequences, combinations and the binomial theorem, rational functions, exponential functions, logarithmic functions, trigonometric functions, complex numbers, vectors, functions of two variables and analytical geometry which includes conics, transformation of coordinates, polar coordinates, parametric equations and three dimensional space. (5 Lec.)

(MTH) 105 Elementary Functions And Coordinate Geometry II (5)

Prerequisite: Mathematics 104. This course is a continuing study of the topics of Mathematics 104. (5 Lec.)

(MTH) 106 Elementary Functions And Coordinate Geometry III (5)

Prerequisites: Two years of high school algebra and one semester of trigonometry. This course is a study of the algebra of functions. It includes polynomial, rational, exponential, logarithmic and trigonometric functions, functions of two variables, complex numbers, vectors and analytic geometry which includes conics, transformation of coordinates, polar coordinates, and parametric equations. (5 Lec.)

(MTH) 111 Mathematics for Business and Economics (3)

Prerequisite: Two years of high school algebra 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)

Prerequisite: Mathematics 111. This course includes sequences and limits, differential calculus, integral calculus, and appropriate applications. (3 Lec.)

(MTH) 115 College Mathematics I (3)

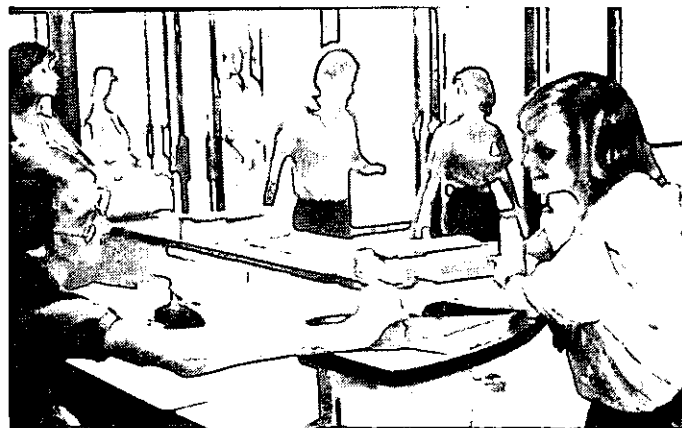
Prerequisites: One year of high school algebra and one year of high school geometry or two years of high school algebra or Developmental Mathematics 093. Designed for liberal arts students, this course includes the study of logic, mathematical patterns, mathematical recreations, systems of numeration, mathematical systems, sets and statements and sets of numbers. Historical aspects of selected topics are emphasized. (3 Lec.)

(MTH) 116 College Mathematics II (3)

Prerequisite: One year of high school algebra and one year of high school geometry or two years of high school algebra or Developmental Mathematics 093. Designed for liberal arts students, this course includes the study of algebra, linear programming, permutations, combinations, probability and geometry. Historical aspects of selected topics are emphasized. (3 Lec.)

(MTH) 117 Fundamental Concepts Of Mathematics For Elementary Teachers (3)

This course includes the structure of the real number system, geometry, and mathematical analysis. Emphasis is on the development of mathematical reasoning needed for elementary teachers. (3 Lec.)



MATHEMATICS CONTINUED

(MTH) 121 Analytic Geometry (3)

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)

Prerequisite: Mathematics 105 or 106 or 121 or the 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)

Prerequisite: One year of high school algebra 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) 139 Applied Mathematics (3)

Prerequisite: One year of high school algebra or Developmental Mathematics 091 or equivalent. An effort will be made to tailor this course to fit the needs of the students enrolled in each semester. The course is a study of commercial, technical, and other applied uses of mathematics. (3 Lec.)

(MTH) 195 Technical Mathematics (3)

Prerequisite: One year of high school algebra or Developmental Mathematics 091 or the equivalent. This course is designed for technical students. It covers a general review of arithmetic, 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 (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)

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) 221 Linear Algebra (3)

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 transformation. (3 Lec.)

(MTH) 225 Calculus II (4)

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)

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)

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.)



(MT) 194 Mechanical Technology (4)

Prerequisite: Drafting 183. This course provides an introduction to the design process and creative problem solving. There is continuing emphasis on mechanical assemblies, industrial processes, gears, cams, bearings, threads and tolerances. Handbooks, manuals, ANSI and military standards are utilized. Laboratory fee. (2 Lec., 6 Lab.)

(MT) 245 Computers In Manufacturing (4)

Prerequisites: Mathematics 195, Mathematics 196, Drafting 183, and Mechanical Technology 194. This course is an introductory course in computer applications in solving mechanical manufacturing problems. Basic programming and plotter applications are included. Laboratory fee. (2 Lec., 6 Lab.)

(MT) 246 Industrial Tooling (4)

Prerequisites: Drafting 183 and Mechanical Technology 194. This course provides for the study of tool design theory and application of industrial techniques. Emphasis is on the design of gages, jigs, fixtures, dies, cutting tools and small machines. Conventional standards, references, and resource materials are utilized. Laboratory fee. (2 Lec., 6 Lab.)

MEDICAL ASSISTING TECHNOLOGY

(MA) 151 Medical Terminology (4)

Prerequisite: Admission to the Medical Assisting Technology Program or Medical Transcription Program with concurrent enrollment in Biology 123 or demonstrated competence approved 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 definition. Exercises in the use of the medical dictionary are also included. (4 Lec.)

(MA) 152 Medical Law And Ethics (2)

Prerequisite: Admission to the Medical Assisting Technology Program or Medical Transcription Program. The principles of medical ethics and ethical behavior of the physician and patient are introduced. Topics include contracts, professional liability, malpractice, and the medical practice acts. The legal relationship of the medical assistant-transcriptionist is examined in regard to the physician's legal responsibilities. (2 Lec.)

(MA) 153 Medical Office Microbiology And Sterilization Procedures (3)

Prerequisite: Admission to the Medical Assisting Technology Program. This course is a study of fundamental microbiology and methods of sanitation, asepsis, and sterilization. The operation of sterilization equipment, application of the principles of asepsis in handwashing, dressings, and creating and maintaining a sterile field are included. The proper disposal of contaminated materials is demonstrated. (2 Lec., 2 Lab.)

(MA) 154 Introduction To Medical Transcription (2)

Prerequisite: Admission to the Medical Transcription Program and typing skills of 50 words per minute corrected, or demonstrated competence approved by the Program Coordinator. This course introduces the student to the transcription machines for simulation of medical office or hospital medical records correspondence. The mechanics of English and use of medical terminology are reinforced. Laboratory fee. (1 Lec., 2 Lab.)

(MA) 160 Medical Transcription (4)

Prerequisite: Admission to the Medical Assisting Technology Program or Medical Transcription Program. Completion of Medical Assisting 151 and Business 174 or the equivalent with a GPA of 2.0 or better or demonstrated competence approved by the instructor. Medical transcription is presented. Speed and accuracy in typing, use of transcribing equipment, and medical-surgical terminology are all included. Practice in completing medical forms, transcribing medical-surgical reports, and handling medical correspondence is emphasized. (2 Lec., 6 Lab.)

(MA) 161 Medical Office-Administrative And Management Procedures (3)

Prerequisite: Admission to the Medical Assisting Technology Program or Medical Transcription Program. This course covers the principles of medical office communications. Medical recordkeeping, types of records, reports, and computerized and statistical procedures are introduced. The function of the hospital medical record department in relation to the medical office is also introduced. The

fundamentals of a medical office, care of equipment, ordering of office supplies, and office housekeeping are covered. (3 Lec.)

(MA) 162 Medical Office Bookkeeping And Insurance Procedures (3)

Prerequisite: Admission to the Medical Assisting Technology Program. The fundamentals of medical office bookkeeping and financial recordkeeping are studied. The pegboard system is covered and computerized accounting is introduced. Appraisal of health insurance plans is covered, including study of benefits and claims procedures with an emphasis on the completion of claim forms. (3 Lec.)

(MA) 163 Medical Office Clinical Medical Assisting Procedures (3)

Prerequisite: Admission to the Medical Assisting Technology Program. The role of the clinical medical assistant is introduced in lectures and in laboratory experiences. Topics include techniques in the examining room, patient handling and preparation, taking and recording vital signs, and assisting the physician with examination, treatments, minor surgery, and office emergencies. The ordering, storing and inventory of medical supplies and care of equipment are also included. (2 Lec., 2 Lab.)

(MA) 164 Medical Office Pharmacology And Drug Administration (3)

Prerequisite: Admission to the Medical Assisting Technology Program. This course enables students to identify basic drugs, their use and effect on the body, and the calculation of dosage and solutions. The definition and use of correct abbreviations and terminology are covered. Ways to identify and use of correct abbreviations and terminology are covered. Ways to identify medications regulated by the Bureau of Narcotics and Dangerous Drugs are included and the records required on them are explained. Also included are the ordering, storage inventory, and disposal of drugs. Methods of drug administration are identified, including techniques of giving injections and selecting of sites. Laboratory fee. (2 Lec., 2 Lab.)

(MA) 166 Introduction To Medical Word Processing (2)

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.)

(MA) 170 Medical Office X-Ray Orientation And Electromedical Instrumentation (3)

Prerequisite: Admission to the Medical Assisting Technology Program. This course prepares students to communicate instructions to the patient for proper preparation for X-ray examinations. The identification of safety hazards and precautions related to X-ray equipment is included. The handling and storage of X-rays are demonstrated. Methods of electrocardiography are explained, including operation of the machine, specific techniques and mounting the tracing. The operation and care of other electromedical instruments, ultrasound, and ultraviolet light are also covered. Laboratory fee. (5 Lec. 5 Lab.)

MEDICAL ASSISTING TECHNOLOGY *Contd.*

(MA) 171 Medical Office Laboratory Procedures (3)

Prerequisite: Admission to the Medical Assisting Technology Program. The purpose, techniques, and recording of basic laboratory procedures commonly performed in a physician's office are covered in lectures and laboratory sessions. Included are urinalysis, blood counts, gram stains, sedimentation rates, and pregnancy tests. The collection, preparation, and labeling of specimens are also covered. Clinical laboratory reports are explained. The assistance of patients by giving the proper instructions for their preparation for clinical lab tests is described. Laboratory fee. (5 Lec., 5 Lab.)

(MA) 172 Medical Assisting Externship (6)

Prerequisite: Completion of all Medical Assisting Technology courses with an overall GPA of 2.0 or above. This course provides supervised work experience in a private medical office, clinic or hospital. Classroom reports and critique are also included. The student is assigned regular duties and is responsible to the supervisor in charge. The work is coordinated by a member of the Medical Assisting faculty. A minimum of 180 hours is required in the clinical setting for externship. (2 Lec., 36 Lab.)

(MA) 704 (4)

(See Cooperative Work Experience)

MEDICAL LAB TECHNOLOGY

(MLT) 133 Hematology (4)

Prerequisite: Acceptance into the Medical Laboratory Technician Program with an ACT composite score of 18 and concurrent enrollment in Medical Laboratory Technology 135. The theory and basic techniques used in the hematological examination of blood are presented. Laboratory fee. (3 Lec., 4 Lab.)

(MLT) 135 Urinalysis (3)

Prerequisite: Acceptance into the Medical Laboratory Technician Program with an ACT composite score of 18 and a math score of 18 and concurrent enrollment in Medical Laboratory Technology 133. This course is an orientation to the medical laboratory and a study of the theory and laboratory procedures used in the analysis of urine. Laboratory fee. (2 Lec., 4 Lab.)

(MLT) 138 Immunology (4)

Prerequisite: Minimum grade of "C" in Medical Lab Technology 133 and 135. The theory and principles of immunology are presented. Laboratory procedures used in the serological and immunohematological examination of blood and serum are considered. Laboratory fee. (3 Lec., 4 Lab.)

(MLT) 139 Clinical Practice I (8)

Prerequisites: Minimum grade of "C" in Medical Laboratory Technology 133, 135 and 138, and an overall "C" average in non-technical course work. This course provides supervised clinical practice in hematology, serology, blood banking, and urinalysis. The student is assigned to a clinical laboratory. (26 Lab.)

(MLT) 229 Medical Microbiology I (4)

Prerequisite: 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 technique, susceptibility testing of bacteria, quantification of bacteria in body fluids, and the isolation and identification 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 lab.)

(MLT) 231 Clinical Chemistry (4)

Prerequisite: "C" average 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: 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) 238 Clinical Practice II (8)

Prerequisite: Minimum grade of "C" in Medical Laboratory Technology 229 and 231, and an overall "C" average in non-technical course work. This course provides supervised experience in diagnostic microbiology and clinical chemistry. The student is assigned to a clinical laboratory. (26 Lab.)

MOTORCYCLE MECHANICS

(MM) 105 Motorcycle Tune-Up (3)

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. (90 Contact Hours)

(MM) 109 Motorcycle Chassis And Drive Systems (3)

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. (90 Contact Hours)

(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) 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 motorcycle ignition and charging systems. Also included are 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 (3)

(See Cooperative Work Experience)

(MM) 704 (4)

(See Cooperative Work Experience)

MUSIC

(MUS) 103 Guitlar Ensemble (1)

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)

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)

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)

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)

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)

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)

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)

Prerequisite: Music 110. 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)

This course focuses on participation and skills for satisfactory performance in singing, playing an instrument, listening, and creating rhythmic responses. The ability to manage notation (music reading) is developed. (3 Lec.)

(MUS) 114 Foundations In Music II (3)

Prerequisite: Music 113. This course prepares students with limited music training for Music 101 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)

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)

This course is primarily for students with no knowledge of piano skills. It develops basic musicianship and piano skills. This course may be repeated for credit. (2 Lab.)

MUSIC CONTINUED

(MUS) 118 Piano Class II (1)

The study of piano is continued. Included are techniques, skills, 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)

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)

Prerequisite: Music 119 or the equivalent. 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. Fee required. Private music may be repeated for credit. (1 Lec.)

(MUS) 145 Music Theory I (3)

This course presents the basic elements of music. Emphasis is on notation, cadences, classification of diatonic triads, scales and modes. (3 Lec.)

(MUS) 146 Music Theory II (3)

Prerequisite: Music 145. 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 later periods. (3 Lec.)

(MUS) 150 Chorus (1)

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)

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)

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) 155 Vocal Ensemble (1)

A group of mixed voices concentrates on excellence of performance. Membership is open to any student by audition. The director selects those who possess special interest and skill in the performance of advanced choral literature. This course may be repeated for credit. (3 Lab.)

(MUS) 156 Madrigal Singers (1)

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)

Prerequisite: The demonstrated competence approved by the instructor is required for non-wind instrument majors. 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)

This course relates to topics in Music 145. Aural skills including sight-singing, ear training, and keyboard are developed. (3 Lab.)

(MUS) 162 Musicianship II (1)

Prerequisite: Music 161. This course relates to topics in Music 146. Aural music skills including sight-singing, ear training, and keyboard are further developed. (3 Lab.)

(MUS) 170 Orchestra (1)

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)

A group of woodwind instrumentalists 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) 172 Brass Ensemble (1)

A group of brass instrumentalists 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) 173 Percussion Ensemble (1)

A group of percussion instrumentalists 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) 174 Keyboard Ensemble (1)

A group of keyboard instrumentalists 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) 175 String Ensemble (1)

A group of string instrumentalists 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) 176 Symphonic Wind Ensemble (1)

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)

A group of chamber instrumentalists or 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) 181 Lab Band (1)

Prerequisite: The demonstrated competence approved by the instructor. In the Lab Band students study and perform all forms of commercial music, such as jazz, pop, avant-garde, and soul. Student arranging, composing, and conducting is encouraged. This course may be repeated for credit. (3 Lab.)

(MUS) 185 Stage Band (1)

Prerequisite: The demonstrated competence approved by the instructor. In the Stage Band students study and perform a wide variety of music. Emphasis is on the jazz oriented, big-band styles of the 1960's. This may be repeated for credit. (3 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. Laboratory fee. (48 Contact Hours)

(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 his/her 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 artist who work and perform with the group periodically. (3 Lec.)

(MUS) 195 Introduction To Synthesizer (2)

The elements of electronically produced music are studied. Emphasis is on the musical aspects of synthesized sound. Topics include theory, basic waveforms, frequency and frequency modulation, amplitude modulation, envelope generators, filters, white noise, pink noise, and patch programming. (2 Lec.)

(MUS) 196 Business Of Music (3)

The world of the music industry is presented. Panels, guest artists, and consultants discuss careers in the recording and performing fields and retail music business. Publishing, copyrights and other legalities, agents, managers, showmanship, and conducting techniques necessary for small and large ensemble work are included. (3 Lec.)

(MUS) 197 Studio Technology (2)

Prerequisite: Music 190 and Music 191 or demonstrated competence approved by the instructor. This course is an intensive study of the theory of studio, microphone, and multi-track mixdown 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. (48 Contact Hours)

(MUS) 199 Recital (1)

Students of private lessons perform before an audience one period each week. Credit for this course does not apply to the Associates Degree. This course may be repeated for credit. (2 Lab.)

(MUS) 203 Composition (3)

Prerequisite: Music 101 and 102 or demonstrated competence approved by the instructor. This course covers composing in small forms for simple media in both traditional styles and styles of the student's choice. The course may be repeated for credit. (3 Lec.)

(MUS) 204 Guitar Pedagogy (2)

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)

Prerequisite: Music 118 or the equivalent. This course is a continuation of functional keyboard skills, including harmonization, sightreading, 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)

Prerequisite: Music 217 or the equivalent. 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, and other music major and minor courses. It provides private instruction in the area of the student's concentration and consists of two half-hour lessons a week. Fee required. Private music may be repeated for credit. (1 Lec.)

MUSIC CONTINUED

(MUS) 245 Music Theory III (3)

Prerequisite: Music 146. This course is a continuation of the study of music theory. It includes the materials of modulation, larger forms, and thematic development. (3 Lec.)

(MUS) 246 Music Theory IV (3)

Prerequisite: Music 245. 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. (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, and other music major and minor courses. It provides private instruction in the area of the student's major instrument, and consists of two half-hour lessons a week. Fee required. (1 Lec.)

(MUS) 271 Musicianship III (1)

Prerequisite: Music 162. This course relates to topics in Music 245. Aural music skills, including sight-singing, ear training, and keyboard are developed. (3 Lab.)

(MUS) 272 Musicianship IV (1)

Prerequisite: Music 271. This course relates to topics in Music 246. Aural music skills, including sight-singing, ear training, and keyboard are developed. (3 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) 295 Advanced Synthesizer Techniques (2)

This course is limited to students who display promise in synthesizer composition or performance. Two major works are composed for the synthesizer and one for the synthesizer and traditional media. (2 Lec.)

(MUS) 296 Recording Studio Practices (3)

Prerequisite: 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, set-up, and perform in actual recording sessions. Samples for portfolios may be acquired. Laboratory fee. (2 Lec., 3 Lab.)

(MUS) 803, 813 (3)

(See Cooperative Work Experience)

(MUS) 804, 814 (4)

(See Cooperative Work Experience)

NURSING

(NUR) 101 Basic Pharmacology (3)

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 the 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 in Biology 120 or 221 and English 101. Minimum grade of "C" or concurrent enrollment in Biology 121 or 222, Psychology 105 and English 102. This basic nursing course will serve as a foundation on which other 9 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 141, Biology 120 or 221, Biology 121 or 222, English 101, English 102 and Psychology 105. Minimum grade of "C" or 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, surgery, abnormal cell proliferation, impaired nutrition, and maladaptive behavior in all age groups. Selected clinical experiences 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) 240 Nursing III (4)

Prerequisites: Minimum grade of "C" in Nursing 141, 142, Biology 120 or 221, 121 or 222, 216, Psychology 105, 201, and English 101, 102. Minimum grade of "C" in Nursing 250 and Sociology 101 is required for the January admission curriculum plan. This course emphasizes the application of the nursing process to the care of the postpartum patient, patients experiencing crisis, and patients exhibiting severely impaired behavior. Selected clinical experiences include a psychiatric rotation. Nursing 250 precedes Nursing 240 in the January admission curriculum plan. Laboratory fee. (7 Lec., 15 Lab.)

(NUR) 250 Nursing IV (9)

Prerequisites: Minimum grade of "C" in Nursing 141, 142, Biology 120 or 221, 121 or 222, 216, Psychology 105, 201 and English 101, 102. Minimum grade of "C" in Nursing 240 for August admission curriculum plan. Minimum grade of "C" or concurrent enrollment in Sociology 101. This course emphasizes a conceptual approach to care of patients in all age groups with complex health care needs pertaining to immobility, problem 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) 257 Nursing V (10)

10 Prerequisites: Minimum grade of "C" in Nursing 141, 142, 240, 250, Biology 120 or 221, 121 or 222, 216, Psychology 105, 201, English 101, 102, and Sociology 101. Credit or concurrent enrollment in elective above 100 level. This course emphasizes a conceptual approach to care of patients in all age groups with problems of sensory deprivation and overload, severely impaired oxygen exchange, and severe fluid and electrolyte imbalance. The role transition process and current issues affecting the practice of nursing are explored. Selected clinical experiences focus on continued application of the nursing process to a group of patients, stressing independent decision-making. A pharmacology application competency is a required component of the course. Laboratory fee. (5 Lec., 15 Lab.)



OFFICE CAREERS

(INS) 108 Personal And Commercial Auto Insurance (3)

The principles of personal and commercial auto insurance are studied, including the general background of and need for these types of insurance. Terminology and types of coverages are presented. Special emphasis on rating, writing, billing, and servicing automobile insurance. Students develop skills in selling policies and processing claims. All forms used are those prescribed for and approved by the State of Texas. This is a fundamental course for underwriters, agents, claims adjusters, and clerical and technical personnel. (3 Lec.)

(INS) 109 Personal Lines-Homeowners/Fire/Marine (3)

This course is an introduction to the history of and need for homeowners, fire, and marine insurance. Terminology is studied and the fundamentals of coverage are included for all five of the homeowners' forms as well as for fire and marine insurance. Emphasis is on rating, writing, billing, and servicing homeowners, fire, and marine insurance. Students develop skills in selling policies and processing claims. All forms used are those prescribed for and approved by the State of Texas. This is a fundamental course for underwriters, agents, claims adjusters, and clerical and technical personnel. (3 Lec.)

(INS) 110 Commercial Casualty, Workers Compensation, General Liability And Crime (3)

Prerequisites: Office Careers 108 and Office Careers 109 or demonstrated competence approved by the instructor. The basic facts of casualty insurance, worker's compensation, general liability and crime are introduced including its development, policy structures, and provisions of the contracts. Coverage of various worker's compensation laws is presented as well as analysis of policy and rates. The general liability line is examined including manufacturers and contractors; owners, landlords, and tenants; and others. Crime coverage usual to the TMP are examined. The step-by-step procedure for classifying and rating is studied. All forms used are those prescribed for and approved by the State of Texas. This is a fundamental course for underwriters, agents, claims adjusters and clerical and technical personnel. (3 Lec.)

(INS) 111 TMP Commercial Fire/Commercial Marine And Fidelity Bond (3)

Prerequisites: Credit in or concurrent enrollment in Office Careers 110. This course is a study of the principles of TMP, including the history of and need for TMP. Emphasis is on commercial fire, commercial marine and fidelity bond. Terminology and basic coverage are introduced. Multiple line policies available for commercial enterprises are analyzed, including forms, rating methods, and trends. The method of determining fire insurance rates for commercial properties and of eliminating or reducing specific changes are presented. The effect on rates of construction, protective devices, exposures, etc., are covered. Marine and fidelity coverages usual to the TMP are examined. The scope of the coverage, exclusions and classification procedures are studied. All forms used are those prescribed for and approved by the State of Texas. This is a fundamental course for underwriters, agents, claims adjusters, and clerical and technical personnel. (3 Lec.)

(INS) 209 Principles Of Insurance (3)

This course surveys the insurance needs of business and industry. Life, property, and casualty insurance are covered. Emphasis is on a systematic approach to risk management. Topics include credit life insurance, key-person insurance, worker's compensation, and title insurance. Also covered is insurance for property, auto, accounts receivable for property, auto accounts receivable, business interruption, and accident and health, business liability, and bonding. (3 Lec.)

(OFC) 103 Speedwriting Theory (4)

Prerequisite: Credit or concurrent enrollment in Office Careers 172 or one year of typing. 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. (3 Lec., 2 Lab.)

(OFC) 104 Speedwriting Dictation And Transcription (3)

Prerequisites: Office Careers 103, 172 or one year of typing. 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.)

(OFC) 140 Educational Processes (3)

This course surveys educational processes from pre-school through college. Both public and private education is included. Emphasis is on the contribution and influence made by education on the culture and the economy. (3 Lec.)

(OFC) 141 Current Practical Problems (3)

School organization, procedures, and staff utilization are examined. The solution of problems is emphasized. (3 Lec.)

(OFC) 143 Contemporary Topics In Office Careers (1)

Prerequisite: The demonstrated competence approved by the instructor. This course emphasizes current topics of interest in office career fields. Realistic solutions to problems relevant to the needs of industry are presented. This



OFFICE CAREERS CONTINUED

course may be repeated for credit with difference emphasis up to six hours. (1 Lec.)

(OFC) 150 Filing Practices (3)

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) 152 Introduction To Records Management (3)

A survey course in the policies and principles affecting the creation, protection, circulation, retrieval, preservation and control of business and institutional records. The course includes basic classification systems, history and status of records management, retention and disposition of records, maintenance procedures and career ladders. (3 Lec.)

(OFC) 159 Beginning Shorthand (4)

Prerequisites: Credit or concurrent enrollment in Office Careers 172 or one year of typing in high school. 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 office machines. Adding machines, printing calculators, electronic display calculators, and electronic printing calculators are included. Emphasis is on developing the touch system for both speed and accuracy. Laboratory fee. (3 Lec.)

(OFC) 162 Office Procedures (3)

Prerequisite: Office Careers 172 or one year of typing in high school. The duties, responsibilities, and personal qualifications of the office worker are emphasized. Topics include filing, reprographics, mail, telephone, financial transactions, and job applications. (3 Lec.)

(OFC) 166 Intermediate Shorthand (4)

Prerequisites: Office Careers 159 or one year of shorthand in high school, Office Careers 172 or one year of typing in high school. 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. Laboratory fee. (3 Lec., 2 Lab.)

(OFC) 167 Legal Terminology And Transcription (3)

Prerequisite: Completion of Office Careers 173 or typing speed of 50 words per minute. 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 Typewriting (3)

This course is for students with no previous training in typewriting. Fundamental techniques in typewriting are developed. The skills of typing manuscripts, business let-

ters, and tabulations are introduced. Laboratory fee. (2 Lec., 3 Lab.)

(OFC) 173 Intermediate Typing (3)

Prerequisites: Office Careers 172 or one year of typing in high school. 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 Beginning Typing I (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) 177 Beginning Typing II (1)

Prerequisite: Office Careers 176. Practical techniques for business correspondence are developed. Memorandums, personal letters, and business letters are covered. Exercises to increase skill are stressed. (1 Lec.)

(OFC) 178 Beginning Typing III (1)

Prerequisite: Office Careers 176. The typing of manuscripts and tables is emphasized. Production typing is included, and proper report typing is developed. Exercises to increase skill are also included. Laboratory fee. (2 Lab.)

(OFC) 180 Principles Of Word Processing (3)

Prerequisite: Office Careers 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. Laboratory fee. (2 Lec., 3 Lab.)

(OFC) 181 Word Processing Concepts (1)

This course introduces word processing and describes its effect on traditional office operations. An understanding of basic word processing principles, concepts, terminology and advantages of a word processing system is introduced. (1 Lec.)

(OFC) 182 Introduction To Word Processing Equipment (1)

Prerequisites: Office Careers 173 or demonstrated competency approved by the instructor, and Office Careers 181 or concurrent enrollment. This course introduces the fundamental techniques required in the operation of word processing equipment. Basic concepts of electronic storage and retrieval involved in creating, printing, centering and revising documents are introduced. Laboratory fee. (2 Lab.)

(OFC) 185 Basic Machine Transcription (1)

Prerequisite: Office Careers 172. This course introduces the basic equipment, techniques, and skills required to transcribe recorded business information into mailable business letters and other forms of business communication. Emphasis is placed on grammar, punctuation, and

spelling skills required in word processing operations. The use of audio transcription machine is required. (1 Lec., 1 Lab.)

(OFC) 187 Intermediate Shorthand I (2)

Prerequisite: Prior shorthand experience equivalent to Office Careers 159 or one year of shorthand in high school. This course is for students who have a basic knowledge of Gregg Shorthand theory and ability to take dictation at approximately 50 words per minute. The course is a review of selected shorthand phrases, brief forms, word families, and word beginnings and endings. Included are the proper use of basic punctuation, typing format, and simple business letters. (2 Lec.)

(OFC) 188 Intermediate Shorthand II (1)

This course is designed for students who have a sound knowledge of Gregg Shorthand theory and the ability to take dictation at approximately 70-80 words per minute. The course is a review of selected shorthand phrases, brief forms, word families, and word beginnings and endings. The typing of accurate and attractive letters from shorthand notes is emphasized. (1 Lec.)

(OFC) 189 Intermediate Shorthand III (1)

This course is designed for students who have a thorough and complete knowledge of Gregg Shorthand theory and are interested in increasing speed. Special attention is on producing mailable letters within certain time periods. The dictation speed is flexible and depends on student abilities. (2 Lab.)

(OFC) 192 Office Machines I (1)

Business mathematical skills needed to operate office machines are reviewed. Ten-key touch development is introduced. Speed development is incorporated with accuracy requirements. (1 Lec.)

(OFC) 193 Office Machines II (1)

Prerequisite: Office Careers 192. This course covers extensive training on basic office machines. Speed development and business applications are included. (1 Lec.)

(OFC) 194 Office Machines III (1)

Prerequisite: Office Careers 192. Extensive training on basic office machines is continued. Speed development and business applications are stressed. (1 Lec.)

(OFC) 231 Business Communications (3)

Prerequisites: Credit in Office Careers 172 or one year of typing in high school; credit in Communications 131 or 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 is made. (3 Lec.)

(OFC) 250 Records Control (3)

Prerequisite: Office Careers 152. This course includes a comprehensive study and application of the knowledge and skills involved in the control of records and record systems. The course includes the control procedures for the management of routine and unique correspondence, directives, proposals, reports and forms, inventory, scheduling, vital records control, records storage centers, and archives. (3 Lec.)

(OFC) 252 Micrographics (3)

Prerequisites: Office Careers 152. Microform (microfilm, microfiche, jacket, aperture card and COM) selection, recording, retrieval, and reproduction and technologies in an information system are studied. Special emphasis is on micrographic systems, system design, and micrographic standards. (3 Lec.)

(OFC) 256 Office Management (3)

This course focuses on the organization, design, and control of office activities. Topics include office practice, office services, and wage payment plans. The selection, training and supervision of employees are covered. Office planning, organizing, and controlling techniques are presented. Responsibilities of the office manager are also included. (3 Lec.)

(OFC) 266 Advanced Shorthand (4)

Prerequisites: Office Careers 166 or two years of shorthand in high school, Office Careers 174 or two years of typing in high school. 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 time 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)

Prerequisites: Office Careers 173 or typing speed of 50 words per minute; Office Careers 166 or shorthand dictation of 80 words per minute. 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) 275 Secretarial Procedures (3)

Prerequisites: Credit or concurrent enrollment in Office Careers 174, credit or concurrent enrollment in either Office Careers 166 or Office Careers 265. Emphasis is on initiative, creative thinking, and follow-through. Topics include in-basket exercises, decision-making problems, and use of shorthand and transcription skills. Public and personal relations, supervisory principles, business ethics, and the organizing of time and work are also covered. (48 Contact Hours)

(OFC) 282 Word Processing Applications (1)

Prerequisites: Office Careers 180 or 182 and completion of or concurrent enrollment in Office Careers 185. This course is designed for students who have a basic knowledge of word processing equipment. Advanced word processing concepts and machine functions are developed on a specific keyboard. Special emphasis is placed on producing mailable letters and other business communications. May be repeated for credit with the consent of the instructor. Laboratory fee. (2 Lab.)

OFFICE CAREERS CONTINUED

(OFC) 285 Applied Machine Transcription (1)

Prerequisites: Office Careers 180 or 173 and Office Careers 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. (1 Lec., 1 Lab.)

(OFC) 713, 803, 813 (3)

(See Cooperative Work Experience)

(OFC) 714, 804, 814 (4)

(See Cooperative Work Experience)

OPTICAL TECHNOLOGY

(OPT) 101 Ophthalmic Materials (3)

The history and development of glass and plastic are reviewed. Basic optical terminology and ophthalmic lens types are introduced. Lens curvature, powers thickness, and prisms are calculated. Adaptation of lenses in the opticianary and the use of optical charts and graphs are also covered. (3 Lec.)

(OPT) 102 Ophthalmic Grinding And Polishing (3)

The functions of optical lens grinding and lens polishing machines are presented. Computations are made for grinding lenses, and the use of optical tools and gauges is studied. Methods are covered for laying out and marking single vision and multifocal lens blanks. Grinding and polishing spherical and cylindrical surfaces are practiced, and the lens generating machine is operated. Laboratory fee. (2 Lec., 2 Lab.)

(OPT) 103 Optical Lens Design And Measurements (3)

This course covers lens design and the correction of visual deficiencies according to the refractionist's prescription. Topics include spectacle frame measurements and sizes, methods used to prepare lenses prior to edging, neutralization and duplication of lenses by use of the lensometer/vertometer, and optical standards and tolerances. (3 Lec.)

(OPT) 104 Optical Lens And Frame Selection (3)

The preparation of lenses and frames is covered. Laboratory orders are prepared prior to edging lenses. Ophthalmic lenses are neutralized and duplicated by means of the vertometer/lensometer. Spectacle frames and patterns are identified. Proper tools and lens blanks are selected. Hand edging, and fitting spherical lenses into plastic and metal frames are also covered. Laboratory fee. (2 Lec., 2 Lab.)

(OPT) 205 Anatomy And Physiology Of The Eye (3)

The anatomy of the eye and its structures are studied. Included are the lid, cornea, lens, and retina. Also included are refractive errors and their correction, accommodation and convergence, presbyopia and aphakia, common eye diseases, binocular vision, and eye muscle imbalances. (3 Lec.)

(OPT) 206 Introduction To Contact Lenses (3)

The history, theory, and basic design of contact lenses are presented. Fundamental fitting rules and techniques are covered. Fluorescein patterns, evaluation of the fit of contact lenses and the keratometer fitting procedure are also covered. (3 Lec.)

(OPT) 207 Bifocals And Trifocals Lenses (3)

All aspects of bifocals and trifocals lenses are examined. Processes include cutting and fitting of bifocals and trifocals into plastic and metal frames, handling plastic lenses, and drilling and mounting rimless glasses. Reconstructing and neutralizing lenses and glasses to analyze and duplicate unknown eyeglass prescriptions. Laboratory fee. (2 Lec., 2 Lab.)

(OPT) 208 Ophthalmic Laboratory Equipment (3)

Various equipment is introduced and used. Processes include automatic edging and blocking, interpreting and analyzing shop orders, preparing compound lenses, creating prisms through decentration to fit prescription specification, and operation of lens-hardening machines. Minor repairs to frames and temples and soldering of metal frames are also included. Laboratory fee. (2 Lec., 2 Lab.)

(OPT) 209 Ophthalmic Dispensing Ethics (3)

The ethics, practices, and responsibilities of the ophthalmic worker are explored. Topics include the determination of patient needs, prescription analysis, and interpretation of single vision, multifocal and prism lenses. Considerations in making glasses for occupational use are also discussed, and tinted lenses and their uses are included. (3 Lec.)

(OPT) 210 Ophthalmic Fitting (3)

The psychology of dispensing eyewear is discussed. Style and fashion eyewear are included. Visual problems of the aphakic patient are explored. Consideration is given to the effects of illumination, size of type, and working distance on visual performance. (3 Lec.)

(OPT) 211 Optic Principles (3)

This course examines optic principles. Topics include vibrations, properties of waves, wave motion, geometric and physical optics, Hugen's principle, Young's double-slit experiment, and optical instruments. (3 Lec.)

(OPT) 212 Ophthalmic Measurement (3)

Ocular measurements are covered. Included are the uses of various measuring instruments. The principle and techniques of fitting and adjusting spectacles by means of optical pliers and other equipment are also included. Completed spectacles are evaluated for accuracy and quality. Laboratory fee. (2 Lec., 2 Lab.)

(OPT) 213 Dispensing Occupational Eyewear (3)

Dispensing procedures for bifocals and complex prescriptions are studied. Techniques of fitting and adjusting plastic, metal, and rimless spectacles are presented. Occupational eyewear and aids for patients with subnormal vision are also included. Magnifiers, loupes, and projection devices are demonstrated. Laboratory fee. (2 Lec., 2 Lab.)

(OPT) 703, 713 (3)
(See Cooperative Work Experience)

(OPT) 803, 813 (3)
(See Cooperative Work Experience)

OUTBOARD ENGINE

(OE) 115 Outboard Engine Tune-Up (3)

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. (90 Contact Hours)

(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) 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 troubleshooting procedures for outboard engine ignition and charging systems and accessories are covered in this course. Laboratory fee. (120 Contact Hours)

(OE) 723 (3)
(See Cooperative Work Experience)

(OE) 724 (4)
(See Cooperative Work Experience)

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. Basic techniques are developed in pattern grading. 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 girls, junior petite, and junior sizes. Laboratory fee. (2 Lec., 4 Lab.)

(PDD) 254 Pattern Drafting IV (3)

Prerequisite: Pattern Design 153. Techniques are developed for drafting and draping patterns for misses and half-sizes of casual, daytime dresses. Laboratory fee. (2 Lec., 4 Lab.)

(PDD) 255 Pattern Drafting V (3)

Prerequisite: Pattern Design 153. Techniques are developed for drafting and draping patterns for junior sportswear and misses sportswear. Laboratory fee. (2 Lec., 4 Lab.)

(PDD) 256 Pattern Drafting VI (3)

Prerequisite: Pattern Design 153. Techniques are developed for drafting and draping patterns for dressy dresses and lingerie. Laboratory fee. (2 Lec., 4 Lab.)

(PDD) 257 Pattern Drafting VII (3)

Prerequisite: Pattern Design 255. Techniques are developed for drafting and draping patterns for misses and junior tailored garments. Laboratory fee. (2 Lec., 4 Lab.)

(PDD) 812 (2)

(See Cooperative Work Experience)

(PDD) 813 (3)

(See Cooperative Work Experience)

(PDD) 814 (4)

(See Cooperative Work Experience)

PHILOSOPHY

(PHI) 102 Introduction To Philosophy (3)

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) 105 Logic (3)

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)

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)

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)

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.)

PHILOSOPHY CONTINUED

(PHI) 210 Studies In Philosophy (3)

Prerequisite: Three hours of philosophy and the demonstrated competence approved by the instructor. A philosophical problem, movement, or special topic is studied. The course topic changes each semester. This course may be repeated for credit. (3 Lec.)

PHOTOGRAPHY

(PHO) 110 Introduction To Photography And Photo-Journalism (3)

Photography and photo-journalism 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 studied. Laboratory fee. (2 Lec., 4 Lab.)

(PHO) 111 Advanced Photography And Photo-Journalism (3)

Techniques learned in Photography 110 are refined. Emphasis is on photographic communication. Laboratory fee. (2 Lec., 4 Lab.)

(PHO) 120 Commercial Photography I (4)

Commercial or contract photography is studied. Field, studio, and darkroom experience for various kinds of photography is discussed. Included are social photography, portrait and studio photography, fashion and theatrical portfolio, publicity photography, and convention photography. The use of natural, stationary, flash, and strobe artificial lights is covered. Laboratory fee. (3 Lec., 3 Lab.)

(PHO) 121 Commercial Photography II (4)

This course is a continuation of Photography 120. Publicity photography, architectural photography, interior photography, and advertising photography are included. The latest equipment, papers, films, and techniques are explored. Exchanges are made with sample clients, employers, studios, and agencies. Laboratory fee. (3 Lec., 3 Lab.)

(PHO) 207 Photography For Publications (3)

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.)

PHYSICAL EDUCATION

(PEH) 100 Lifetime Sports Activities (1)

Various lifetime sports are offered. Courses offered may include archery, badminton, bowling, golf, handball, racquetball, softball, swimming, tennis, and other sports.

Activities may be offered singularly or in combinations. Instruction is presented at the beginner and advanced-beginner levels. Both men and women participate. This course may be repeated for credit when students select different activities. Laboratory fee. (3 Lab.)

(PEH) 101 Fundamentals Of Health (3)

This course is for students majoring or minoring in physical education or having other specific interest. Personal health and community health are studied. Emphasis is on the causes of mental and physical health and disease transmission and prevention. (3 Lec.)

(PEH) 104 Touch Football/Soccer (1)

Touch football and soccer are taught and played. Emphasis is on skill development. A uniform is required. Laboratory fee. (3 Lab.)

(PEH) 108 Social Recreation (3)

The methods and materials for social activities for different age groups are introduced. Planning, organizing, and conducting the activities are included. (3 Lec.)

(PEH) 109 Outdoor Recreation (3)

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)

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) 111 Beginning Wrestling (1)

The fundamentals, techniques, rules, and strategy of wrestling are presented. Emphasis is also on spectator appreciation. A uniform is required. Laboratory fee. (3 Lab.)

(PEH) 112 Beginning Softball And Soccer (1)

Basic softball and soccer skills, rules and strategies are taught. Class tournaments are conducted. 24 class hours are devoted to each activity. Laboratory fee. (3 Lab.)

(PEH) 113 Beginning Handball And Racquetball (1)

Basic handball and racquetball skills, rules and strategies are taught and class tournaments are conducted. 24 class hours are devoted to each activity. Laboratory fee. (3 Lab.)

(PEH) 114 Beginning Badminton (1)

The history, rules, and skills of badminton are taught. A uniform is required. Laboratory fee. (3 Lab.)

(PEH) 115 Physical Fitness (1)

The student's physical condition is assessed. A program of exercise for life is prescribed. Much of the course work is carried on in the physical performance laboratory. A uniform is required. This course may be repeated for credit. Laboratory fee. (3 Lab.)

(PEH) 116 Intramural Athletics (1)

Intramural competition in a variety of activities is offered for men and women. A uniform is required. This course may be repeated for credit. Laboratory fee. (3 Lab.)

(PEH) 117 Beginning Archery (1)

Basic skills, rules and strategies of archery are taught. Equipment is furnished. Laboratory fee. (3 Lab.)

(PEH) 118 Beginning Golf (1)

Basic skills, rules and strategies of golf are taught. Equipment is furnished. Laboratory fee. (3 Lab.)

(PEH) 119 Beginning Tennis (1)

This course is designed for the beginner. Tennis fundamentals are taught and played. A uniform is required. Laboratory fee. (3 Lab.)

(PEH) 120 Beginning Bowling (1)

Basic skills, rules and strategy of bowling are taught. All equipment is furnished at an off campus bowling lane. Laboratory fee. (3 Lab.)

(PEH) 121 Folk Dance (1)

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)

Beginning gymnastics is offered. Emphasis is on basic skills in tumbling and in the various apparatus events. A uniform is required. Laboratory fee. (3 Lab.)

(PEH) 123 Beginning Swimming (1)

This course teaches a non-swimmer to survive in the water. A uniform is required. Laboratory fee. (2 Lab.)

(PEH) 124 Social Dance (1)

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 reel, square dance, and other dances. Laboratory fee. (3 Lab.)

(PEH) 125 Conditioning Exercise (1)

This course focuses on understanding exercise and its effect on the body. Physical fitness is improved through a variety of conditioning activities. A uniform is required. Laboratory fee. (3 Lab.)

(PEH) 126 Aerobic Dance (1)

This is a dance class which rhythmically combines dance movement with walking, jogging, and jumping to cause sustained vigorous combination of steps, geared to raise the heart rate to a proper target zone for conditioning purposes. Each routine can be danced at different intensities, depending on the physical condition of each participant. A uniform is required. This course may be repeated for credit. Laboratory fee. (3 Lab.)

(PEH) 127 Beginning Basketball And Volleyball (1)

Basic basketball and volleyball rules, skills and strategies are taught and class tournaments are conducted. Sections using men's rules and women's rules may be offered separately. 24 class hours will be devoted to each sport. Laboratory fee. (3 Lab.)

(PEH) 128 Social And Folk Dance (1)

Social and folk dance is introduced. Laboratory fee. (3 Lab.)

(PEH) 129 Modern Dance (1)

This beginning course is designed to emphasize basic dance technique, including body alignment and placement, floor work, locomotor patterns, and creative movements. A uniform is required. Laboratory fee. (3 Lab.)

(PEH) 130 Beginning Tumbling And Trampoline (1)

Basic skills and techniques involved in tumbling and trampolining are taught. 24 class hours will be devoted to each activity. Laboratory fee. (3 Lab.)

(PEH) 131 Weight Training And Conditioning (1)

Instruction and training in weight training and conditioning techniques are offered. A uniform is required. The course may be repeated for credit. Laboratory fee. (3 Lab.)

(PEH) 132 Self-Defense (1)

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. (3 Lab.)

(PEH) 134 Outdoor Education (1)

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) 144 Introduction To Physical Education (3)

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) 147 Sports Officiating I (3)

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)

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) 200 Lifetime Sports Activities II (1)

This course is a continuation of Physical Education 100. Students participate in selected activities. Instruction is at the intermediate and intermediate/advanced levels. This course may be repeated for credit. Laboratory fee. (3 Lab.)

(PEH) 210 Sports Appreciation For The Spectator (3)

This course is for students who desire a broader knowledge of major and minor sports. The rules, terminology, and philosophies of many sports are studied. Special emphasis is on football and basketball. (3 Lec.)

PHYSICAL EDUCATION CONTINUED

(PEH) 217 Intermediate Archery (1)

This course is for the student who has previous experience in archery. Target shooting and field archery are emphasized. The student must furnish equipment. Laboratory fee. (3 Lab.)

(PEH) 218 Intermediate Golf (1)

Prerequisite: The demonstrated competence approved by the instructor. Skills and techniques in golf are developed beyond the "beginner" stage. Green fee paid by student. Laboratory fee. (2 Lab.)

(PEH) 219 Intermediate Tennis (1)

Prerequisite: The demonstrated competence approved by the instructor. Skills and techniques in tennis are developed beyond the "beginner" stage. A uniform is required. Laboratory fee. (3 Lab.)

(PEH) 222 Intermediate Gymnastics (1)

Prerequisite: Physical Education 122. Skills and techniques in gymnastics are developed beyond the "beginner" stage. A uniform is required. Laboratory fee. (3 Lab.)

(PEH) 223 Intermediate Swimming (1)

Prerequisite: Beginning swim certificate or deep water swimmer. This course advances the swimmer's skills. Stroke analysis, refinement, and endurance are emphasized. A uniform is required. Laboratory fee. (2 Lab.)

(PEH) 225 Skin and Scuba Diving (2)

Prerequisite: Physical Education 223 or demonstrated competence approved by the instructor. This course includes the use of equipment, safety, physiology, and open water diving. All equipment is supplied except mask, fins, and snorkel. The student may rent needed equipment at the time of registration. Students completing course requirements receive certification as basic scuba divers from the Professional Association of Diving Instructors (PADI) or the National Association of Underwater Instructors (NAUI) or the Young Men's Christian Association (YMCA). Laboratory fee. (1 Lec., 2 Lab.)

(PEH) 226 Advanced Life Saving (1)

Prerequisite: Physical Education 223 or deep water swim ability. This course qualifies students for the Red Cross Advanced Lifesaving Certificate. A uniform is required. Laboratory fee. (2 Lab.)

(PEH) 231 Intermediate Weight Training (1)

Prerequisite: Physical Education 131. Skills and instruction in weight training techniques are developed beyond the beginner stage. This course may be repeated for credit. Laboratory fee. (3 Lab.)

(PEH) 232 Intermediate Self Defense (1)

Prerequisite: Physical Education 132 or the demonstrated competence approved by the instructor. Students will be introduced to intermediate forms of defense and combination of self defense methods. Emphasis is on practical application of self defense movements. Laboratory fee. (3 Lab.)

(PEH) 233 Jogging For Fitness (1)

Development and improvement of physical fitness through jogging is emphasized. Fitness concepts and jogging skills will be introduced. Laboratory fee. (3 Lab.)

(PEH) 234 Water Safety Instructor (2)

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) 236 The Coaching Of Football And Basketball (3)

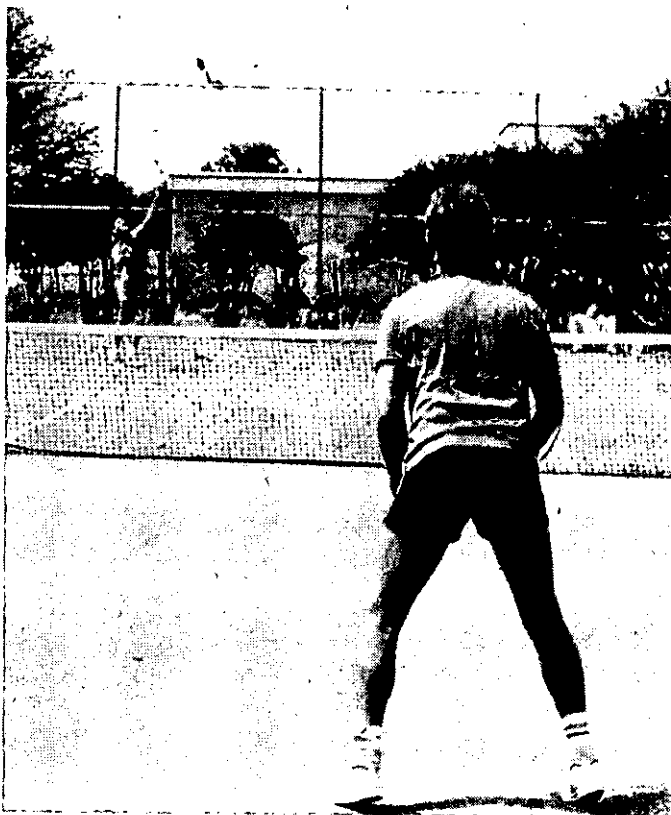
The skills and techniques of coaching football and basketball are presented. Included are the history, theories, philosophies, rules, terminology, and finer points of the sports. Emphasis is on coaching techniques. (2 Lec., 2 Lab.)

(PEH) 238 Aquatics (2)

The techniques and procedures of selected water-related activities are studied. The use of the activities in recreation programs is included. Pool management, staff training, safety, and supervision of aquatics are also included. (1 Lec., 2 Lab.)

(PEH) 257 Advanced First Aid And Emergency Care (3)

The Advanced First Aid and Emergency Care course of the American Red Cross is taught, presenting both theory and practice. Various aspects of safety education also are included. (3 Lec.)



PHYSICAL SCIENCE

(PSC) 118 Physical Science (4)

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)

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. Laboratory fee. (3 Lec., 3 Lab.)

PHYSICS

(PHY) 110 Introductory Photographic Science (4)

Prerequisites: Photography 110, Art 113, or demonstrated competence approved by the instructor, and access to a camera with variable speed and aperture. This course introduces the physical and chemical principles which form the basis for photographic technology. Topics covered include the production of light, its measurement and control, principles of optics and the formation of images, the basic chemistry of black and white and color processes, film structure and characteristics, filter characteristics, lasers, and holography. Laboratory fee. (3 Lec. 3 Lab.)

(PHY) 111 Introductory General Physics (4)

Prerequisite: Two years of high school algebra, including trigonometry, or the equivalent. This course is for pre-dental, biology, pre-medical, 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)

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)

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 world-wide energy production are examined. Laboratory fee. (3 Lec., 3 Lab.)

(PHY) 118 Concepts In Physics (4)

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)

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)

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.)

(PHY) 203 Introduction To Modern Physics (4)

Prerequisite: Physics 202. The principles of relativity, atomic physics, and nuclear physics are covered. Emphasis is on basic concepts, problem-solving, notation, and units. 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)

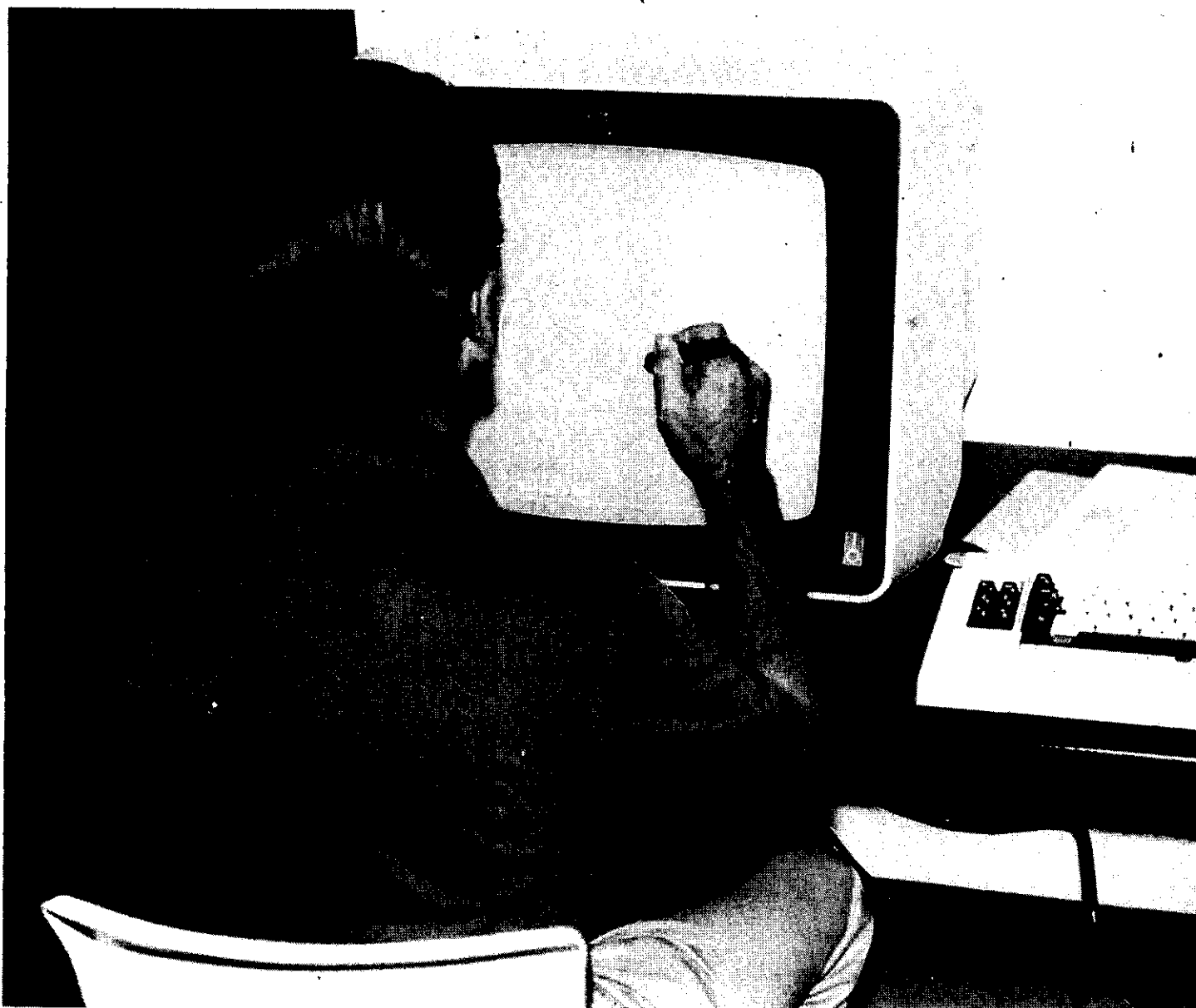
Through discussion of mail processing and transportation procedures of the U.S. Postal Service, this course will provide the student with an in-depth view of flow characteristics involved in movement of mail from sender to recipient. The course will also include a study of the systems devised to attain 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 Equal Employment Opportunity Act, the development of labor unions, national and local agreements, grievance procedures and disciplinary action procedures. An opportunity for practical application of Postal Service and management theories as system analysis, problem solving grids and other tools of management decision making to the solution of Postal Service problems is provided. (3 Lec.)



PRECISION OPTICS TECHNOLOGY

(POP) 101 Introduction To Precision Optics Technology (3)

This course introduces the student to the precision optics industry. The student examines the impact of precision optics in our present day society and studies the terminology, types of optical materials, basic optical systems, and processing technology. (3 Lec.)

(POP) 102 Precision Optics Machining I (3)

Skills required for milling, blocking, core drilling, generating and sawing precision optical elements are identified and developed. Classroom instruction and actual machine operation are included. Laboratory fee. (2 Lec., 2 Lab.)

(POP) 103 Precision Optics Machining II (3)

Prerequisite: Previous completion or concurrent enrollment in Precision Optics Technology 102 or the equivalent. This course is a continuation of Precision Optics Machining I. Skill development for pell grinding, loose abrasive grinding, polishing and edging operations are included. Laboratory fee. (2 Lec., 2 Lab.)

(POP) 104 Industrial Shop Safety (3)

This course is designed to develop a safety awareness, good safety attitudes and the ability to detect unsafe conditions and practices. The course covers materials handling and storage, industrial housekeeping, personal protective equipment, machines and power tools, fire prevention and first aid. (3 Lec.)

(POP) 105 Precision Optics Machining III (3)

Prerequisite: Precision Optics Technology 103 or the equivalent. This course is a continuation of Optical Machining I & II advancing into the theory involved in each fabrication operation. The course also covers the methods and tooling required for the different lens types. Laboratory fee. (2 Lec., 2 Lab.)

(POP) 106 Thin Film Optical Coatings (4)

This course includes principles and applications of thin film coatings emphasizing fundamental concepts, notation, machine operation, and clean room requirements. Laboratory fee. (3 Lec., 3 Lab.)

(POP) 107 Precision Optics Handling And Cleaning (2)

This course is designed to give the student a full understanding of the handling and cleaning of optical elements throughout the entire fabrication process. The hardness and stain factor of each glass type, cleaning processes for both fabrication and coating, symbolization, equipment usage and packaging are included. Laboratory fee. (1 Lec., 3 Lab.)

(POP) 201 Basic Precision Optics Theory (3)

This course includes basic theory of lens design, properties of waves and wave motion, refraction and reflection, Hugen's principle, and a functional understanding of optical instrument design. (3 Lec.)

(POP) 203 Precision Optics Quality Control (3)

The function of a standard quality control organization with a detailed look into the sampling and reporting requirements

to insure quality standards is covered. The student gains a working knowledge of the required equipment and quality specification standards employed throughout the optical industry. (3 Lec.)

(POP) 204 Precision Optics Assembly (3)

This course is a study of the basic principles and concepts of precision optical assembly. The student gains the theory and skills necessary to use the tooling and equipment to set and bond the various optical elements. Laboratory fee. (2 Lec., 2 Lab.)

(POP) 205 Advanced Precision Optics Processes (3)

This course includes an intensive study in advanced optical fabrication and coating processes dealing with exotic glass materials and ultra high precision optical elements. Laboratory fee. (2 Lec., 2 Lab.)

(POP) 703 (3)

(See Cooperative Work Experience)

PSYCHOLOGY

(PSY) 103 Human Sexuality (3)

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) 105 Introduction To Psychology (3)

Principles of human behavior and problems of human experience are presented. Topics include heredity and environment, the nervous system, motivation, learning, emotions, thinking, and intelligence. (This course is offered on campus and may be offered via television.) (3 Lec.)

(PSY) 131 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)

Prerequisite: Psychology 105. 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. (This course is offered on campus and may be offered via television.) (3 Lec.)

(PSY) 202 Applied Psychology (3)

Prerequisite: Psychology 105. 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)

Prerequisite: Psychology 105. Important factors of successful human adjustment such as child/parent relationships, adolescence, anxiety states, defense mechanisms, and psychotherapeutic concepts are considered. Methods of personality measurement are also included. (3 Lec.)

PSYCHOLOGY CONTINUED

(PSY) 207 Social Psychology (3)

Prerequisite: Psychology 105 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.)

(PSY) 210 Selected Topics In Psychology (3)

Prerequisite: Psychology 105. An elective course designed to deal with specific topics in psychology. Examples of topics might include "adult development," "adolescent psychology," and "behavioral research." Course may be repeated once for credit. (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 Non-Destructive 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.)

RADIOLOGIC SCIENCES

(DMS) 200 Ultrasound Orientation I (2)

Prerequisite: Minimum grade of "C" or better in all previous Radiologic Sciences and support courses. This course introduces the student to the study of the application and limitations of diagnostic medical sonography examinations. Topics will include basic ultrasound terminology, and an orientation to an ultrasound department. Students will participate in field trips to affiliated hospital ultrasound departments. (3 Lec., 3 Lab.)

(DMS) 202 Film Evaluation Seminar I (1)

Prerequisite: Minimum grade of "C" or better in all previous Radiologic Sciences and support courses. This course is designed to familiarize the student with recorded images of an ultrasound examination. A comparison between ultrasound examination and other modalities of imaging will be carried out. (2 Lec.)

(DMS) 203 Ultrasound Orientation II (2)

Prerequisite: Minimum grade of "C" or better in all previous Radiologic Sciences and support courses. This course is a continuation of Radiologic Sciences 201, with emphasis on the practices and procedures commonly found in a modern day ultrasound department. (3 Lec., 3 Lab.)

(DMS) 204 Film Evaluation Seminar II (1)

Prerequisite: Minimum grade of "C" or better in all previous Radiologic Sciences and support courses. This course is a continuation of Radiologic Sciences 202, with the discussion focused on the variety of examinations carried out by ultrasound. Identification of body parts on a recorded image of ultrasound will be demonstrated and practiced. (2 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) 212 Cross Section Anatomy (4)

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, and vascular system as it relates to ultrasound examination. Laboratory fee. (3 Lec.)

(DMS) 213 Ultrasound Science I (3)

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. (3 Lec.)

(DMS) 214 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 anatomy, and patient history and laboratory data as it relates to sonographic examination are the focus of this course. (3 Lec., 3 Lab.)

(DMS) 221 Instrumentation/Standardization (4)

Prerequisite: Minimum grade of "C" or better in all previous Radiologic Sciences 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 real time units, (B) scan units and echo-cardiographic units. Operations and calibration of an ultrasound unit will also be discussed. (3 Lec., 2 Lab.)

(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) 223 Clinical Medicine II (4)

Prerequisite: Minimum grade of "C" or better in all previous Radiologic Sciences courses. This is a continuation of Radiologic Sciences 214, with emphasis on the male and female pelvis, obstetrics, and cardiovascular system. (3 Lec., 2 Lab.)

(DMS) 224 Clinical Education I (6)

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. (25 Lab.)

(DMS) 231 Clinical Education II (4)

Prerequisite: Minimum grade of "C" or better in all previous Radiologic Sciences courses. This is a continuation of Radiologic Sciences 224. Students will be assigned to affiliated hospital ultrasound departments. (32 Lab.)

(DMS) 236 Clinical Medicine III (2)

Prerequisite: Minimum grade of "C" or better in all previous Radiologic Sciences courses. This is a continuation of Radiologic Sciences 231, with emphasis on the neonatal head. (3 Lec., 2 Lab.)

(DMS) 238 Clinical Education III (4)

Prerequisite: Minimum grade of "C" or better in all previous Radiologic Sciences courses. This is a continuation of Radiologic Sciences 231. Students will be assigned to affiliated hospital ultrasound departments. (32 Lab.)

(DMS) 239 Clinical Medicine IV (2)

Prerequisite: Minimum grade of "C" or better in all previous Radiologic Sciences courses. This course is a continuation of Radiologic Sciences 238, with emphasis placed on review of adult abdominal organ systems. (3 Lec., 2 Lab.)

(NMT) 220 Nuclear Medicine Physics (5)

Prerequisite: Minimum grade of "C" or better in all previous Radiologic Sciences courses. This course provides an introduction to nuclear medicine physics. Atomic theory,



radiation safety, radiation detection instruments, and imaging devices are some of the topics discussed. Techniques are demonstrated in laboratory sessions. (4 Lec., 4 Lab.)

(NMT) 224 Clinical Nuclear Medicine (4)

Prerequisite: Minimum grade of "C" or better in all previous Radiologic Sciences courses. This course provides an introduction to the history of nuclear medicine and basic theory and methodology of diagnostic nuclear medicine procedures. Techniques are demonstrated in laboratory sessions. (3 Lec., 4 Lab.)

(NMT) 226 Radiochemistry-Pharmacy I (3)

Prerequisite: Minimum grade of "C" or better in all previous Radiologic Sciences courses. An introduction to the vitro nuclear medicine laboratory is presented. Emphasis is placed on radiopharmaceutical preparations and radiochemistry. Techniques are demonstrated in laboratory sessions. (2 Lec., 4 Lab.)

(NMT) 229 Nuclear Medicine Practicum I (2)

Prerequisite: Minimum grade of "C" or better in all previous Radiologic Sciences courses. This course provides the student with supervised clinical experience in nuclear medicine. Students are assigned to participating affiliated hospitals. (7 Lab.)

(NMT) 232 Radiochemistry-Pharmacy II (3)

Prerequisite: Minimum grade of "C" or better in all previous Radiologic Sciences courses. In vitro nuclear medicine techniques are continued with emphasis on radiochemistry-pharmacy. Techniques are demonstrated in laboratory sessions. (2 Lec., 4 Lab.)

(NMT) 234 Radiation Therapy (1)

Prerequisite: Minimum grade of "C" or better in all previous Radiologic Sciences courses. This course provides instruction in such topics as the therapeutic uses of radionuclides, health physics, and radiation safety. (1 Lec.)

(NMT) 235 Nuclear Medicine Practicum II (4)

Prerequisite: Minimum grade of "C" or better in all previous Radiologic Sciences courses. This course is a continuation of Nuclear Medicine Practicum I that provides the students with supervised clinical experiences in nuclear medicine. (16 Lab.)

RADIOLOGIC SCIENCES CONTINUED

(NMT) 237 Nuclear Medicine Seminar (1)

Prerequisite: Minimum grade of "C" or better in all previous Radiologic Sciences courses. Clinical experiences that have been encountered in the nuclear medicine internship are discussed. (1 Lec.)

(NMT) 241 Nuclear Medicine Internship (4)

Prerequisite: Minimum grade of "C" or better in all previous Radiologic Sciences courses. In this course, students receive clinical nuclear medicine experience at affiliated hospitals. (32 Lab.)

(RAD) 101 Introduction To Radiologic Sciences I (3)

Prerequisite: Admission to the Radiologic Sciences program and concurrent enrollment in Biology 120, Math 139, or High Level Non-Business Math, English 101, and Human Development 105. This course is designed to introduce the student to various career opportunities within the field of Radiologic Sciences, including nuclear medicine, radiation therapy, diagnostic medical sonography and diagnostic radiography. Patient care skills and medical ethics, pertinent to Radiologic Sciences, will be discussed. (2 Lec., 4 Lab.)

(RAD) 102 Introduction To Radiologic Sciences II (3)

Prerequisites: Minimum grade of "C" or better in all previous Radiologic Sciences and support courses, and concurrent enrollment in Biology 121, Physics 118, English 102, and Computer Science 175. This course is a continuation of Radiologic Sciences 102, and provides the student with an introduction to medical terminology. Continuation of patient care skills, an orientation to affiliated hospital radiology departments, and demonstration and observation of radiologic skills in the laboratory setting will be presented. Students will become certified in basic cardiopulmonary resuscitation. (2 Lec., 2 Lab.)

(RAD) 103 Radiographic Positioning And Osteology I (2)

Prerequisite: 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)

Prerequisite: 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)

Prerequisite: 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) 109 Radiation Protection (1)

Prerequisite: Minimum grade 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. Laboratory fee. (2 Lec., 2 Lab.)

(RAD) 111 Radiographic Positioning And Osteology II (2)

Prerequisite: Minimum grade of "C" or better in all previous Radiologic Sciences courses. This 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, lower extremities, and pelvic girdle. Laboratory fee. (4 Lec., 4 Lab.)

(RAD) 113 Principles Of Radiographic Exposure II (1)

Prerequisite: 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)

Prerequisites: 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) 117 Radiation Biology (1)

Prerequisite: Minimum grade of "C" or better in all previous Radiologic Sciences and support courses. This course provides 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. (3 Lec.)

(RAD) 201 Clinical Education I (6)

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) 205 Principles Of Radiographic Exposure III (4)

Prerequisite: 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. (3 Lec., 1 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 and facial bones. Laboratory fee. (2 Lec., 3 Lab.)

(RAD) 207 Clinical Education II (8)

Prerequisite: Minimum grade of "C" or better in all previous Radiologic Sciences courses. This is a continuation of Radiologic Sciences 201. Students will be assigned to an affiliated hospital radiology department. (32 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) 211 Special Procedures (2)

Prerequisite: Minimum grade of "C" or better in all previous Radiologic Sciences courses. This course focuses on the study of those procedures not considered common to the diagnostic radiology department. An introduction to highly specialized equipment, contrast media, and radiographic projections that are pertinent to invasive special procedures is presented. (2 Lec.)

(RAD) 215 Clinical Education III (Externship) (5)

Prerequisite: Minimum grade of "C" or better in all previous Radiologic Sciences courses. This course is a continuation of Radiologic Sciences 207. Students will be assigned to an affiliated hospital radiology department. (40 Lab.)

(RAD) 217 Clinical Education IV (Externship) (5)

Prerequisite: Minimum grade of "C" or better in all previous Radiologic Sciences courses. This course is a continuation of Radiologic Sciences 215. Students will be assigned to an affiliated hospital radiology department. (40 Lab.)

(RTT) 240 Technical Radiation Therapy (2)

Prerequisite: Minimum grade of "C" or better in all previous Radiologic Sciences courses. This course provides an introduction to the therapeutic techniques and equipment used in radiation therapy. (2 Lec.)

(RTT) 242 Radiation Oncology I (2)

Prerequisite: Minimum grade of "C" or better in all previous Radiologic Sciences courses. This course provides discussion on such topics as specific target organ anatomy and physiology, pathology and staging, treatment planning, and dosimetry. (2 Lec.)

(RTT) 244 Radiation Oncology II (2)

Prerequisite: Minimum grade of "C" or better in all previous Radiologic Sciences courses. This course is a continuing study of Radiation Oncology, emphasizing specific and staging, treatment planning and dosimetry. (2 Lec.)

(RTT) 247 Brachy Therapy (1)

Prerequisite: Minimum grade of "C" or better in all previous

Radiologic Sciences courses. This course provides instruction in the theory and techniques of Brachy Therapy. (1 Lec.)

(RTT) 248 Radiation Therapy Practicum I (8)

Prerequisite: Minimum grade of "C" or better in all previous Radiologic Sciences courses. This course provides the student with supervised clinical experience in radiation therapy. Students are assigned to participating affiliated hospitals. (32 Lab.)

(RTT) 249 Radiation Therapy Practicum II (8)

Prerequisite: Minimum grade of "C" or better in all previous Radiologic Sciences courses. This course is a continuation of Radiation Therapy Practicum I, providing the student with supervised clinical experience in radiation therapy. (32 Lab.)

(RTT) 251 Radiation Oncology III (1)

Prerequisite: Minimum grade of "C" or better in all previous Radiologic Sciences courses. This course is a continuing study in radiation oncology, emphasizing specific target organ anatomy and physiology, staging, treatment planning, and dosimetry. (2 Lec.)

(RTT) 253 Radiation Physics (4)

Prerequisite: Minimum grade of "C" or better in all previous Radiologic Sciences courses. This course provides discussion on topics such as radiation therapy equipment, circuits, equipment calibration, and theory of radiation physics. (4 Lec.)

(RTT) 255 Radiation Therapy Practicum III (4)

Prerequisite: Minimum grade of "C" or better in all previous Radiologic Sciences courses. This course is a continuation of Radiologic Sciences 249 and will provide the student with supervised clinical experience in Radiation Therapy. (32 Lab.)

READING

(RD) 101 Effective College Reading (3)

Comprehension techniques for reading fiction and nonfiction are presented. Critical reading skills are addressed. Analysis, critique, and evaluation of written material are included. Reading comprehension and flexibility of reading rate are stressed. Advanced learning techniques are developed in listening, note-taking, underlining, concentrating, and reading specialized academic areas. (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

REAL ESTATE CONTINUED

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 acts, 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 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) 135 Real Estate Appraisal (3)

Prerequisites: Real Estate 130 and 131 or the equivalent. This course focuses on principles and methods of appraising. Topics include central purposes and functions of an appraisal, social and economic determinant 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) 230 Real Estate Office Management (3)

Prerequisites: Real Estate 130, 131, 133, 135, and 136 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)

Prerequisites: Real Estate 130, 131, 135 or demonstrated competence approved by the instructor. Topics include real estate investment characteristics, techniques of investment analysis, time-valued money, discounted and non-discounted investment criteria, leverage, tax shelters depreciation, and applications to property tax. (3 Lec.)

(RE) 235 Property Management (3)

Prerequisites: Real Estate 130, 131, and 136 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) 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 3 hours of credit. (16 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 6 hours of credit. (3 Lec.)

(RE) 250 Real Estate Internship I (4)

Prerequisites: Real Estate 130, 131, and 133 and concurrent enrollment in Real Estate 254. Also, the student must submit an application to the instructor, be interviewed, and be approved prior to registration. This course provides practical work experience in the field of real estate. Principles and skills learned in other courses are applied. The employer/sponsor and a member of the real estate faculty provide supervision. job-related studies and independent research are emphasized. (20 Lab.)

(RE) 251 Real Estate Internship II (4)

Prerequisites: Real Estate 130, 131, and 133 and concurrent enrollment in Real Estate 255. Also, the student must submit an application to the instructor, be interviewed, and be approved prior to registration. This course is a continuation of Real Estate 250. (20 Lab.)

(RE) 254 Real Estate Seminar I (2)

Prerequisites: Real Estate 130, 131, and 133 and concurrent enrollment in Real Estate 250. Preliminary interview by real estate faculty is required. This course is for students majoring in real estate. A particular area or problem beyond the scope of regularly offered courses is studied. Problems are analyzed, and projects are developed. (2 Lec.)

(RE) 255 Real Estate Seminar II (2)

Prerequisites: Real Estate 130, 131, and 133 and concurrent enrollment in Real Estate 251. Preliminary interview by real estate faculty is required. Business strategy and the decision-making process are applied to trends in the real estate profession. Emphasis is on the use of the intern's course knowledge and work experiences. (2 Lec.)

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 characteristic 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) 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 THERAPY

(RES) 135 Applied Pharmacology (3)

Prerequisite: Minimum grade of "C" or better in Physical Science 118 or Chemistry 115, Respiratory Therapy 137, and Respiratory Therapy 151. This course provides instruction in the identification, classification, dosage and dilution calculation, and principle side effects of inhalational and non-inhalational cardio-respiratory medications. (3 Lec.)

(RES) 137 Basic Respiratory Therapy Skills And Procedures I (4)

Prerequisite: Admission to the Respiratory Therapy Program and concurrent enrollment in Biology 123 or 120, or 221, Physical Science 118 or Chemistry 115 or 101. Basic respiratory therapy skills are described, demonstrated, then practiced in the laboratory and hospital clinical setting. Equipment function and maintenance and patient response to therapy are discussed. Therapeutic procedures are generally limited to the noncritical patient. Laboratory fee. (3 Lec., 6 Lab.)

(RES) 138 Clinical Practice II (4)

Prerequisite: "C" or better in all Respiratory Therapy courses. Practice in procedures related to cleaning and sterilization, periodic positive therapy, humidity and aerosol therapy, and chest physiotherapy is provided. (16 Lab.)

(RES) 145 Basic Technology (4)

Prerequisite: Minimum grade of "C" or better in all previous Respiratory Therapy courses. This course provides instruction in specific details of design and function of respiratory therapy equipment, routine maintenance procedures, and detection and correction of malfunction. It also provides practice in adapting, applying, and modifying equipment in the patient care situation. Laboratory fee.

(RES) 151 Pathology And Treatment Rationale (3)

Prerequisite: Admission to the Respiratory Therapy Program. This course focuses on the normal anatomy and physiology of the human lung, and deviation from normal in specific pulmonary diseases. Selection of appropriate therapy and assessment of the effect of therapy on specific disease states are emphasized. (3 Lec.)

(RES) 153 Respiratory Therapy Skills And Procedures II (6)

Prerequisite: Minimum grade of "C" or better in all previous Respiratory Therapy courses. This course is a continuation of Respiratory Therapy 137. Specific details of the design and function of respiratory therapy equipment are discussed. An emphasis is placed on periodic therapeutic procedures. These procedures will be demonstrated and practiced in the laboratory and clinical setting. Laboratory fee. (3 Lec., 12 Lab.)

(RES) 154 Pharmacology (3)

Prerequisites: Minimum grade of "C" or better in all previous Respiratory Therapy courses and Chemistry 101 or 115, Biology 120 or 221. This course introduces the student to the fundamental principles and practices of Respiratory Therapy Pharmacology. Identification, classification, dosage calculation, and principle effects and side effects of cardiopulmonary drugs are discussed. (3 Lec.)

(RES) 156 Respiratory Therapy Skills And Procedures III (4)

Prerequisite: Minimum grade of "C" or better in all previous Respiratory Therapy courses. This course is a continuation of Respiratory Therapy 153, 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. (3 Lec., 22 Lab.)

(RES) 158 Respiratory Therapy Skills And Procedures IV (5)

Prerequisite: Minimum grade of "C" or better in all previous Respiratory Therapy courses. This course is a continuation of Respiratory Therapy 156 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. (6 Lec., 16 Lab.)

(RES) 160 Clinical Practice III (3)

Prerequisite: "C" or better in all previous Respiratory Therapy courses. This course is a continuation of Clinical Practice II with introduction to continuous ventilation. (24 Lab.)

(RES) 162 Clinical Practice IV (4)

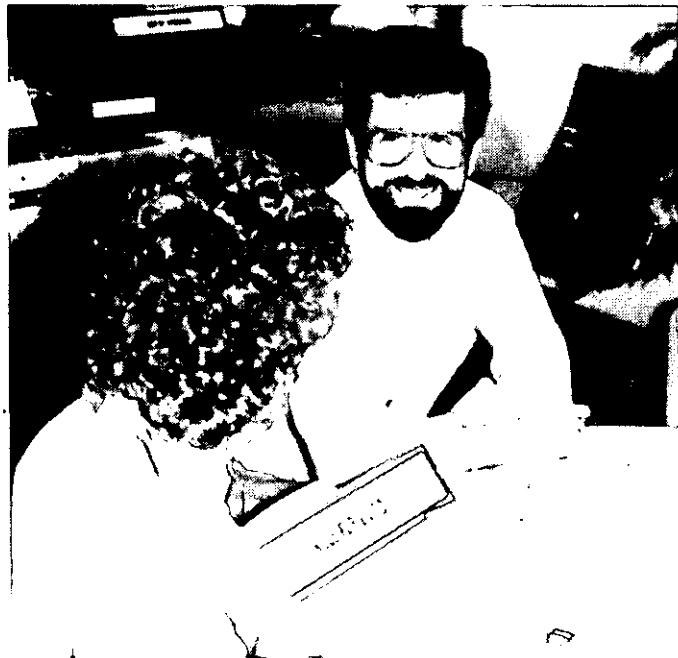
Prerequisite: "C" or better in all Respiratory Therapy courses. Continued practice in respiratory therapy procedures with emphasis on continuous ventilation and pediatric and neonatal therapy is provided. (32 Lab.)

(RES) 164 Basic Technology (3)

Prerequisite: Minimum grade of "C" or better in all previous Respiratory Therapy courses. A continuation of Basic Technology I with emphasis on continuous ventilation and volume ventilators. Laboratory fee.

(RES) 243 Pulmonary Function (3)

Prerequisite: Minimum grade of "C" or better in all previous Respiratory Therapy courses. This course provides instruction in measurement of spirometry, pulmonary mechanics, lung volumes, and airway resistance. Emphasis is on equipment operation, testing techniques, data collections and interpretation. Laboratory fee. (2 Lec., 3 Lab.)



(RES) 254 Instruction And Management Methods I (1)

Prerequisite: "C" or better in all previous Respiratory Therapy courses. This course is designed to give the potential therapist direction and practice in education of co-workers, physicians, patients, families of patients, and departmental trainees or students. Laboratory fee. (1 Lec., 1 Lab.)

(RES) 255 Instruction And Management Methods II (1)

Prerequisite: "C" or better in all previous Respiratory Therapy courses. This course is designed to provide the potential therapist with instruction, discussion, and practice in problem-solving related to respiratory therapy department operations. Laboratory fee. (1 Lec., 1 Lab.)

(RES) 257 Advanced Physiology And Pathology (3)

Prerequisite: "C" or better in all previous Respiratory Therapy courses. This course provides an in-depth study of disease states related to cardiopulmonary function and the application and interpretation of related diagnostic, evaluative, and therapeutic procedures. (3 Lec.)

(RES) 261 Critical Care Clinical Procedures (4)

Prerequisites: Minimum grade of "C" or better in all previous Respiratory Therapy courses and concurrent enrollment in Respiratory Therapy 243, 263, and 257. This course is designed to give the student clinical experience in assuming total responsibility for continuous ventilator patients, monitoring, airway care, and weaning are all included. Students participate in preoperative evaluation, observation of surgery, and post-operative management of thoracic surgery patients. (16 Lab.)

(RES) 263 Advanced Pharmacology (2)

Prerequisite: Minimum grade of "C" or better in all previous Respiratory Therapy courses. This course is designed to introduce the student to pharmacologic agents which have a secondary effect on the cardiopulmonary system. Emphasis is placed on drugs not administered by inhalational methods. (2 Lec.)

(RES) 264 Special Clinical Procedures (4)

Prerequisites: Minimum grade of "C" or better in all previous Respiratory Therapy courses, and concurrent enrollment in Respiratory Therapy 271 and 265. This course will provide clinical experience in pulmonary rehabilitation, pediatric and neonatal respiratory care, and intensive care. Students will be assigned to affiliated hospitals. (16 Lab.)

(RES) 265 Pulmonary Rehabilitation (5)

Prerequisites: Minimum grade of "C" or better in all previous Respiratory Therapy courses, or the demonstrated competence approved by the Program Coordinator. This course focuses on the rehabilitation of a patient with pulmonary disease. Breathing retraining, exercise programs, and behavior modification are discussed. Laboratory fee. (4 Lec., 3 Lab.)

(RES) 271 Pediatric Respiratory Therapy (2)

Prerequisite: "C" or better in all previous Respiratory Therapy courses. This course provides an in-depth study of fetal lung development and the cardiopulmonary disorders associated with neonates and pediatric patients. (2 Lec.)

SMALL ENGINE

(SE) 125 Small Engine Tune-Up (3)

This course includes the tune-up procedures for small engines including ignition service and carburetion theory and service. Laboratory fee. (90 Contact Hours)

(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) 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 (3)

(See Cooperative Work Experience)

(SE) 734 (4)

(See Cooperative Work Experience)

SOCIAL SCIENCE

(SS) 131 American Civilization (3)

Theories and institutions of modern society are introduced. Psychological, historical, socioculture, political, and economic factors are considered. The nature of the human being and the relationships of the individual are examined. Emphasis is on the national, state, and local experiences which affect daily life. (3 Lec.)

(SS) 132 American Civilization (3)

Prerequisite: Social Science 131. Topical Studies are made of the theories and institutions of modern society. Psychological, historical, sociocultural, political, and economic factors are all considered. Emphasis is on analyzing and applying theory to life experiences. (3 Lec.)

SOCIOLOGY

(SOC) 101 Introduction To Sociology (3)

This course is a study of the nature of society and the foundations of group life. Topics include institutions, social change, processes, and problems. (3 Lec.)

(SOC) 102 Social Problems (3)

This course is a study of social problems which typically include: crime, poverty, minorities, deviancy, population, and health care. Specific topics may vary from semester to semester to address contemporary concerns. (3 Lec.)

(SOC) 103 Human Sexuality (3)

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)

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)

Prerequisite: Sociology 101 or 6 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) 205 Introduction To Social Research (3)

Prerequisite: Sociology 101, Developmental Mathematics 091, or the equivalent. Principles and procedures in social research are presented. Topics include sources of data, techniques of collection, analysis, and statistical description. (3 Lec.)

(SOC) 206 Introduction To Social Work (3)

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)

Students may register for either Psychology 207 or Sociology 207 but may receive credit for 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)

Prerequisite: Sociology 101 or demonstrated competence approved by the instructor. This is an elective course designed to deal with specific topics in sociology. Examples of topics might be: "urban sociology," "women in society," or "living with divorce." As the topics change, this course may be repeated once for credit. (3 Lec.)

(SOC) 210 Field Studies In American Minorities (3)

Prerequisite: Sociology 101 or Sociology 204. Experience is provided in Indian, Black, and Mexican-American 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)

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)

Prerequisite: Spanish 101 or the equivalent. 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)

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)

Prerequisite: Spanish 201 or the equivalent. This course is a continuation of Spanish 201. Contemporary literature and composition are studied. (3 Lec.)

(SPA) 203 Introduction To Spanish Literature (3)

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)

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.)



SPEECH

(SPE) 100 Speech Laboratory (1)

This course focuses on preparing speeches, reading dialogue from literature, and debating propositions. Presentations are made throughout the community. This course may be repeated for credit each semester. (3 Lab.)

(SPE) 105 Fundamentals Of Public Speaking (3)

Public speaking is introduced. Topics include the principles of reasoning, audience analysis, collection of materials, and outlining. Emphasis is on giving well prepared speeches. (3 Lec.)

(SPE) 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. The mechanics of speech are studied. Emphasis is on improving voice and pronunciation. (3 Lec.)

(SPE) 110 Forensic Workshop (1)

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.)

(SPE) 201 Forensic Workshop (1)

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.)

(SPE) 205 Discussion And Debate (3)

Public discussion and argumentation are studied. Both theories and techniques are covered. Emphasis is on evaluation, analysis, and logical thinking. (3 Lec.)

(SPE) 206 Oral Interpretation (3)

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.)

(SPE) 208 Group Interpretation (3)

Prerequisite: Speech 105 and 206. 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 the group performance of the literature. Although not an acting class, practical experience in sharing selections from fiction and non-fiction with audiences will be offered. (3 Lec.)

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 Operating Room 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 is presented. Laboratory fee. (6 Lec., 10 Lab.)

(SGT) 152 Operating Room Procedures (8)

Prerequisites: A 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, medication, instrumentation, and complications related to selected surgical procedures. Laboratory fee. (4 Lec., 20 Lab.)

(SGT) 153 Clinical Procedures (7)

Prerequisites: A grade of "C" in Surgical Technology 140, 141, and 152 and successful completion of curriculum requirements. 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) 154 Seminar (2)

Prerequisites: A grade of "C" in Surgical Technology 140, 141, and 152 and successful completion of curriculum requirements. This course is a study of special problems which correlate with the individual needs of students during clinical practice. Continuing education is discussed in this seminar. (2 Lec.)

(SGT) 155 Operating Room 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) 160 Operating Room Procedures For Registered Nurses (8)

Prerequisites: A 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 post-operative visitation and in complications of surgery are presented. (4 Lec., 20 Lab.)

THEATRE

(THE) 100 Rehearsal And Performance (1)

Prerequisite: To enroll in this course, a student must be accepted as a member of the cast or crew of a major production. Participation in the class will include the rehearsal and performance of the current theatrical presentation of the division. This course may be repeated for credit. (4 Lab.)

(THE) 101 Introduction To The Theatre (3)

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 and cinema as art forms. The historical background and traditions of each form are included. Emphasis is on understanding the social, cultural, and aesthetic significance of each form. A number of modern plays are read, and selected films are viewed. (3 Lec.)

(THE) 103 Stagecraft I (3)

The technical aspects of play production are studied. Topics include set design and construction, stage lighting, makeup, costuming, and related areas. (2 Lec., 3 Lab.)

(THE) 104 Stagecraft II (3)

Prerequisite: Theatre 103 or demonstrated competence approved by the instructor. This course is a continuation of theatre 103. Emphasis is on individual projects in set and lighting design and construction. The technical aspects of play production are explored further. (2 Lec., 3 Lab.)

(THE) 105 Make-Up For The Stage (3)

The craft of make-up is explored. Both theory and practice are included. Laboratory fee. (3 Lec.)

(THE) 106 Acting I (3)

The theory of acting and various exercises are presented. Body control, voice, pantomime, interpretation, characterization, and stage movement are included. Both individual and group activities are used. Specific roles are analyzed and studied for stage presentation. (2 Lec., 3 Lab.)

(THE) 107 Acting II (3)

Prerequisite: Theatre 106 or demonstrated competence approved by the instructor. This course is a continuation of Theatre 106. Emphasis is on complex characterization, ensemble acting, stylized acting, and acting in period plays. (2 Lec., 3 Lab.)

(THE) 108 Movement For The Stage (3)

Movement is studied as both a pure form and as a part of the theatre arts. It is also presented as a technique to control balance, rhythm, strength, and flexibility. Movement in all the theatrical forms and in the development of characterization is explored. This course may be repeated for credit. (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)

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)

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)

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)

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) 115 Mime (2)

Prerequisite: Theatre 108. Mime is studied. Both the expressive significance and techniques of mime are included. (1 Lec., 2 Lab.)

(THE) 199 Demonstration Lab (1)

This course provides practice before a live audience of theory learned in theatre classes. Scenes studied in various drama classes are used to show contrast and different perspectives. 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) 203 Broadcasting Communications I (3)

The nature and practice of broadcasting are covered. Basic techniques of radio and television studio operations are introduced. (3 Lec., 2 Lab.)

(THE) 204 Broadcasting Communications II (3)

This course is a continuation of Theatre 203. Emphasis is on radio and television as mass media and practical applications in both radio and television. (3 Lec., 2 Lab.)

(THE) 205 Scene Study I (3)

Prerequisite: Theatre 106 and 107. This is a continuation of Theatre 107. Emphasis is on developing dramatic action through detailed study of the script. Students deal with stylistic problems presented by the staging of period plays and the development of realism. Rehearsals are used to prepare for scene work. (2 Lec., 3 Lab.)

THEATRE CONTINUED

(THE) 207 Scene Study II (3)

Prerequisite: Theatre 205. This course is a continuation of Theatre 205. Emphasis is on individual needs of the performer. Rehearsals are used to prepare for scene work. (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 groundplans, vertical sections, construction elevations, and spider perspective. (2 Lec., 3 Lab.)

(THE) 209 Lighting Design (3)

Prerequisite: Theatre 103 and 104. The design and techniques of lighting are covered. Practical experience in departmental productions is required for one semester. (2 Lec., 3 Lab.)

(THE) 235 Costume History (3)

Fashion costume and social customs are examined. The Egyptian, Greek, Roman, Gothic, Elizabethan, Victorian, and Modern periods are included. (3 Lec.)

TRAINING PARAPROFESSIONALS FOR THE DEAF

(TPD) 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.)

(TPD) 141 Beginning Sign Language (4)

Sign language and fingerspelling are introduced. Practice and experience in developing expressive and receptive skills are provided. Emphasis is on mastering expressive skills. Laboratory fee. (3 Lec., 2 Lab.)

(TPD) 143 Intermediate Sign Language (4)

Prerequisite: Training Paraprofessionals for the Deaf 141. 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.)

(TPD) 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.)

(TPD) 147 Language Development Of The Deaf (3)

The language development of deaf persons is studied. The period from infancy to adulthood is included. The importance of family, community, and school relationships is stressed. Various methods and materials used in developing language are presented. An overview of learning theory and normal language acquisition is also included. (3 Lec.)

(TPD) 148 Receptive Fingerspelling (1)

Prerequisites: Training Paraprofessionals for the Deaf 141 or concurrent enrollment in Training Paraprofessionals for

the Deaf 141. This course increases the student's ability to read fingerspelling. Video tapes are used to demonstrate fingerspelling--starting with two-letter words and progressing to words of several syllables. These words are presented individually as well as in sentences. (2 Lab.)

(TPD) 149 Classroom Management For The Interpreter/Aide (4)

This course will emphasize management of the classroom through techniques of behavior modifications and training in interpersonal relationships. It will include defining the role of the teacher aide and the teacher aide/interpreter in the classroom. An overview of all types of media will be presented with emphasis on specialized classroom use of media for the deaf. The course will also cover the uses of auditory equipment with the deaf and training in techniques of using hearing aids and materials to enable the deaf to respond meaningfully to their environments. (3 Lec., 3 Lab.)

(TPD) 230 Interpreting: Ethics And Specifics (4)

Prerequisite: Training Paraprofessionals for the Deaf 143 or demonstrated competence approved by the instructor. This class focuses on interpreter protocol, i.e., manner of dress, code of ethics, 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., 2 Lab.)

(TPD) 240 Advanced Sign Language (4)

Prerequisite: Training Paraprofessionals for the Deaf 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.)



(TPD) 247 Special Problems In Deafness (3)

Prerequisite: The demonstrated competence approved by the instructor. Various topics are studied as demand warrants. Examples include residential care, introduction to rehabilitation, and the deaf/blind. This course may be repeated for credit when topics vary. (3 Lec.)

(TPD) 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.)

(TPD) 250 Interpreting: Sign To Voice (3)

Prerequisite: Training Paraprofessionals for the Deaf 240. This course is designed for the advanced sign language student. Reverse skills are developed and practiced through the use of video tapes (ranging from manual English to Ameslan), audio tapes and live subjects. (3 Lec.)

(TPD) 251 Educational/Specialized Signs (4)

Prerequisites: Training Paraprofessionals for the Deaf 141, 142, 143 and 240. This course provides students with knowledge of specialized signs, particularly educational signs. Other contents covered are medical, sexual, legal, drug related and religious. Additional content areas are explored as needed. Laboratory fee. (3 Lec., 2 Lab.)

(TPD) 252 Interpreting: Voice To Sign (4)

Prerequisite: Training Paraprofessionals for the Deaf 240. Students will acquire theoretical information pertaining to the expressive aspect of interpreting. Students will interpret in class by using audio tapes and live speakers. Each student's vocabulary/sign choice and performance will be analyzed and recommendations made of improvement of delivery. Laboratory fee. (3 Lec., 2 Lab.)

(TPD) 802 (2)

(See Cooperative Work Experience)

(TPD) 803 (3)

(See Cooperative Work Experience)

(TPD) 803, 813 (3)

(See Cooperative Work Experience)

(TPD) 804 (4)

(See Cooperative Work Experience)

TRANSPORTATION TECHNOLOGY**(TRT) 144 Introduction To Transportation (3)**

This course is an overview of specialized fields within the transportation industry. The role of transportation in modern society is identified. Other topics include community needs, the philosophy of transportation, and the future of transportation. (3 Lec.)

(TRT) 145 Introduction To Rates And Tariffs (3)

Special emphasis is placed on present-day transportation modes, carrier pricing systems documentation, and federal and state regulation policies. (3 Lec.)

(TRT) 146 Transportation And Traffic Management (3)

This course is for students majoring in transportation technology. It emphasizes current transportation methods. Included are carrier services, carrier pricing systems, documentation, carrier liability, claims, import and export procedures, and governmental regulations. The course is designed to prepare students to take the certification examinations of the American Society of Traffic and Transportation. (3 Lec.)

(TRT) 147 Economics Of Transportation (3)

Prerequisite: Transportation Technology 146. The economic significance of transportation is studied. Topics include the rationale of pricing, the economics of regulation, subsidies and coordination, and interagency control. This course is designed to prepare students to take the certification examinations of the American Society of Traffic and Transportation. (3 Lec.)

(TRT) 148 Government Policies In Transportation (3)

Federal, state, and local government roles and policies in transportation are explored. Included are policy making, subsidy, taxation, and controls. (3 Lec.)

(TRT) 240 Interstate Commerce Law I (3)

Prerequisite: Transportation Technology 147. Principles of transportation regulation are studied. Topics include the framework of regulation, regulatory acts, and administrative agencies. The regulatory policies of the Interstate Commerce Commission, the Civil Aeronautics Board, and the Federal Maritime Commission are also included. This course is designed to prepare students to take the certifying examinations of the American Society of Traffic and Transportation and the Interstate Commerce Commission. (3 Lec.)

(TRT) 241 Interstate Commerce Law II (3)

Prerequisite: Transportation Technology 240. Rules and regulations covering the practice and procedure of federal agencies are studied. The agencies include the Interstate Commerce Commission, the Civil Aeronautics Board, and the Federal Maritime Administration. Pleadings, rules of evidence, rules of ethics, and judicial review are covered. This course is designed to prepare students to take the certifying examinations of the American Society of Traffic and Transportation and the Interstate Commerce Commission. (3 Lec.)

(TRT) 249 Applied Rates And Tariffs (3)

Prerequisite: Transportation Technology 145. This course is an analytical study of transportation pricing structures. Special emphasis is given to the methodology for construction of carrier tariffs, the development of freight rates, and special services provided by carriers. This course is designed to develop skills leading to certification examinations of The American Society of Traffic and Transportation. (3 Lec.)

(TRT) 250 Studies In Transportation Technology (1)

This course provides the student an opportunity to explore selected topics in the field of transportation. The course may be repeated with a different emphasis for a maximum of nine hours of credit. (1 Lec.)

(TRT) 287 Physical Distribution Management I (3)

The management and organization of physical distribution

TRANSPORTATION TECHNOLOGY CONTINUED

are studied. Emphasis is on decision-making in inventory control warehousing, packaging, and material handling. The analysis of location and international distribution and transport systems are also covered. (3 Lec.)

(TRT) 288 Physical Distribution II (3)

Relationships in the management of physical distribution and the market are studied. Topics include market environment, distribution channels and systems, cost planning and analysis, financial control, and system design. (3 Lec.)

(TRT) 713, 803, 813 (3)

(See Cooperative Work Experience)

VIDEO TECHNOLOGY

(VFT) 102 Contemporary Trends in Video Production (1)

This course provides opportunities for students to interact with video professionals on a variety of topics related to trends in the video industry including the job market, new production techniques and equipment, local shooting, and problems in the industry. Students are responsible for reading a wide variety of trade publications, making oral and written reports, and discussing major issues with authorities in the industry. (1 Lec.)

(VFT) 104 Video Software and Equipment Theory (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., 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) 108 Video Sound and Lighting I (3)

This course covers the basics in sound and lighting theory and design. The process of recording is covered from microphone selection and placement to the use of editing and mixing equipment in multitrack audio recordings. Lighting is covered from both film and video production techniques. Theory and application of instruments in studio and field production will be a regular part of student assignments. Laboratory fee. (2 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) 114 Video Engineering I (3)

Prerequisite: Video Technology 104. 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) 202 Video Production II (5)

Prerequisite: Video Technology 106, 110, and 114. 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 production 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. Laboratory fee. (3 Lec., 6 Lab.)

(VFT) 204 Video Engineering II (3)

Prerequisite: Video Technology 114. This course carries forward the concepts taught in Video Technology 114 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) 206 Video Sound and Lighting II (3)

Prerequisite: Video Technology 108. Application of sound recording techniques and lighting applications to location and studio recording is emphasized in this class. Advanced study in original recording quality, mixing, and editing of sound for influence and expression in a variety of program formats are stressed. Lighting applications to create mood, depth, special effects, and used of special lighting instruments, software, and hardware are demonstrated and applied. Laboratory fee. (2 Lec., 4 Lab.)

(VFT) 210 Video Production IV (4)

Prerequisite: Video Technology 202. Students produce a variety of final projects demonstrating mastery of field and studio competence. The process of developing a video portfolio for use in 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) 212 Video Editing and Post Production II (4)

Prerequisite: Video Technology 202 and 112. This course provides 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., 8 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) 216 Acting and Talent Management (2)

This elective course is designed to allow the production generalist the opportunity to study the art of obtaining a crew and casting talent, including searching, interviewing, selecting, and management. The various aspects of each area will be reviewed in terms of preproduction, production, and post production management of people and product. (3 Lec.)

(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 the 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) 222 Video Engineering III (3)

Prerequisite: Video Technology 204. This course is designed to provide students opportunities in advanced bench repair and maintenance of video equipment. The course deals primarily with the theory and application of video diagnostic test equipment such as video analyzers, oscilloscopes, multimeters, sync generators, frequency counters, and other pieces of equipment in adjusting video heads, sync, modulation, blanking, amplitude, deflection, convergence, chroma phasing, white balance, tube and board replacement, and a variety of other engineer related activities. Laboratory fee. (2 Lec., 4 Lab.)

(VFT) 224 Advanced Camera and Field Production/Techniques (3)

Prerequisite: Video Technology 202. This course deals with location production work and the problems encountered in shooting in adverse conditions. The use of creative camera techniques is stressed along with advanced projects in field assignments that will expand the students

ability to use ingenuity and resourcefulness in developing sets, weatherproof shooting conditions, outdoor natural lighting, capture natural sound effects, and use close-up, normal, telephoto and special lens applications. 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) 228 Video Animation, Art, and Design (3)

Prerequisite: Video Technology 106 and 112. This course provides the basic concepts in the practice of animation, art selection, and visual design of production graphics. Included are computer graphic design techniques, lettering for video, character generation, titling, and film animation. Laboratory fee. (2 Lec., 4 Lab.)

(VFT) 230 Video Sound and Lighting III (3)

Prerequisite: Video Technology 206. This course is designed to prepare students in the area of advanced sound and lighting problems. Students must demonstrate use of multiple lighting instruments of a variety of sizes, types, and capacities in providing dramatic lighting of sets while providing power consumption and supply needs. Students will also be required to demonstrate advanced skills in multiple track audio recording and mix-down techniques. 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) 713, 803, 813 (3)

(See Cooperative Work Experience)

(VFT) 714, 804, 814 (4)

(See Cooperative Work Experience)





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 the course. (3 Lec.)

(VN) 150 Clinical II (8)

Prerequisite: Completion of Vocational Nursing 147, 148 with a grade of "C" or better. Must be concurrently enrolled in Vocational Nursing 155. 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. (28 Lab.)

(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)

Prerequisite: Completion of Vocational Nursing 144, 145, 152 and all support courses with 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) 154 Maternal Child Health Clinical (7)

Prerequisites: Completion of Vocational Nursing 144, 145,

152 and all support courses with grade of "C" or better. Must be concurrently enrolled in Vocational Nursing 153. This course provides clinical experiences focusing on normal prenatal, labor and delivery, post partum, 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. (28 Lab.)

(VN) 155 Nursing Process II (10)

Prerequisites: Completion of Vocational Nursing 153, 154 with grade of "C" or better. 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., 4 Lab.)

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. (1 Lec., 5 Lab.)

(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 gives 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 set-up and usage of semi-automatic and manual cutting equipment. Laboratory fee. (60 Contact Hours)

(WE) 113 Shielded Metal Arc Welding I (2)

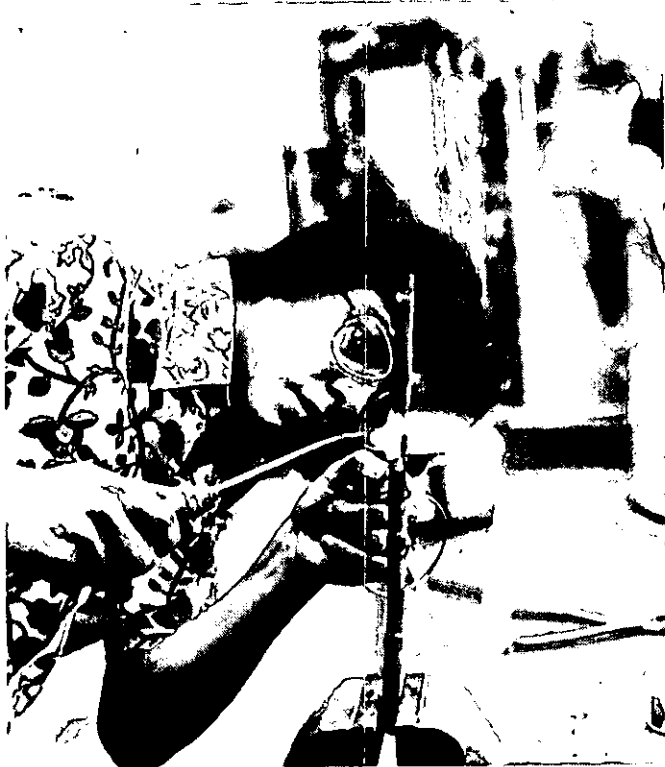
This course gives both theory and practice in the identification and usage of shielded metal arc welding electrodes. Laboratory work includes the use of E60 and E70 series including low hydrogen electrodes primarily in the flat and horizontal position. Laboratory fee. (60 Contact Hours)

(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 set-up 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 the-



ory and practice in code quality welding. Laboratory work includes passing standard test 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: Drafting 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 drawings 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 a 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) 200 Automation And Robotics I (4)

Prerequisites: Welding 219, six credit hours of welding lab courses and Computer Science 174 or the equivalent. Concepts in product design and part layout specifications, in automation and robotic manufacturing, are included in both theory and laboratory exercises. Laboratory fee. (120 Contact Hours)

(WE) 210 Automation And Robotics II (4)

Prerequisite: Welding Engineering 200. This course provides advanced theory and practices in the use of welding automation and robotics for manufacturing. Lab work includes layout and setup of an automatic robotic fabrication system. Laboratory fee. (120 Contact Hours)

(WE) 211 Gas Tungsten Arc Welding I (2)

This course gives both theory and practice in the set-up and use of gas-tungsten arc welding of plate. Laboratory work will include setting up and using 18 guage 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 set-up 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 set-up 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 guage 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 set-up 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)

Prerequisite: Welding 217 and six credit hours of welding lab courses. This course is designed to assist the student

WELDING CONTINUED

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 students 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) 701, 711, 801, 811 (1)

(See Cooperative Work Experience)

(WE) 702, 712, 802, 812 (2)

(See Cooperative Work Experience)

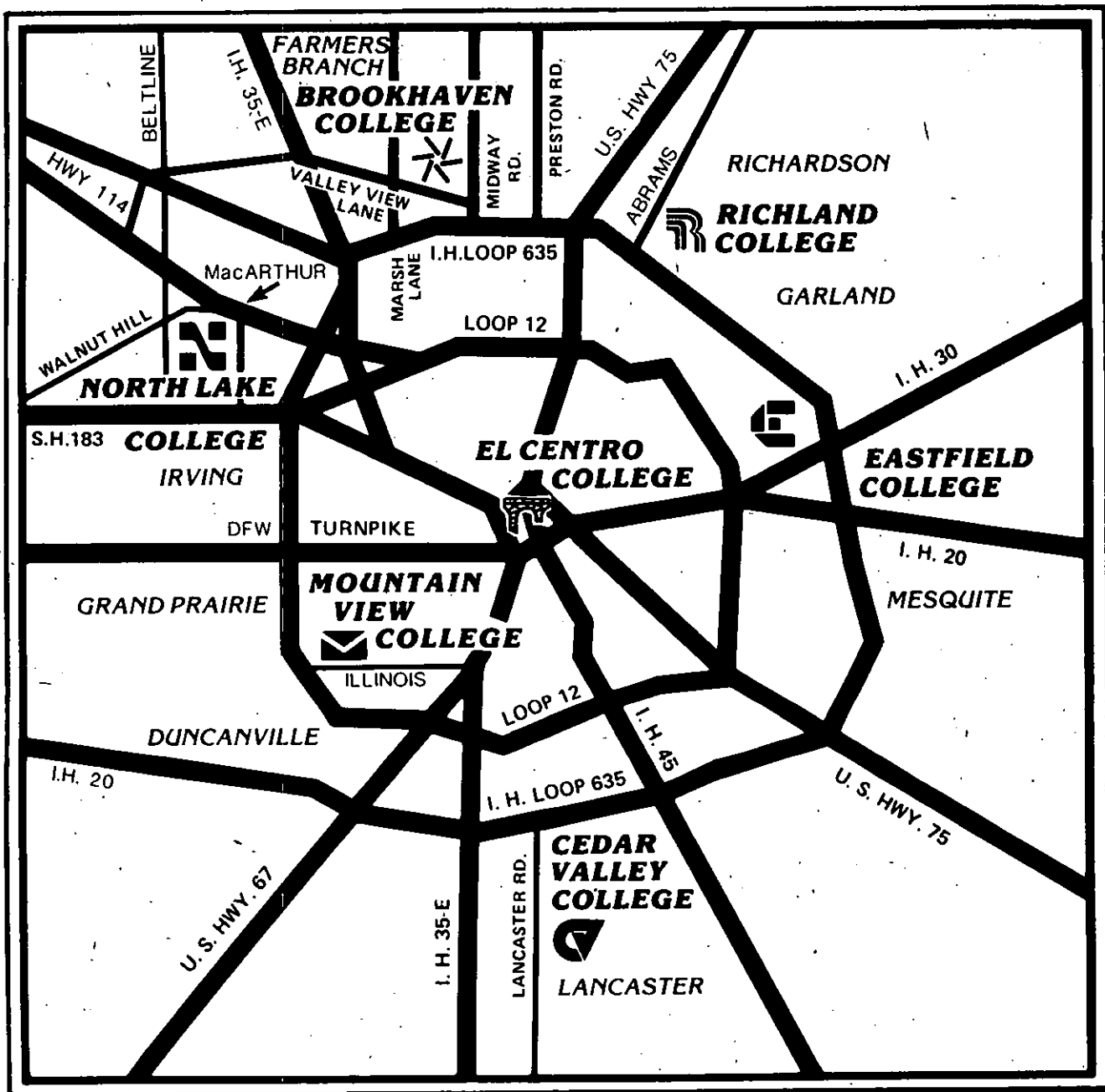
(WE) 703, 713, 803, 813 (3)

(See Cooperative Work Experience)

(WE) 704, 714, 804, 814 (4)

(See Cooperative Work Experience)





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