All blank pages have been removed from this document.
## 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 19**  Faculty Reports
- **August 20-22**  Registration Period (varies by campus)
- **August 23**  Faculty Professional Development
- **August 23**  Friday Only Classes Begin
- **August 24**  Saturday Classes Begin
- **August 26**  Classes Begin
- **September 2**  Labor Day Holiday
- **September 6**  12th Class Day
- **November 28**  Thanksgiving Holidays Begin
- **December 2**  Classes Resume
- **December 5**  Last Day to Withdraw with "W"
- **December 13**  Last Day of Classes
- **December 13**  Final Exams for Friday Only Classes
- **December 14**  Final Exams for Saturday Classes
- **December 16-19**  Final Exams
- **December 19**  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 8**  Last Day to Withdraw with "W"
**April 16**  Last Day of Classes
**May 16**  Final Exams for Friday Only Classes
**May 17**  Final Exams for Saturday Classes
**May 19-22**  Final Exams
**May 22**  Graduation
**May 22**  Semester Closes

#### Summer Sessions, 1986

**First Summer Session:** (Based on 4 day class week)
- **May 26**  Memorial Day Holiday
- **May 27**  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 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 160 minutes since they only meet 15 times in Spring, 1986**
Dallas County Community College District
Board of Trustees

Dallas County Community College District Administrators

Chancellor .................................................. R. Jan LeCroy
Vice Chancellor of Business Affairs .................... Ted B. Hughes
Vice Chancellor of Educational Affairs ............... Jack Stone
Assistant Chancellor of Planning and Development Affairs ......................... Bill Tucker
Assistant to the Chancellor ............................... Jackie Caswell
Director of Development ................................ Carole Shlipak
Legal Counsel ............................................. Robert Young
Special Assistant to the Chancellor ..................... Nancy Armes
Director of Business Services ............................ Robb Dean
Director of Career & Continuing Education ............... Ted Martinez
Director of Computer Services ............................ Jim Hill
Director of Educational Resources ........................ Rodger Pool
Director of Facilities Management ....................... Edward Bogard
Director of Personnel Services and Development .......... Barbara K. Corvey
Director of Planning, Research and Evaluation .......... Colin Shaw
Director of Public Information ................................ Claudia Robinson
Director of Purchasing .................................. Mavis Williams
Director of Resource Development ............................ Bonny Franke-Hill
Director of Student Programs ................................ Richard McCrary
Director of Technical Services ............................. Paul Dumont

Jerry Gilmore
Chairman

Robert Bettis
Vice Chairman

Don Buchholz

J. D. Hall

Kenneth M. Pace

Pattie T. Powell

James W. Smith

R. Jan LeCroy
Chancellor
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
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.

### NORTH LAKE COLLEGE ADMINISTRATION

<table>
<thead>
<tr>
<th>Position</th>
<th>Name</th>
<th>Phone</th>
</tr>
</thead>
<tbody>
<tr>
<td>President</td>
<td>James F. Horton, Jr.</td>
<td>659-5229</td>
</tr>
<tr>
<td>Vice President of Instruction</td>
<td>Glen L. Bounds</td>
<td>659-5240</td>
</tr>
<tr>
<td>Vice President of Student Development</td>
<td>Margaret Lewis</td>
<td>659-5242</td>
</tr>
<tr>
<td>Vice President of Business Services</td>
<td>Mike Howard</td>
<td>659-5235</td>
</tr>
<tr>
<td>Assistant to the President</td>
<td>Walter H. Bowie</td>
<td>659-5363</td>
</tr>
<tr>
<td>Asso. Dean of Technical/Occupational Programs</td>
<td>Clifton Weaver</td>
<td>659-5233</td>
</tr>
<tr>
<td>Dean of Continuing Education</td>
<td>Robert Bolin</td>
<td>659-5204</td>
</tr>
<tr>
<td>Assistant Director, Continuing Education</td>
<td>Nancy Kinsey</td>
<td>659-5203</td>
</tr>
<tr>
<td>Dean, Learning Resources Center</td>
<td>Jim Picquet</td>
<td>659-5340</td>
</tr>
<tr>
<td>Director of Admissions and Registration</td>
<td>Stephen Twenge</td>
<td>659-5220</td>
</tr>
<tr>
<td>Director, Center for Independent Study</td>
<td>Pat Feldman</td>
<td>659-5279</td>
</tr>
<tr>
<td>Director of Cooperative Education</td>
<td>Shirley Farrow</td>
<td>659-5370</td>
</tr>
<tr>
<td>Director of Financial Aid</td>
<td>Paul Chapman</td>
<td>659-5273</td>
</tr>
<tr>
<td>Director of Public Information</td>
<td>David A. Wright</td>
<td>659-5307</td>
</tr>
<tr>
<td>Director of Student Programs and Resources</td>
<td>Sharon Beauchamp</td>
<td>659-5237</td>
</tr>
<tr>
<td>Director of Special Needs Program</td>
<td>Mary Ciminelli</td>
<td>659-5209</td>
</tr>
<tr>
<td>Director, Health Center</td>
<td>Karen Iannucilli</td>
<td>659-5358</td>
</tr>
<tr>
<td>Natatorium Director</td>
<td>Jean Blair</td>
<td>634-0319</td>
</tr>
<tr>
<td>Director, Diesel Truck Training Center</td>
<td>Charlie Brannan</td>
<td></td>
</tr>
</tbody>
</table>

### DIVISION CHAIRPERSONS

<table>
<thead>
<tr>
<th>Division</th>
<th>Name</th>
<th>Phone</th>
</tr>
</thead>
<tbody>
<tr>
<td>Business and Management</td>
<td>Gary Bacon</td>
<td>659-5290</td>
</tr>
<tr>
<td>Communications and Humanities</td>
<td>Ora Watson</td>
<td>659-5270</td>
</tr>
<tr>
<td>Mathematics and Technology</td>
<td>Grady Grizzle</td>
<td>659-5320</td>
</tr>
<tr>
<td>Science and Technology</td>
<td>Bob Agnew</td>
<td>659-5250</td>
</tr>
<tr>
<td>Social Science and Physical Education</td>
<td>Martha Hughes</td>
<td>659-5350</td>
</tr>
</tbody>
</table>
McClung, Rachel .......................... Art
Univ. of Dallas, B.A., M.A.

Miller, Harvey ..................................... Physical Education
Sam Houston Univ., B.S., M.Ed.; Texas A&M Univ., Study

Mormon, Sheila Jean .......................... Mathematics
Southern Arkansas Univ., B.S.; Louisiana Univ., M.A.;
Univ. of Houston, Ed.D.

Olson, Margot ............................. Instructional Development Consultant
Carnegie-Mellon Univ., B.S.; Florida State Univ., M.S., Ph.D.

Osentowski, Franka .......................... Music
Keaney State College, B.M.Ed.;
North Texas State Univ., M.M.Ed., D.M.A.

Parr, gone .......................... Physical Education
Univ. of Texas, B.S.; Southern Methodist Univ., M.S.

Pichichere, Anthony .......................... History
Univ. of Texas at Arlington, B.A., M.A.;
North Texas State Univ., M.Ed., Ph.D.

Picquet, Jim .............................. Associate Dean, Learning Resources
Texas A&I Univ., B.S.; East Texas State Univ., M.S.

Proctor, William H. .......................... Real-Estate
Univ. of Texas, B.A.; Princeton Theological Seminary, M.T.

Ray, Marty ............................. Art
East Texas State Univ., B.A.; Southern Methodist Univ., M.F.A.

Reppond, Kent M. .......................... Biology
Midwestern Univ., B.S.; East Texas State Univ., M.S.

Robbins, Dalton O. .......................... Diesel Mechanics
U.S.A.F. Schools; National Institute for Automotive Excellence;
International Correspondence Schools; Dana Parts, Doctor of Motors
for Diesel Mechanics

Rike, Charlotte ............................. History
Univ. of Arkansas, B.A., M.A.; Univ. of Wyoming, Study

Scoonie, Evelyn .............................. Mid-Management
George Mason College of Univ. of Virginia, B.A.; Univ. of Missouri, M.A.;
East Texas State University, Ph.D.

Sealey, Robert ............................. Music
North Texas State Univ., B.A., M.M.Ed.;
Southwestern Baptist Theological Seminary, D.M.A.

Simms, Ruth ..................................... Biology
Texas Women's Univ., B.A.;
Univ. of Texas Southwestern Medical School, M.A., Ph.D.

Swaim, Gary D. ............................. Humanities
Univ. of California at Riverside, B.A.;
University of Redlands/Claremont Graduate School, Ph.D.

Thompson, Shirley ............................ Physical Education
American River College, A.A.; Texas Woman's Univ., B.S., M.A.

Thorpe, Diane ............................. Counselor
North Texas State Univ., B.S., M.Ed.

Todas, Jay ..................................... Mid-Management
Univ. of Texas, B.A., M.A.; Univ. of Houston, Ed.D.

Twenge, Stephen P. .......................... Director, Admissions/Registration
St. Cloud State Univ., B.S., M.A.

Wheals, James .................................. Business
Texas A&M Univ., B.B.A.; North Texas State Univ., M.B.A.;
Southwestern Baptist Theological Seminary, M.R.E.

Wilson, Kay ............................. Real Estate
Texas Women's Univ., B.S., Study

Wilson, Roger ............................. Carpentry
Texas State Technical Institute, A.A., B.A.

Younger, Charles ......................... Solar Energy Technology
West Texas State Univ., B.S.; Univ. of Rochester; Univ. of Houston, Study

Vesia, Joel E. ............................. Assistant Dean
Incarnate Word College, B.A.; Angelo State Univ., M.A.;
Univ. of Wyoming, Ed.D.

Watson, One ............................. Chairperson, Communications/Humanities
Ball State Univ., B.S.; Purdue Univ., M.S., Ph.D.

Weaver, Cliff ............................. Associate Dean, Technical/Occupational Programs
Southern State Univ., B.S.; North Texas State Univ., M.Ed.;
East Texas State Univ., Study
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:

a. 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.

b. Graduates of an unaccredited high school who are 18 years of age or older.

c. 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.

d. 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 a 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.
TUITION AND STUDENT SERVICES FEE
Fall and Spring Sessions

<table>
<thead>
<tr>
<th>Semester Credit Hour</th>
<th>Dallas County</th>
<th>Out-of-District</th>
<th>Out-of-State or Country</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Tuition Fee</td>
<td>Total</td>
<td>Tuition Fee Total</td>
</tr>
<tr>
<td></td>
<td>$ 32 $ 3 $ 35</td>
<td>$ 62 $ 3 $ 65</td>
<td></td>
</tr>
<tr>
<td></td>
<td>$ 32 $ 3 $ 35</td>
<td>$ 93 $ 3 $ 96</td>
<td></td>
</tr>
<tr>
<td></td>
<td>$ 40 $ 4 $ 44</td>
<td>$ 124 $ 4 $ 128</td>
<td></td>
</tr>
<tr>
<td></td>
<td>$ 50 $ 5 $ 55</td>
<td>$ 155 $ 5 $ 160</td>
<td></td>
</tr>
<tr>
<td></td>
<td>$ 60 $ 6 $ 66</td>
<td>$ 186 $ 6 $ 192</td>
<td></td>
</tr>
<tr>
<td></td>
<td>$ 60 $ 6 $ 66</td>
<td>$ 217 $ 7 $ 224</td>
<td></td>
</tr>
<tr>
<td></td>
<td>$ 80 $ 8 $ 88</td>
<td>$ 248 $ 8 $ 256</td>
<td></td>
</tr>
<tr>
<td></td>
<td>$ 90 $ 9 $ 99</td>
<td>$ 279 $ 9 $ 288</td>
<td></td>
</tr>
<tr>
<td></td>
<td>$ 100 $ 10 $ 110</td>
<td>$ 310 $ 10 $ 320</td>
<td></td>
</tr>
<tr>
<td></td>
<td>$ 116 $ 12 $ 128</td>
<td>$ 320 $ 11 $ 331</td>
<td></td>
</tr>
<tr>
<td></td>
<td>$ 124 $ 12 $ 136</td>
<td>$ 330 $ 12 $ 342</td>
<td></td>
</tr>
<tr>
<td></td>
<td>$ 132 $ 12 $ 144</td>
<td>$ 340 $ 12 $ 352</td>
<td></td>
</tr>
<tr>
<td></td>
<td>$ 140 $ 12 $ 152</td>
<td>$ 350 $ 12 $ 362</td>
<td></td>
</tr>
<tr>
<td></td>
<td>$ 148 $ 12 $ 160</td>
<td>$ 360 $ 12 $ 372</td>
<td></td>
</tr>
<tr>
<td></td>
<td>$ 156 $ 12 $ 168</td>
<td>$ 370 $ 12 $ 382</td>
<td></td>
</tr>
<tr>
<td></td>
<td>$ 164 $ 12 $ 176</td>
<td>$ 380 $ 12 $ 392</td>
<td></td>
</tr>
<tr>
<td></td>
<td>$ 172 $ 12 $ 184</td>
<td>$ 390 $ 12 $ 402</td>
<td></td>
</tr>
<tr>
<td></td>
<td>$ 180 $ 12 $ 192</td>
<td>$ 400 $ 12 $ 412</td>
<td></td>
</tr>
</tbody>
</table>

TUITION
Summer Sessions

<table>
<thead>
<tr>
<th>Semester Credit Hour</th>
<th>Dallas County</th>
<th>Out-of-District</th>
<th>Out-of-State or Country</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Tuition</td>
<td>Total</td>
<td>Tuition Total</td>
</tr>
<tr>
<td></td>
<td>$ 32</td>
<td>$ 44</td>
<td>$ 65</td>
</tr>
<tr>
<td></td>
<td>$ 32</td>
<td>$ 48</td>
<td>$ 130</td>
</tr>
<tr>
<td></td>
<td>$ 36</td>
<td>$ 60</td>
<td>$ 195</td>
</tr>
<tr>
<td></td>
<td>$ 48</td>
<td>$ 72</td>
<td>$ 260</td>
</tr>
<tr>
<td></td>
<td>$ 60</td>
<td>$ 84</td>
<td>$ 325</td>
</tr>
<tr>
<td></td>
<td>$ 72</td>
<td>$ 90</td>
<td>$ 390</td>
</tr>
<tr>
<td></td>
<td>$ 78</td>
<td></td>
<td>$ 448</td>
</tr>
<tr>
<td></td>
<td>$ 84</td>
<td></td>
<td>$ 506</td>
</tr>
</tbody>
</table>

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:

<table>
<thead>
<tr>
<th>Semester</th>
<th>Prior to the first class day</th>
<th>During the first five class days</th>
<th>During the second five class days</th>
<th>During the third five class days</th>
<th>During the fourth five class days</th>
<th>After the fourth five class days</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fall and Spring Semesters</td>
<td>100%</td>
<td>80%</td>
<td>70%</td>
<td>50%</td>
<td>25%</td>
<td>NONE</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Semester</th>
<th>Prior to the first class day</th>
<th>During the first, second or third class day</th>
<th>During the fourth, fifth or sixth class day</th>
<th>After the sixth class day</th>
</tr>
</thead>
<tbody>
<tr>
<td>Summer Semesters</td>
<td>100%</td>
<td>80%</td>
<td>50%</td>
<td>NONE</td>
</tr>
</tbody>
</table>

(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:

<table>
<thead>
<tr>
<th>Semester</th>
<th>Prior to the first twelve class days</th>
<th>After the twelfth class day</th>
<th>During the first four class days</th>
<th>After the fourth class day</th>
</tr>
</thead>
<tbody>
<tr>
<td>Regular Session</td>
<td>100%</td>
<td>NONE</td>
<td>100%</td>
<td>NONE</td>
</tr>
<tr>
<td>Summer Session</td>
<td>100%</td>
<td>NONE</td>
<td>100%</td>
<td>NONE</td>
</tr>
</tbody>
</table>

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 prorated 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 as 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
Students should be careful in registering to schedule academic advisement sessions at each college can provide a formal framework for informing 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 areas 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.
Certificate Career 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 with 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.

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

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:

<table>
<thead>
<tr>
<th>Credit Hours</th>
<th>Grade</th>
<th>Grade Points</th>
</tr>
</thead>
<tbody>
<tr>
<td>2-hour course</td>
<td>A</td>
<td>8</td>
</tr>
<tr>
<td>3-hour course</td>
<td>B</td>
<td>9</td>
</tr>
<tr>
<td>4-hour course</td>
<td>B</td>
<td>12</td>
</tr>
<tr>
<td>3-hour course</td>
<td>C</td>
<td>6</td>
</tr>
</tbody>
</table>

\[
\text{Total Credit Hours:} \quad 12 \\
\text{Total Grade Points:} \quad 35 \\
\frac{35}{12} = 2.93
\]

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 is 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 re-enroll 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.

### 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
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 its 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 assure 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 transcripted 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 skills, enriching experiences, 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 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.

Student Employment

The College Work/Study Program is a federal program to assist students through jobs 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 Hazlewood Act application, a copy of their discharge papers and a Student Aid Report stating ineligibility to the Financial Aid Office.

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.

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 or 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

Synopsis:
   a. Preamble
   b. Scope
   c. Definitions
2. Acquaintance with Policies, Rules, Regulations
3. Campus Regulations
   a. Basic Standard
   b. Enumerated Standards
      (1) Student Identification
      (2) Use of District Facilities
      (3) Speech and Advocacy
      (4) Disruptive Activities
      (5) Alcoholic Beverages
      (6) Drugs
      (7) Gambling
      (8) Hazing
      (9) Academic Dishonesty
      (10) Financial Transactions
      (11) Other Offenses
4. Disciplinary Proceedings
   a. Administrative Disposition
      (1) Investigation
      (2) Summons
      (3) Disposition
   b. Student Discipline Committee
      (1) Composition: Organization
      (2) Notice
      (3) Preliminary Matters
      (4) Procedure
      (5) Evidence
      (6) Record
   c. Faculty-Student Board of Review
      (1) Right to Appeal
      (2) Board Composition
      (3) Consideration of Appeal
      (4) Action for Administrative Review
5. Penalties
   a. Authorized Disciplinary Penalties
   b. Definition of Penalties
6. Parking and Traffic Regulations

   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 to 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 is 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) "Acquaintance with Policies, Rules, Regulations" means a written summary of the essential facts constituting a violation of a board policy, college regulation or administrative rule.
      (8) "Board" means the Board of Trustees, Dallas County Community College District.
      (9) "Chancellor" means the Chancellor of the Dallas County Community College District.
      (10) "Major violation" means one which can result in suspension or expulsion from the College or denial of degree.
      (11) "Minor violation" means one which can result in suspension or expulsion from the College or denial of degree.
   d. Disciplinary Proceedings
      (1) Preliminary Meeting: when the Chancellor, the Director of Student Programs or his delegate(s), or his representative(s) receive a valid complaint,
   e. Definitions: In this code, unless the context requires a different meaning:
      (1) "Acquaintance with Policies, Rules, Regulations" means a written summary of the essential facts constituting a violation of a board policy, college regulation or administrative rule.
      (2) "Board" means the Board of Trustees, Dallas County Community College District.
      (3) "Chancellor" means the Chancellor of the Dallas County Community College District.
      (4) "Major violation" means one which can result in suspension or expulsion from the College or denial of degree.
      (5) "Minor violation" means one which can result in suspension or expulsion from the College or denial of degree.
   f. Disciplinary Proceedings
      (1) Preliminary Meeting: when the Chancellor, the Director of Student Programs or his delegate(s), or his representative(s) receive a valid complaint,
   g. Definitions: In this code, unless the context requires a different meaning:
      (1) "Acquaintance with Policies, Rules, Regulations" means a written summary of the essential facts constituting a violation of a board policy, college regulation or administrative rule.
      (2) "Board" means the Board of Trustees, Dallas County Community College District.
      (3) "Chancellor" means the Chancellor of the Dallas County Community College District.
      (4) "Major violation" means one which can result in suspension or expulsion from the College or denial of degree.
      (5) "Minor violation" means one which can result in suspension or expulsion from the College or denial of degree.
(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 controlling, supervising, or observing the activity in the interest of maintaining order at the College.

(c) Any person who violates any provision of this section is guilty of a misdemeanor.

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

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 purpose 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 influencing 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) Obstructing 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 has defrauded the College to 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.

(6) 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, academic fraud, or academic dishonesty.

(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 in 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) Bringing 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.

(7) Financial Transactions with the College

(a) No student may refuse to pay or fail to pay debt owed 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 day 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.

(e) The student has the right to be present at any and all hearings along with a list of witnesses and documentary evidence supporting the allegations.

(f) The hearing shall be conducted in a manner which adequately assures the student's right to a fair hearing.

(g) Conviction is a matter which adversely affects the student's right 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.

(h) 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
b. Student Discipline Committee

(1) Composition; Organization

(a) When a student refuses administrative disposition of an alleged minor or major 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, administration, 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 may 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 of 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 College regulations, 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 shall 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 extraordinary 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.

(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, at either the option of the committee or upon request by one of the students-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 will 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 of 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) Students' 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 concuring 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 shall proceed in an ex parte and probative manner to receive any 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 has heard 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) A 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 calendar 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) Suspension of rights or privileges, 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 athletic 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. 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.

(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.

(4) "Bar against readmission" is imposed on 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 or for disciplinary reasons.

(6) "Restitution" is reimbursement for damage to or misappropriation of property. Reimbursement may take the form of appropriate service to repair 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 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.
(c) "Suspension 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.
(d) Suspension from the College 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 college facilities; destroying state property or student's personal property; giving false information in response to requests from the College; inviting a disturbance or riot; stealing; possession, use, sale or purchase of illegal drugs; and on 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.

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

(1) 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.H. elsewhere on campus.
(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 college, 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 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) Those traffic regulations apply not only to automobiles but to motorbikes, 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.
# DALLAS COUNTY COMMUNITY COLLEGE DISTRICT

## Technical/Occupational Programs Offered On Our Campuses – Spring, 1985

### Career Education Programs

<table>
<thead>
<tr>
<th>Program</th>
<th>CVC</th>
<th>EFC</th>
<th>ECC</th>
<th>MVC</th>
<th>NLC</th>
<th>RLC</th>
</tr>
</thead>
<tbody>
<tr>
<td>Accounting Associate</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Advertising Art</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Air Conditioning &amp; Refrigeration—Residential</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Animal Medical Technology</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Apparel Design</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Architectural Technology</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Architectural Drafting</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Auto Body Technology</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Automotive Parts, Sales &amp; Service</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Automotive Technology Apprenticeship</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Automotive Technology</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Aviation Technology</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Air Cargo Transport</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Aircraft Dispatcher</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Airline Marketing</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Air Traffic Control</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Career Pilot</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fixed Base Operations/Airport Management</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Building Trades</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Carpentry—Residential &amp; Commercial</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Child Development Associate</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CDATraining Certificate</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Special Child</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Administrative</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Infant-Toddler</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Commercial Music</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Arranger/Composer/Copyist</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Music Retailing</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Performing Musician</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Recording Technology</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Construction Management &amp; Technology</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Criminal Justice</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Data Processing</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Computer Information Systems</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Computer Operations Technician</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Key Entry/Data Control Operator</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Programmer</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Small Computer Systems Specialist</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Diesel Mechanic</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Drafting &amp; Design Technology</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Electronics Design Option</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Educational Paraprofessional/Assistant</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Electrical Technology</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Electronic Telecommunications</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Electronics Technology</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Avions</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Digital Electronics</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Engineering Technology</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Electric Power</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Electro-Mechanical</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fluid Power</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Quality Control</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Manufacturing Engineering</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mechanical Option</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fashion Marketing</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Financial Management</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fire Protection Technology</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Food Service</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Food Service Operations</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>School Food Service</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Graphic Arts/Communications</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Horology</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Interior Design</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Legal Assistant</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

---

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

| Machine Parts Inspection | Machine Shop | Major Appliance Repair | Management Careers | 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 |
|-------------------------|--------------|------------------------|---------------------|-------------------------------|---------------------------|--------|--------------------------|-----------------------------|-----------------------------|----------------------------|---------------------------|-----------------------------|-------------------|----------------------------|-------------------|-------------------------|------------------------|------------------------|--------------------|-------------------|-------------------|-------------------|
|                         |              |                        |                     |                               |                           |        |                          |                             |                             |                            |                           |                             |                   |                          |                     |                        |                     |                   |                   |                   |                   |                   |

### 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
- Social Work Human Services Certificate
- Training Paraprofessionals for the Deaf
- Sign Language Certificate
- Transportation Technology
- Video Technology
- Welding Technology
- Welding Engineering Technology

---

BHC – Brookhaven College
CVC – Cedar Valley College
EFC – Eastfield College
ECC – El Centro College
MVC – Mountain View College
NLC – North Lake College
RLC – Richland College
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:

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

TCJC PROGRAMS

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

<table>
<thead>
<tr>
<th>Program</th>
<th>Campus*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Agribusiness</td>
<td>NW</td>
</tr>
<tr>
<td>Cast Metals Technology</td>
<td>NE</td>
</tr>
<tr>
<td>Civil/Construction Technology</td>
<td>NE</td>
</tr>
<tr>
<td>Dental Hygiene</td>
<td>NE</td>
</tr>
<tr>
<td>Emergency Medical Technology</td>
<td>NE</td>
</tr>
<tr>
<td>Industrial Supervision</td>
<td>S</td>
</tr>
<tr>
<td>Long Term</td>
<td></td>
</tr>
<tr>
<td>Health Care Administration</td>
<td>NE</td>
</tr>
<tr>
<td>Media Technology</td>
<td>NE</td>
</tr>
<tr>
<td>Medical Records Technology</td>
<td>NE</td>
</tr>
<tr>
<td>Nondestructive Evaluation</td>
<td>S</td>
</tr>
<tr>
<td>Physical Therapist Assistant</td>
<td>NE</td>
</tr>
<tr>
<td>Property Tax Appraisal</td>
<td>NE</td>
</tr>
<tr>
<td>Radio-TV Repair</td>
<td>S</td>
</tr>
</tbody>
</table>

*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

(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.

<table>
<thead>
<tr>
<th>CREDIT HOURS</th>
</tr>
</thead>
</table>

## SEMESTER I

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACC 201</td>
<td>Principles of Accounting I</td>
<td>3</td>
</tr>
<tr>
<td>BUS 105</td>
<td>Introduction to Business</td>
<td>3</td>
</tr>
<tr>
<td>*COM 131</td>
<td>Applied Composition and Speech or</td>
<td>3</td>
</tr>
<tr>
<td>ENG 101</td>
<td>Composition and Expository Reading</td>
<td></td>
</tr>
<tr>
<td>MTH 130</td>
<td>Business Mathematics or</td>
<td>3</td>
</tr>
<tr>
<td>MTH 111</td>
<td>Mathematics for Business and Economics</td>
<td></td>
</tr>
<tr>
<td>OFC 160</td>
<td>Office Calculating Machines</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td><strong>Total</strong></td>
<td><strong>15</strong></td>
</tr>
</tbody>
</table>

## SEMESTER II

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACC 202</td>
<td>Principles of Accounting II</td>
<td>3</td>
</tr>
<tr>
<td>*COM 132</td>
<td>Applied Composition and Speech or</td>
<td>3</td>
</tr>
<tr>
<td>ENG 102</td>
<td>Composition and Literature</td>
<td></td>
</tr>
<tr>
<td>CS 175</td>
<td>Introduction to Computer Science</td>
<td>3</td>
</tr>
<tr>
<td>MGT 136</td>
<td>Principles of Management</td>
<td>3</td>
</tr>
<tr>
<td>†OFC 172</td>
<td>Beginning Typing</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td><strong>Total</strong></td>
<td><strong>15</strong></td>
</tr>
</tbody>
</table>

## SEMESTER III

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACC 203</td>
<td>Intermediate Accounting I</td>
<td>3</td>
</tr>
<tr>
<td>ACC 204</td>
<td>Managerial Accounting</td>
<td>3</td>
</tr>
<tr>
<td>ACC 250</td>
<td>Microcomputer-Based Accounting Applications</td>
<td>3</td>
</tr>
<tr>
<td>ECO 201</td>
<td>Principles of Economics I</td>
<td>3</td>
</tr>
<tr>
<td>GVT 201</td>
<td>American Government</td>
<td>3</td>
</tr>
<tr>
<td>ACC 803</td>
<td>Cooperative Work Experience or</td>
<td>3-4</td>
</tr>
<tr>
<td>ACC 804</td>
<td>Cooperative Work Experience or</td>
<td></td>
</tr>
<tr>
<td>†Elective</td>
<td><strong>Total</strong></td>
<td><strong>18-19</strong></td>
</tr>
</tbody>
</table>

## SEMESTER IV

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACC 238</td>
<td>Cost Accounting or</td>
<td>3</td>
</tr>
<tr>
<td>ACC 239</td>
<td>Income Tax Accounting</td>
<td></td>
</tr>
<tr>
<td>BUS 234</td>
<td>Business Law</td>
<td>3</td>
</tr>
<tr>
<td>ECO 202</td>
<td>Principles of Economics II</td>
<td>3</td>
</tr>
<tr>
<td>OFC 231</td>
<td>Business Communications</td>
<td>3</td>
</tr>
<tr>
<td>†Electives</td>
<td><strong>Total</strong></td>
<td><strong>3-6</strong></td>
</tr>
</tbody>
</table>

Minimum Hours Required: **63**

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

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACC 205</td>
<td>Business Finance</td>
<td>3</td>
</tr>
<tr>
<td>ACC 207</td>
<td>Intermediate Accounting II</td>
<td>3</td>
</tr>
<tr>
<td>ACC 238</td>
<td>Cost Accounting</td>
<td>3</td>
</tr>
<tr>
<td>ACC 239</td>
<td>Income Tax Accounting</td>
<td>3</td>
</tr>
<tr>
<td>ACC 703-713</td>
<td>Cooperative Work Experience</td>
<td>3</td>
</tr>
<tr>
<td>813</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ACC 704-814</td>
<td>Cooperative Work Experience</td>
<td>4</td>
</tr>
<tr>
<td>804</td>
<td></td>
<td></td>
</tr>
<tr>
<td>BUS 143</td>
<td>Personal Finance</td>
<td>3</td>
</tr>
<tr>
<td>BUS 237</td>
<td>Organizational Behavior</td>
<td>3</td>
</tr>
<tr>
<td>CS 250</td>
<td>Contemporary Topics in Computer Science and Data Processing</td>
<td>3</td>
</tr>
<tr>
<td>CS 251</td>
<td>Special Topics in Computer Science and Data Processing</td>
<td>4</td>
</tr>
<tr>
<td>MKT 206</td>
<td>Principles of Marketing</td>
<td>3</td>
</tr>
<tr>
<td>PSY 105</td>
<td>Introduction to Psychology</td>
<td>3</td>
</tr>
<tr>
<td>PSY 131</td>
<td>Human Relations</td>
<td>3</td>
</tr>
<tr>
<td>SPE 105</td>
<td>Fundamentals of Public Speaking</td>
<td>3</td>
</tr>
<tr>
<td>Any CS or DP Programming course</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*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.
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**

<table>
<thead>
<tr>
<th>SEMESTER I</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>ACR 120 Principles of Refrigeration or</td>
<td>6</td>
<td></td>
</tr>
<tr>
<td>ACR 121 Principles of Refrigeration I and</td>
<td>(3)</td>
<td></td>
</tr>
<tr>
<td>ACR 122 Principles of Refrigeration II</td>
<td>(3)</td>
<td></td>
</tr>
<tr>
<td>ACR 125 Principles of Electricity or</td>
<td>6</td>
<td></td>
</tr>
<tr>
<td>ACR 126 Principles of Electricity I and</td>
<td>(3)</td>
<td></td>
</tr>
<tr>
<td>ACR 127 Principles of Electricity II</td>
<td>(3)</td>
<td></td>
</tr>
<tr>
<td>MTH 195 Technical Mathematics or</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>MTH 139 Applied Mathematics</td>
<td></td>
<td>15</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>SEMESTER II</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>ACR 130 Residential Cooling Systems or</td>
<td>6</td>
<td></td>
</tr>
<tr>
<td>ACR 131 Residential Cooling Systems I and</td>
<td>(3)</td>
<td></td>
</tr>
<tr>
<td>ACR 132 Residential Cooling Systems II</td>
<td>(3)</td>
<td></td>
</tr>
<tr>
<td>ACR 140 Residential Heating Systems or</td>
<td>6</td>
<td></td>
</tr>
<tr>
<td>ACR 141 Residential Heating Systems I and</td>
<td>(3)</td>
<td></td>
</tr>
<tr>
<td>ACR 142 Residential Heating Systems II</td>
<td>(3)</td>
<td></td>
</tr>
<tr>
<td>PHY 131 Applied Physics</td>
<td></td>
<td>4</td>
</tr>
<tr>
<td></td>
<td></td>
<td>16</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>SEMESTER III</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>ACR 200 Contractor Estimating or</td>
<td>6</td>
<td></td>
</tr>
<tr>
<td>ACR 209 Contractor Estimating I and</td>
<td>(3)</td>
<td></td>
</tr>
<tr>
<td>ACR 210 Contractor Estimating II</td>
<td>(3)</td>
<td></td>
</tr>
<tr>
<td>ACR 212 System Servicing or</td>
<td>6</td>
<td></td>
</tr>
<tr>
<td>ACR 213 System Servicing I and</td>
<td>(3)</td>
<td></td>
</tr>
<tr>
<td>ACR 214 System Servicing II</td>
<td>(3)</td>
<td></td>
</tr>
<tr>
<td>COM 131 Applied Composition and</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Speech or</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ENG 101 Composition and Expository</td>
<td>Reading</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>(3)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>15</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>SEMESTER IV</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>SPE 105 Fundamentals of Speech</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>PSY 131 Human Relations</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>+Electives</td>
<td>8-9</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>14-15</td>
</tr>
</tbody>
</table>

Minimum Hours Required: .................................. 60

+Electives must be selected from the following:

Any ACR (Air Conditioning and Refrigeration) course

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACR 109</td>
<td>Contemporary Topics I</td>
<td>2</td>
</tr>
<tr>
<td>ACR 110</td>
<td>Contemporary Topics II</td>
<td>3</td>
</tr>
<tr>
<td>ACR 221</td>
<td>Refrigeration Loads</td>
<td>3</td>
</tr>
<tr>
<td>ACR 222</td>
<td>Advanced Systems</td>
<td>3</td>
</tr>
<tr>
<td>ACR 223</td>
<td>Medium Temperature Refrigeration Systems</td>
<td>3</td>
</tr>
<tr>
<td>ACR 224</td>
<td>System Testing and Balancing</td>
<td>3</td>
</tr>
<tr>
<td>ACR 227</td>
<td>Low Temperature Refrigeration Systems</td>
<td>3</td>
</tr>
<tr>
<td>ACR 228</td>
<td>Air Conditioning System Equipment Selection</td>
<td>3</td>
</tr>
<tr>
<td>ACR 229</td>
<td>Refrigeration Equipment Selection</td>
<td>3</td>
</tr>
<tr>
<td>ACR 230</td>
<td>Energy Conservation</td>
<td>3</td>
</tr>
<tr>
<td>ACR 703-713</td>
<td>Cooperative Work Experience</td>
<td>3</td>
</tr>
<tr>
<td>ACR 704-714</td>
<td>Cooperative Work Experience</td>
<td>4</td>
</tr>
<tr>
<td>ACR 803-813</td>
<td>Cooperative Work Experience</td>
<td>3</td>
</tr>
<tr>
<td>ACR 804-814</td>
<td>Cooperative Work Experience</td>
<td>4</td>
</tr>
<tr>
<td>ACC 131</td>
<td>Bookkeeping I</td>
<td>3</td>
</tr>
<tr>
<td>BPR 177</td>
<td>Blueprint Reading</td>
<td>2</td>
</tr>
<tr>
<td>BUS 105</td>
<td>Introduction to Business</td>
<td>3</td>
</tr>
<tr>
<td>CS 175</td>
<td>Introduction to Computer Science</td>
<td>3</td>
</tr>
<tr>
<td>DFT 182</td>
<td>Technician Drafting</td>
<td>2</td>
</tr>
<tr>
<td>MGT 153</td>
<td>Small Business Management</td>
<td>3</td>
</tr>
</tbody>
</table>
AIR CONDITIONING AND REFRIGERATION—RESIDENTIAL

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.

<table>
<thead>
<tr>
<th>CREDIT HOURS</th>
</tr>
</thead>
<tbody>
<tr>
<td>SEMESTER I</td>
</tr>
<tr>
<td>ACR 120 Principles of Refrigeration or</td>
</tr>
<tr>
<td>ACR 121 Principles of Refrigeration I and</td>
</tr>
<tr>
<td>ACR 122 Principles of Refrigeration II</td>
</tr>
<tr>
<td>ACR 125 Principles of Electricity or</td>
</tr>
<tr>
<td>ACR 126 Principles of Electricity I and</td>
</tr>
<tr>
<td>ACR 127 Principles of Electricity II</td>
</tr>
<tr>
<td>MTH 195 Technical Mathematics or</td>
</tr>
<tr>
<td>MTH 139 Applied Mathematics</td>
</tr>
<tr>
<td>15</td>
</tr>
</tbody>
</table>

| 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
BUILDING TRADES--RESIDENTIAL AND COMMERCIAL CARPENTRY

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

(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.

<table>
<thead>
<tr>
<th>SEMESTER I</th>
<th>CREDIT HOURS</th>
</tr>
</thead>
<tbody>
<tr>
<td>CAR 101 Woodworking Tools and Materials</td>
<td>3</td>
</tr>
<tr>
<td>CAR 102 Site Preparation</td>
<td>3</td>
</tr>
<tr>
<td>CAR 103 Construction Safety</td>
<td>1</td>
</tr>
<tr>
<td>BPR 177 Blueprint Reading</td>
<td>2</td>
</tr>
<tr>
<td>MTH 195 Technical Mathematics</td>
<td>3</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>12</strong></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>SEMESTER II</th>
<th>CREDIT HOURS</th>
</tr>
</thead>
<tbody>
<tr>
<td>CAR 104 Residential Framing</td>
<td>3</td>
</tr>
<tr>
<td>CAR 105 Roof Framing I</td>
<td>3</td>
</tr>
<tr>
<td>CAR 106 Exterior Trim and Finish</td>
<td>3</td>
</tr>
<tr>
<td>CAR 107 Construction Cost Estimating</td>
<td>3</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>12</strong></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>SEMESTER III</th>
<th>CREDIT HOURS</th>
</tr>
</thead>
<tbody>
<tr>
<td>CAR 201 Cabinet Building I</td>
<td>3</td>
</tr>
<tr>
<td>CAR 205 Roof Framing II</td>
<td>3</td>
</tr>
<tr>
<td>CAR 208 Interior Finish I</td>
<td>3</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>9</strong></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>SEMESTER IV</th>
<th>CREDIT HOURS</th>
</tr>
</thead>
<tbody>
<tr>
<td>CAR 202 Cabinet Building II</td>
<td>3</td>
</tr>
<tr>
<td>CAR 203 Stair Building</td>
<td>3</td>
</tr>
<tr>
<td>CAR 703 Cooperative Work Experience or</td>
<td>(4)</td>
</tr>
<tr>
<td>CAR 704 Cooperative Work Experience</td>
<td>9-10</td>
</tr>
</tbody>
</table>

Minimum Hours Required: 42
## RESIDENTIAL CARPENTRY

### (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.

<table>
<thead>
<tr>
<th>SEMESTER I</th>
<th>CREDIT HOURS</th>
</tr>
</thead>
<tbody>
<tr>
<td>CAR 101 Woodworking Tools and Materials</td>
<td>3</td>
</tr>
<tr>
<td>CAR 102 Site Preparation</td>
<td>3</td>
</tr>
<tr>
<td>CAR 103 Construction Safety</td>
<td>1</td>
</tr>
<tr>
<td>BPR 177 Blueprint Reading</td>
<td>2</td>
</tr>
<tr>
<td>COM 131 Applied Composition and Speech</td>
<td>3</td>
</tr>
<tr>
<td>MTH 195 Technical Mathematics</td>
<td>3</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>15</strong></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>SEMESTER II</th>
<th>CREDIT HOURS</th>
</tr>
</thead>
<tbody>
<tr>
<td>CAR 104 Residential Framing</td>
<td>3</td>
</tr>
<tr>
<td>CAR 105 Roof Framing I</td>
<td>3</td>
</tr>
<tr>
<td>CAR 106 Exterior Trim and Finish</td>
<td>3</td>
</tr>
<tr>
<td>CAR 107 Construction Cost Estimating</td>
<td>3</td>
</tr>
<tr>
<td>SS 131 American Civilization</td>
<td>3</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>15</strong></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>SEMESTER III</th>
<th>CREDIT HOURS</th>
</tr>
</thead>
<tbody>
<tr>
<td>CAR 201 Cabinet Building I</td>
<td>3</td>
</tr>
<tr>
<td>CAR 205 Roof Framing II</td>
<td>3</td>
</tr>
<tr>
<td>CAR 208 Interior Finish I</td>
<td>3</td>
</tr>
<tr>
<td>BUS 105 Introduction to Business</td>
<td>3</td>
</tr>
<tr>
<td>COM 132 Applied Composition and Speech</td>
<td>3</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>15</strong></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>SEMESTER IV</th>
<th>CREDIT HOURS</th>
</tr>
</thead>
<tbody>
<tr>
<td>CAR 202 Cabinet Building II</td>
<td>3</td>
</tr>
<tr>
<td>CAR 203 Stair Building</td>
<td>3</td>
</tr>
<tr>
<td>CAR 703 Cooperative Work Experience or</td>
<td>3</td>
</tr>
<tr>
<td>CAR 704 Cooperative Work Experience</td>
<td>(4)</td>
</tr>
<tr>
<td>ACC 131 Bookkeeping I</td>
<td>3</td>
</tr>
<tr>
<td>PSY 131 Human Relations</td>
<td>3</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>15-16</strong></td>
</tr>
</tbody>
</table>

Minimum Hours Required: 60

## COMMERCIAL CARPENTRY

### (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.

<table>
<thead>
<tr>
<th>SEMESTER I</th>
<th>CREDIT HOURS</th>
</tr>
</thead>
<tbody>
<tr>
<td>CAR 101 Woodworking Tools and Materials</td>
<td>3</td>
</tr>
<tr>
<td>CAR 102 Site Preparation</td>
<td>3</td>
</tr>
<tr>
<td>CAR 103 Construction Safety</td>
<td>1</td>
</tr>
<tr>
<td>BPR 177 Blueprint Reading</td>
<td>2</td>
</tr>
<tr>
<td>MTH 195 Technical Mathematics</td>
<td>3</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>12</strong></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>SEMESTER II</th>
<th>CREDIT HOURS</th>
</tr>
</thead>
<tbody>
<tr>
<td>CAR 107 Construction Cost Estimating</td>
<td>3</td>
</tr>
<tr>
<td>CAR 108 Modern Construction Practices</td>
<td>3</td>
</tr>
<tr>
<td>CAR 109 Concrete Slabs in Commercial Building</td>
<td>3</td>
</tr>
<tr>
<td>CAR 208 Interior Finish I</td>
<td>3</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>12</strong></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>SEMESTER III</th>
<th>CREDIT HOURS</th>
</tr>
</thead>
<tbody>
<tr>
<td>CAR 204 Commercial Wall Forms</td>
<td>3</td>
</tr>
<tr>
<td>CAR 206 Vertical Piers and Columns</td>
<td>3</td>
</tr>
<tr>
<td>CAR 209 Interior Finish II-Commercial</td>
<td>3</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>9</strong></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>SEMESTER IV</th>
<th>CREDIT HOURS</th>
</tr>
</thead>
<tbody>
<tr>
<td>CAR 203 Stair Building</td>
<td>3</td>
</tr>
<tr>
<td>CAR 210 Horizontal Beam Form and Fire Encasement Forms</td>
<td>3</td>
</tr>
<tr>
<td>CAR 211 Properties of Concrete</td>
<td>1</td>
</tr>
<tr>
<td>CAR 703 Cooperative Work Experience or</td>
<td>3</td>
</tr>
<tr>
<td>CAR 704 Cooperative Work Experience</td>
<td>(4)</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>10-11</strong></td>
</tr>
</tbody>
</table>

Minimum Hours Required: 43
COMMERCIAL CARPENTRY

(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.

<table>
<thead>
<tr>
<th>CREDIT HOURS</th>
</tr>
</thead>
<tbody>
<tr>
<td>SEMESTER I</td>
</tr>
<tr>
<td>CAR 101 Woodworking Tools and Materials 3</td>
</tr>
<tr>
<td>CAR 102 Site Preparation 3</td>
</tr>
<tr>
<td>CAR 103 Construction Safety 1</td>
</tr>
<tr>
<td>BPR 177 Blueprint Reading 2</td>
</tr>
<tr>
<td>COM 131 Applied Composition and Speech 3</td>
</tr>
<tr>
<td>MTH 195 Technical Mathematics 3</td>
</tr>
<tr>
<td>15</td>
</tr>
<tr>
<td>SEMESTER II</td>
</tr>
<tr>
<td>CAR 107 Construction Cost Estimating 3</td>
</tr>
<tr>
<td>CAR 108 Modern Construction Practices 3</td>
</tr>
<tr>
<td>CAR 109 Concrete Slabs in Commercial Building 3</td>
</tr>
<tr>
<td>CAR 208 Interior Finish I 3</td>
</tr>
<tr>
<td>SS 131 American Civilization 3</td>
</tr>
<tr>
<td>15</td>
</tr>
<tr>
<td>SEMESTER III</td>
</tr>
<tr>
<td>CAR 204 Commercial Wall Forms 3</td>
</tr>
<tr>
<td>CAR 206 Vertical Piers and Columns 3</td>
</tr>
<tr>
<td>CAR 209 Interior Finish II-Commercial 3</td>
</tr>
<tr>
<td>BUS 105 Introduction to Business 3</td>
</tr>
<tr>
<td>COM 132 Applied Composition and Speech 3</td>
</tr>
<tr>
<td>15</td>
</tr>
<tr>
<td>SEMESTER IV</td>
</tr>
<tr>
<td>CAR 203 Stair Building 3</td>
</tr>
<tr>
<td>CAR 210 Horizontal Beam Form and Fire Encasement Forms 3</td>
</tr>
<tr>
<td>CAR 211 Properties of Concrete 1</td>
</tr>
<tr>
<td>CAR 703 Cooperative Work Experience or 3</td>
</tr>
<tr>
<td>CAR 704 Cooperative Work Experience (4)</td>
</tr>
<tr>
<td>ACC 131 Bookkeeping I 3</td>
</tr>
<tr>
<td>PSY 131 Human Relations 3</td>
</tr>
<tr>
<td>16-17</td>
</tr>
</tbody>
</table>

Minimum Hours Required: 61
COMPUTER INFORMATION SYSTEMS

(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.

<table>
<thead>
<tr>
<th>SEMESTER I</th>
<th>CREDIT HOURS</th>
</tr>
</thead>
<tbody>
<tr>
<td>CS 175 Introduction to Computer Science</td>
<td>3</td>
</tr>
<tr>
<td>BUS 105 Introduction to Business</td>
<td>3</td>
</tr>
<tr>
<td>MGT 136 Principles of Management</td>
<td>3</td>
</tr>
<tr>
<td>MTH 111 Mathematics for Business and Economics I</td>
<td>3</td>
</tr>
<tr>
<td>*ENG 101 Composition and Expository Reading or</td>
<td>3</td>
</tr>
<tr>
<td>COM 131 Applied Composition and Speech</td>
<td>3</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>15</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>SEMESTER II</th>
<th>CREDIT HOURS</th>
</tr>
</thead>
<tbody>
<tr>
<td>DP 133 COBOL Programming I</td>
<td>4</td>
</tr>
<tr>
<td>DP 138 Computer Program Logic and Design</td>
<td>3</td>
</tr>
<tr>
<td><strong>ACC 201 Principles of Accounting I</strong></td>
<td>3</td>
</tr>
<tr>
<td>*ENG 102 Composition and Literature or</td>
<td>3</td>
</tr>
<tr>
<td>COM 132 Applied Composition and Speech</td>
<td>3</td>
</tr>
<tr>
<td>MTH 112 Mathematics for Business and Economics II</td>
<td>3</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>16</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>SEMESTER III</th>
<th>CREDIT HOURS</th>
</tr>
</thead>
<tbody>
<tr>
<td>DP 136 COBOL Programming II</td>
<td>4</td>
</tr>
<tr>
<td>DP 142 RPG Programming or</td>
<td>3</td>
</tr>
<tr>
<td>DP 144 BASIC Programming or</td>
<td>3</td>
</tr>
<tr>
<td>DP 145 PASCAL Programming for Business</td>
<td>3</td>
</tr>
<tr>
<td><strong>ACC 202 Principles of Accounting II</strong></td>
<td>3</td>
</tr>
<tr>
<td>ECO 201 Principles of Economics I</td>
<td>3</td>
</tr>
<tr>
<td>*Elective</td>
<td>3</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>16</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>SEMESTER IV</th>
<th>CREDIT HOURS</th>
</tr>
</thead>
<tbody>
<tr>
<td>DP 231 Assembly Language I</td>
<td>4</td>
</tr>
<tr>
<td>BUS 234 Business Law</td>
<td>3</td>
</tr>
<tr>
<td>ECO 202 Principles of Economics II</td>
<td>3</td>
</tr>
<tr>
<td>*Any DP/CS or Accounting course</td>
<td>3</td>
</tr>
<tr>
<td>*Elective</td>
<td>3</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>16</td>
</tr>
</tbody>
</table>

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
- CS 249 Contemporary Topics in Computer Science
- ENG 210 Technical Writing
- MKT 206 Principles of Marketing
- MTH 202 Introductory Statistics

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

(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.

<table>
<thead>
<tr>
<th>SEMESTER I</th>
<th>CREDIT HOURS</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>CS 175</strong> Introduction to Computer Science</td>
<td>3</td>
</tr>
<tr>
<td><strong>DP 137</strong> Data Processing Mathematics or any Business Math*</td>
<td>3</td>
</tr>
<tr>
<td><strong>BUS 105</strong> Introduction to Business or MGT 136 Principles of Management</td>
<td>3</td>
</tr>
<tr>
<td><strong>COM 131</strong> Applied Composition and Speech or ENG 101 Composition and Expository Reading</td>
<td>3</td>
</tr>
<tr>
<td><strong>PSY 131</strong> Human Relations or HD 105 Interpersonal Relationships or HD 107 Developing Leadership Behavior</td>
<td>3</td>
</tr>
<tr>
<td><strong>Total:</strong></td>
<td><strong>15</strong></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>SEMESTER II</th>
<th>CREDIT HOURS</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>DP 120</strong> Data Communications</td>
<td>3</td>
</tr>
<tr>
<td><strong>DP 133</strong> COBOL Programming I</td>
<td>4</td>
</tr>
<tr>
<td><strong>DP 138</strong> Computer Program Logic and Design</td>
<td>3</td>
</tr>
<tr>
<td><strong>†ACC 201</strong> Principles of Accounting I</td>
<td>3</td>
</tr>
<tr>
<td><strong>‡COM 132</strong> Applied Composition and Speech or ENG 102 Composition and Literature</td>
<td>3</td>
</tr>
<tr>
<td><strong>Total:</strong></td>
<td><strong>16</strong></td>
</tr>
</tbody>
</table>

*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**

<table>
<thead>
<tr>
<th>CREDIT HOURS</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>DP 136</strong> COBOL Programming II</td>
</tr>
<tr>
<td><strong>DP 142</strong> RPG Programming or</td>
</tr>
<tr>
<td><strong>DP 144</strong> BASIC Programming or</td>
</tr>
<tr>
<td><strong>DP 145</strong> PASCAL Programming for Business</td>
</tr>
<tr>
<td><strong>DP 233</strong> Operating Systems and Communications</td>
</tr>
<tr>
<td><strong>ACC 202</strong> Principles of Accounting II</td>
</tr>
<tr>
<td><strong>†Elective</strong></td>
</tr>
<tr>
<td><strong>Total:</strong></td>
</tr>
</tbody>
</table>

**SEMESTER IV**

<table>
<thead>
<tr>
<th>CREDIT HOURS</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>DP 231</strong> Assembly Language I</td>
</tr>
<tr>
<td><strong>DP 232</strong> Applied Systems</td>
</tr>
<tr>
<td><strong>DP 236</strong> Advanced COBOL Techniques or</td>
</tr>
<tr>
<td><strong>DP 246</strong> Data Base Systems</td>
</tr>
<tr>
<td><strong>Any approved DP or CS course</strong></td>
</tr>
<tr>
<td><strong>Total:</strong></td>
</tr>
</tbody>
</table>

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.

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

( 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.

<table>
<thead>
<tr>
<th>CREDIT HOURS</th>
</tr>
</thead>
<tbody>
<tr>
<td>SEMESTER I</td>
</tr>
<tr>
<td>DME 104 Caterpillar Diesel Engine ........ 5</td>
</tr>
<tr>
<td>DME 125 Automatic Transmissions ........... 2</td>
</tr>
<tr>
<td>DME 127 Shop Practices .................... 2</td>
</tr>
<tr>
<td>BPR 177 Blueprint Reading or ............... 2</td>
</tr>
<tr>
<td>BUS 105 Introduction to Business or ........ 3</td>
</tr>
<tr>
<td>ACC 131 Bookkeeping or .................... 3</td>
</tr>
<tr>
<td>COM 132 Applied Composition and Speech .... 3</td>
</tr>
<tr>
<td>MTH 195 Technical Mathematics .............. 3</td>
</tr>
<tr>
<td>† Elective .................................... 3</td>
</tr>
<tr>
<td>17-18</td>
</tr>
</tbody>
</table>

| 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

(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.

<table>
<thead>
<tr>
<th>CREDIT HOURS</th>
</tr>
</thead>
</table>

**SEMESTER I**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>DME 104</td>
<td>Caterpillar Diesel Engine</td>
<td>5</td>
</tr>
<tr>
<td>DME 123</td>
<td>Air Brake Systems</td>
<td>2</td>
</tr>
<tr>
<td>DME 127</td>
<td>Shop Practices</td>
<td>2</td>
</tr>
<tr>
<td>MTH 195</td>
<td>Technical Mathematics</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td><strong>Total</strong></td>
<td><strong>12</strong></td>
</tr>
</tbody>
</table>

**SEMESTER II**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>DME 105</td>
<td>Cummins Diesel Engine</td>
<td>5</td>
</tr>
<tr>
<td>DME 124</td>
<td>Differentials and Drive Lines</td>
<td>2</td>
</tr>
<tr>
<td>DME 128</td>
<td>Standard Transmissions and Heavy Duty Clutches</td>
<td>3</td>
</tr>
<tr>
<td>DME 141</td>
<td>Caterpillar Engine Tune-Up and Fuel Systems</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td><strong>Total</strong></td>
<td><strong>12</strong></td>
</tr>
</tbody>
</table>

**SEMESTER III**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>DME 106</td>
<td>Detroit Diesel Engine</td>
<td>5</td>
</tr>
<tr>
<td>DME 142</td>
<td>Cummins Engine Tune-Up and Fuel Systems</td>
<td>2</td>
</tr>
<tr>
<td>DME 143</td>
<td>Detroit Diesel Engine Tune-Up and Fuel Systems</td>
<td>2</td>
</tr>
<tr>
<td>DME 147</td>
<td>Heavy Truck Electrical Systems</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td><strong>Total</strong></td>
<td><strong>12</strong></td>
</tr>
</tbody>
</table>

**SEMESTER IV**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>DME 125</td>
<td>Automatic Transmissions</td>
<td>2</td>
</tr>
<tr>
<td>DME 126</td>
<td>Heavy Duty Truck Air Conditioning</td>
<td>2</td>
</tr>
<tr>
<td>DME 137</td>
<td>Fundamentals of Oxygen/Acetylene and Arc Welding</td>
<td>3</td>
</tr>
<tr>
<td>DME 148</td>
<td>Diesel Engine Air Induction Cooling and Lubrication Systems</td>
<td>2</td>
</tr>
<tr>
<td>DME 703</td>
<td>Cooperative Work Experience</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td><strong>Total</strong></td>
<td><strong>12</strong></td>
</tr>
</tbody>
</table>

Minimum Hours Required: 48
ELECTRICAL TECHNOLOGY

(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.

<table>
<thead>
<tr>
<th>CREDIT HOURS</th>
</tr>
</thead>
<tbody>
<tr>
<td>SEMESTER I</td>
</tr>
<tr>
<td>ELE 105</td>
</tr>
<tr>
<td>ELE 106</td>
</tr>
<tr>
<td>ELE 107</td>
</tr>
<tr>
<td>ELE 108</td>
</tr>
<tr>
<td>MTH 195</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td>SEMESTER II</td>
</tr>
<tr>
<td>ELE 115</td>
</tr>
<tr>
<td>ELE 116</td>
</tr>
<tr>
<td>ELE 117</td>
</tr>
<tr>
<td>ELE 118</td>
</tr>
<tr>
<td>COM 131</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td>SEMESTER III</td>
</tr>
<tr>
<td>ELE 205</td>
</tr>
<tr>
<td>ELE 206</td>
</tr>
<tr>
<td>ELE 207</td>
</tr>
<tr>
<td>ELE 208</td>
</tr>
<tr>
<td>ELE 703</td>
</tr>
<tr>
<td>ELE 704</td>
</tr>
<tr>
<td>CS 175</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td>SEMESTER IV</td>
</tr>
<tr>
<td>ELE 215</td>
</tr>
<tr>
<td>ELE 216</td>
</tr>
<tr>
<td>ELE 217</td>
</tr>
<tr>
<td>ELE 218</td>
</tr>
<tr>
<td>PSY 131</td>
</tr>
<tr>
<td>ELE 803</td>
</tr>
<tr>
<td>ELE 804</td>
</tr>
<tr>
<td>Elective</td>
</tr>
<tr>
<td></td>
</tr>
</tbody>
</table>

Minimum Hours Required: 30

Minimum Hours Required: 64
ELECTRONICS TELECOMMUNICATIONS OPTION

( 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

<table>
<thead>
<tr>
<th>SEMESTER I</th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>ET 101</td>
<td>4</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ET 190</td>
<td></td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>MTH 195</td>
<td>3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ENG 101</td>
<td></td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>PSY 105</td>
<td>3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>PSY 131</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>17</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>SEMESTER II</th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>ET 191</td>
<td>4</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ET 192</td>
<td></td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>ET 193</td>
<td></td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>MTH 196</td>
<td></td>
<td>3</td>
<td></td>
</tr>
<tr>
<td></td>
<td>17</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>SEMESTER III</th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>ET 290</td>
<td>4</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ET 291</td>
<td></td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>ET 292</td>
<td></td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>ET 293</td>
<td></td>
<td>4</td>
<td></td>
</tr>
<tr>
<td></td>
<td>16</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>SEMESTER IV</th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>ET 294</td>
<td>4</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ET 295</td>
<td></td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>ET 296</td>
<td></td>
<td>6</td>
<td></td>
</tr>
<tr>
<td>*HD 102</td>
<td></td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>*OFC 176</td>
<td></td>
<td>1</td>
<td></td>
</tr>
<tr>
<td></td>
<td>17</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

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.
ELECTRONICS TECHNOLOGY

(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.

<table>
<thead>
<tr>
<th>CREDIT HOURS</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>SEMESTER I</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>ET 190</td>
<td>DC Circuits and Electrical Measurements</td>
</tr>
<tr>
<td>ET 135</td>
<td>DC-AC Theory and Circuit Analysis</td>
</tr>
<tr>
<td>COM 131</td>
<td>Applied Composition and Speech Analysis</td>
</tr>
<tr>
<td>ENG 101</td>
<td>Composition and Expository Reading</td>
</tr>
<tr>
<td>HST 101</td>
<td>History of the United States</td>
</tr>
<tr>
<td>GVT 201</td>
<td>American Government</td>
</tr>
<tr>
<td>DFT 182</td>
<td>Technical Drafting</td>
</tr>
<tr>
<td>DFT 183</td>
<td>Basic Drafting</td>
</tr>
<tr>
<td>DFT 231</td>
<td>Electronic Drafting</td>
</tr>
<tr>
<td>Any Technical or College Level Mathematics</td>
<td>3</td>
</tr>
<tr>
<td><strong>15-19</strong></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>SEMESTER II</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>ET 191</td>
<td>AC Circuits (Unless ET 135 Completed)</td>
</tr>
<tr>
<td>ET 193</td>
<td>Active Devices</td>
</tr>
<tr>
<td>ET 194</td>
<td>Instrumentation</td>
</tr>
<tr>
<td>COM 132</td>
<td>Applied Composition and Speech Analysis</td>
</tr>
<tr>
<td>ENG 102</td>
<td>Composition and Literature</td>
</tr>
<tr>
<td>Any Technical or College Level Mathematics</td>
<td>3</td>
</tr>
<tr>
<td><strong>13-17</strong></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>SEMESTER III</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>ET 231</td>
<td>Special Circuits with Communications Applications</td>
</tr>
<tr>
<td>ET 232</td>
<td>Analysis of Electronics Logic and Switching Circuits</td>
</tr>
<tr>
<td>ET 238</td>
<td>Linear Integrated Circuits</td>
</tr>
<tr>
<td>ET 803</td>
<td>Cooperative Work Experience</td>
</tr>
<tr>
<td>ET 240</td>
<td>Electronic Theory and Application of Digital Computers</td>
</tr>
<tr>
<td>Applied Physics or College Level Physics</td>
<td>4</td>
</tr>
<tr>
<td><strong>19-20</strong></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>SEMESTER IV</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>ET 234</td>
<td>Electronic Circuits &amp; Systems</td>
</tr>
<tr>
<td>ET 237</td>
<td>Modular Memories &amp; Microprocessors</td>
</tr>
<tr>
<td>ET 239</td>
<td>Microwave Theory</td>
</tr>
<tr>
<td>HST 102</td>
<td>History of the United States</td>
</tr>
<tr>
<td>GVT 202</td>
<td>American Government</td>
</tr>
<tr>
<td>ET 210</td>
<td>Basic CRT Display</td>
</tr>
<tr>
<td>Elective</td>
<td></td>
</tr>
<tr>
<td><strong>16-17</strong></td>
<td></td>
</tr>
</tbody>
</table>

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 102  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.
MANAGEMENT CAREERS--ADMINISTRATIVE MANAGEMENT OPTION

(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

<table>
<thead>
<tr>
<th>SEMESTER I</th>
<th>CREDIT HOURS</th>
</tr>
</thead>
<tbody>
<tr>
<td>MGT 136 Principles of Management</td>
<td>3</td>
</tr>
<tr>
<td>BUS 105 Introduction to Business</td>
<td>3</td>
</tr>
<tr>
<td>*COM 131 Applied Composition and Speech or ENG 101 Composition and Expository Reading</td>
<td>3</td>
</tr>
<tr>
<td>HUM 101 Introduction to the Humanities</td>
<td>3</td>
</tr>
<tr>
<td>†Elective</td>
<td>3</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>15</strong></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>SEMESTER II</th>
<th>CREDIT HOURS</th>
</tr>
</thead>
<tbody>
<tr>
<td>MKT 206 Principles of Marketing</td>
<td>3</td>
</tr>
<tr>
<td><strong>ACC 201 Principles of Accounting I</strong></td>
<td>3</td>
</tr>
<tr>
<td>*COM 132 Applied Composition and Speech or ENG 102 Composition and Literature</td>
<td>3</td>
</tr>
<tr>
<td>CS 175 Introduction to Computer Science</td>
<td>3</td>
</tr>
<tr>
<td>MTH 111 Mathematics for Business &amp; Economics I or</td>
<td>3</td>
</tr>
<tr>
<td>MTH 122 Mathematics for Business &amp; Economics II or</td>
<td>3</td>
</tr>
<tr>
<td>MTH 130 Business Mathematics</td>
<td>15</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>SEMESTER III</th>
<th>CREDIT HOURS</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACC 202 Principles of Accounting II</td>
<td>3</td>
</tr>
<tr>
<td>BUS 234 Business Law</td>
<td>3</td>
</tr>
<tr>
<td>ECO 201 Principles of Economics I</td>
<td>3</td>
</tr>
<tr>
<td>PSY 131 Human Relations</td>
<td>3</td>
</tr>
<tr>
<td>†Elective</td>
<td>3</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>15</strong></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>SEMESTER IV</th>
<th>CREDIT HOURS</th>
</tr>
</thead>
<tbody>
<tr>
<td>MGT 242 Personnel Administration</td>
<td>3</td>
</tr>
<tr>
<td>BUS 237 Organizational Behavior</td>
<td>3</td>
</tr>
<tr>
<td>ECO 202 Principles of Economics II</td>
<td>3</td>
</tr>
<tr>
<td>OFC 231 Business Communications</td>
<td>3</td>
</tr>
<tr>
<td>Social Science or Humanities Elective</td>
<td>3</td>
</tr>
<tr>
<td>†Elective</td>
<td>3</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>18</strong></td>
</tr>
</tbody>
</table>

Minimum Hours Required: 63

†Electives — may be selected from the following:
- MGT 153 Small Business Management
- MGT 171 Introduction to Supervision
- MGT 212 Special Problems in Business
- MGT 703 Cooperative Work Experience
- MGT 704 Cooperative Work Experience
- MKT 137 Principles of Retailing
- MKT 230 Salesmanship
- MKT 233 Advertising and Sales Promotion
- OFC 160 Office Calculating Machines
- OFC 172 Beginning Typing

*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

(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 trans-
fer to a four-year institution should consult with an advisor
or counselor regarding transfer requirements.

<table>
<thead>
<tr>
<th>CREDIT HOURS</th>
</tr>
</thead>
<tbody>
<tr>
<td>SEMESTER I</td>
</tr>
<tr>
<td>MGT 136 Principles of Management .......... 3</td>
</tr>
<tr>
<td>MGT 150 Management Training ................ 4</td>
</tr>
<tr>
<td>MGT 154 Management Seminar: Role of Supervision .......... 2</td>
</tr>
<tr>
<td>BUS 105 Introduction to Business .......... 3</td>
</tr>
<tr>
<td>*COM 131 Applied Composition and Speech or ........................................ 3</td>
</tr>
<tr>
<td>ENG 101 Composition and Expository Reading ........................................ 15</td>
</tr>
<tr>
<td>SEMESTER II</td>
</tr>
<tr>
<td>MGT 151 Management Training ................ 4</td>
</tr>
<tr>
<td>MGT 155 Management Seminar: Personnel Management .......... 2</td>
</tr>
<tr>
<td>*COM 132 Applied Composition and Speech or ........................................ 3</td>
</tr>
<tr>
<td>ENG 102 Composition and Literature ..........</td>
</tr>
<tr>
<td>CS 175 Introduction to Computer Science .......... 3</td>
</tr>
<tr>
<td>HUM 101 Introduction to the Humanities .......... 3</td>
</tr>
<tr>
<td>MTH 111 Mathematics for Business and Economics I or .......... 3</td>
</tr>
<tr>
<td>MTH 112 Mathematics for Business and Economics II or .......... 3</td>
</tr>
<tr>
<td>MTH 130 Business Mathematics ................ 18</td>
</tr>
<tr>
<td>SEMESTER III</td>
</tr>
<tr>
<td>MGT 250 Management Training ................ 4</td>
</tr>
<tr>
<td>MGT 254 Management Seminar: Organization Development .......... 2</td>
</tr>
<tr>
<td>**ACC 201 Principles of Accounting I .......... 3</td>
</tr>
<tr>
<td>ECO 201 Principles of Economics I ........... 3</td>
</tr>
<tr>
<td>PSY 131 Human Relations ..................... 3</td>
</tr>
<tr>
<td>MINIMUM HOURS REQUIRED: .................... 63</td>
</tr>
<tr>
<td>❧Elective ........................................ 3</td>
</tr>
<tr>
<td>❧Elective may be selected from the following:</td>
</tr>
<tr>
<td>MGT 153 Small Business Management .......... 3</td>
</tr>
<tr>
<td>MGT 212 Special Problems in Business .......... 1</td>
</tr>
<tr>
<td>MKT 137 Principles of Retailing ............... 3</td>
</tr>
<tr>
<td>MKT 230 Salesmanship .......................... 3</td>
</tr>
<tr>
<td>MKT 233 Advertising and Sales Promotion .......... 3</td>
</tr>
<tr>
<td>OFC 160 Office Calculating Machines .......... 3</td>
</tr>
<tr>
<td>OFC 172 Beginning Typing ...................... 3</td>
</tr>
<tr>
<td>*ENG 101 and ENG 102 may be substituted for COM 131 and COM 132 provided that SPE 105 is also taken.</td>
</tr>
<tr>
<td>**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.</td>
</tr>
</tbody>
</table>
OFFICE CAREERS--ADMINISTRATIVE ASSISTANT OPTION

(The 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**

<table>
<thead>
<tr>
<th>SEMESTER I</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>++OFC 160 Office Calculating Machines</td>
<td>3</td>
</tr>
<tr>
<td>++OFC 172 Beginning Typing or</td>
<td>3</td>
</tr>
<tr>
<td>OFC 173 Intermediate Typing</td>
<td>3</td>
</tr>
<tr>
<td><strong>COM 131</strong> Applied Composition and Speech or</td>
<td>3</td>
</tr>
<tr>
<td>ENG 101 Composition and Expository Reading</td>
<td>3</td>
</tr>
<tr>
<td>MTH 130 Business Mathematics</td>
<td>3</td>
</tr>
<tr>
<td>BUS 105 Introduction to Business</td>
<td>3</td>
</tr>
<tr>
<td><strong>Elective</strong></td>
<td>3</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>18</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>SEMESTER II</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><em>OFC 173</em> Intermediate Typing or</td>
<td>3</td>
</tr>
<tr>
<td>OFC 273 Advanced Typing Applications</td>
<td>2</td>
</tr>
<tr>
<td>OFC 162 Office Procedures</td>
<td>3</td>
</tr>
<tr>
<td>++OFC 180 Principles of Word Processing</td>
<td>3</td>
</tr>
<tr>
<td>CS 175 Introduction to Computer Science</td>
<td>3</td>
</tr>
<tr>
<td>MGT 136 Principles of Management</td>
<td>3</td>
</tr>
<tr>
<td><strong>COM 132</strong> Applied Composition and Speech or</td>
<td>3</td>
</tr>
<tr>
<td>ENG 102 Composition and Literature</td>
<td>17-18</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>SEMESTER III</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>OFC 273 Advanced Typing Applications or <strong>Elective</strong></td>
<td>2</td>
</tr>
<tr>
<td>OFC 231 Business Communications</td>
<td>3</td>
</tr>
<tr>
<td>ACC 131 Bookkeeping I or</td>
<td>3</td>
</tr>
<tr>
<td>ACC 201 Principles of Accounting</td>
<td>3</td>
</tr>
<tr>
<td>PSY 131 Human Relations or</td>
<td>3</td>
</tr>
<tr>
<td>PSY 105 Introduction to Psychology</td>
<td>6</td>
</tr>
<tr>
<td><strong>Electives</strong></td>
<td>17-18</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>SEMESTER IV</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>OFC 256 Office Management or</td>
<td>3</td>
</tr>
<tr>
<td>BUS 237 Organizational Behavior</td>
<td>3</td>
</tr>
<tr>
<td>HUM 101 Introduction to the Humanities</td>
<td>3</td>
</tr>
<tr>
<td><strong>Electives</strong></td>
<td>9</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>15</td>
</tr>
</tbody>
</table>

Minimum Hours Required: 67

**Electives** must be taken from the following:

<table>
<thead>
<tr>
<th>Course</th>
<th>Description</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>OFC 192</td>
<td>Any OFC course may be selected</td>
<td>3-4</td>
</tr>
<tr>
<td>OFC 803/804</td>
<td>Cooperative Work Experience</td>
<td>3-4</td>
</tr>
<tr>
<td>ACC 132</td>
<td>Bookkeeping II</td>
<td>3</td>
</tr>
<tr>
<td>ACC 202</td>
<td>Principles of Accounting II</td>
<td>3</td>
</tr>
<tr>
<td>BUS 143</td>
<td>Personal Finance</td>
<td>3</td>
</tr>
<tr>
<td>BUS 234</td>
<td>Business Law</td>
<td>3</td>
</tr>
<tr>
<td>BUS 237</td>
<td>Organizational Behavior</td>
<td>3</td>
</tr>
<tr>
<td>MGT 242</td>
<td>Personnel Administration</td>
<td>3</td>
</tr>
<tr>
<td>CS 250</td>
<td>Contemporary Topics in Computer Science</td>
<td>3</td>
</tr>
<tr>
<td>CS 251</td>
<td>Special Topics in Computer Science</td>
<td>3-4</td>
</tr>
<tr>
<td>ECO 201</td>
<td>Principles of Economics I</td>
<td>3</td>
</tr>
<tr>
<td>SPE 105</td>
<td>Fundamentals of Public Speaking</td>
<td>3</td>
</tr>
</tbody>
</table>

*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

(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.

<table>
<thead>
<tr>
<th>SEMESTER I</th>
</tr>
</thead>
<tbody>
<tr>
<td>OFC 160 Office Calculating Machines</td>
</tr>
<tr>
<td>OFC 172 Beginning Typing</td>
</tr>
<tr>
<td>COM 131 Applied Composition and Speech</td>
</tr>
<tr>
<td>ENG 101 Composition and Expository Reading</td>
</tr>
<tr>
<td>MTH 130 Business Mathematics</td>
</tr>
<tr>
<td>Electives</td>
</tr>
<tr>
<td>Total</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>SEMESTER II</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACC 131 Bookkeeping I</td>
</tr>
<tr>
<td>BUS 105 Introduction to Business</td>
</tr>
<tr>
<td>CS 175 Introduction to Computer Science</td>
</tr>
<tr>
<td>Electives</td>
</tr>
<tr>
<td>Total</td>
</tr>
</tbody>
</table>

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 Management 3
- COM 132 Applied Composition and Speech 3
- PSY 105 Introduction to Psychology or Human Relations 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 Cooperative Work Experience 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

(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.

<table>
<thead>
<tr>
<th>CREDIT HOURS</th>
</tr>
</thead>
<tbody>
<tr>
<td>SEMESTER I</td>
</tr>
<tr>
<td>†OFC 160 Office Calculating Machines        3</td>
</tr>
<tr>
<td>OFC 162 Office Procedures                   3</td>
</tr>
<tr>
<td>†OFC 172 Beginning Typing                   3</td>
</tr>
<tr>
<td>COM 131 Applied Composition and Speech or</td>
</tr>
<tr>
<td>ENG 101 Composition and Expository Reading</td>
</tr>
<tr>
<td>MTH 130 Business Mathematics                 3</td>
</tr>
<tr>
<td>†Elective                                        3</td>
</tr>
<tr>
<td><strong>18</strong></td>
</tr>
</tbody>
</table>

| 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:

<table>
<thead>
<tr>
<th>Course Numbers</th>
<th>Description</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>OFC 103</td>
<td>Speedwriting Theory</td>
<td>4</td>
</tr>
<tr>
<td>OFC 104</td>
<td>Speedwriting Dictation</td>
<td>3</td>
</tr>
<tr>
<td>OFC 159</td>
<td>Beginning Shorthand</td>
<td>4</td>
</tr>
<tr>
<td>OFC 166</td>
<td>Intermediate Shorthand</td>
<td>4</td>
</tr>
<tr>
<td>OFC 231</td>
<td>Business Communications</td>
<td>3</td>
</tr>
<tr>
<td>ACC 132</td>
<td>Bookkeeping II</td>
<td>3</td>
</tr>
<tr>
<td>ACC 201</td>
<td>Principles of Accounting I</td>
<td>3</td>
</tr>
<tr>
<td>COM 132</td>
<td>Applied Composition and Speech</td>
<td>3</td>
</tr>
<tr>
<td>PSY 105</td>
<td>Introduction to Psychology or</td>
<td>3</td>
</tr>
<tr>
<td>PSY 131</td>
<td>Human Relations</td>
<td></td>
</tr>
<tr>
<td>MGT 136</td>
<td>Principles of Management</td>
<td>3</td>
</tr>
<tr>
<td>BUS 234</td>
<td>Business Law</td>
<td>3</td>
</tr>
<tr>
<td>CS 250</td>
<td>Contemporary Topics in Computer Science</td>
<td>3</td>
</tr>
<tr>
<td>OFC 273</td>
<td>Advanced Typing Applications</td>
<td>2</td>
</tr>
<tr>
<td>OFC 275</td>
<td>Secretarial Procedures</td>
<td>3</td>
</tr>
<tr>
<td>OFC 800</td>
<td>Cooperative Work Experience or</td>
<td>3</td>
</tr>
<tr>
<td>OFC 804</td>
<td>Cooperative Work Experience</td>
<td>(4)</td>
</tr>
</tbody>
</table>

*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 — LEGAL SECRETARY OPTION

(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.

<table>
<thead>
<tr>
<th>CREDIT HOURS</th>
</tr>
</thead>
<tbody>
<tr>
<td>SEMESTER I</td>
</tr>
<tr>
<td>OFC 159 Beginning Shorthand or Speedwriting</td>
</tr>
<tr>
<td>OFC 103 Speedwriting</td>
</tr>
<tr>
<td>†OFC 160 Office Calculating Machines</td>
</tr>
<tr>
<td>††OFC 172 Beginning Typing ▲ or Intermediate Typing</td>
</tr>
<tr>
<td>**COM 131 Applied Composition and Speech Reading</td>
</tr>
<tr>
<td>ENG 101 Composition and Expository Reading</td>
</tr>
<tr>
<td>MTH 130 Business Mathematics</td>
</tr>
<tr>
<td>Total</td>
</tr>
<tr>
<td>SEMESTER II</td>
</tr>
<tr>
<td>†‡OFC 166 Intermediate Shorthand ▲ or Speedwriting Dictation</td>
</tr>
<tr>
<td>OFC 104 Speedwriting Dictation</td>
</tr>
<tr>
<td>OFC 173 Intermediate Typing ▲ or Advanced Typing Applications</td>
</tr>
<tr>
<td>OFC 273 Advanced Typing Applications</td>
</tr>
<tr>
<td>ACC 132 Bookkeeping I ▲ or</td>
</tr>
<tr>
<td>ACC 201 Principles of Accounting I</td>
</tr>
<tr>
<td>BUS 105 Introduction to Business</td>
</tr>
<tr>
<td>**COM 132 Applied Composition and Speech Reading</td>
</tr>
<tr>
<td>ENG 102 Composition and Literature</td>
</tr>
<tr>
<td>Total</td>
</tr>
<tr>
<td>SEMESTER III</td>
</tr>
<tr>
<td>†‡OFC 180 Principles of Word Processing ▲</td>
</tr>
<tr>
<td>OFC 167 Legal Terminology and transcription</td>
</tr>
<tr>
<td>OFC 231 Business Communications</td>
</tr>
<tr>
<td>CS 175 Introduction to Computer Science</td>
</tr>
<tr>
<td>OFC 273 Advanced Typing Applications ▲ or Elective</td>
</tr>
<tr>
<td>†Elective</td>
</tr>
<tr>
<td>Total</td>
</tr>
</tbody>
</table>

Minimum Hours Required: 61

†Electives — must be selected from the following:

- OFC Any OFC Course may be selected
- OFC 803/804 Cooperative Work Experience ▲
- ACC 132 Bookkeeping II ▲
- ACC 202 Principles of Accounting II ▲
- BUS 143 Personal Finance ▲
- BUS 234 Business Law ▲
- BUS 237 Organizational Behavior ▲
- MGT 136 Principles of Management ▲
- MGT 242 Personnel Administration ▲
- CS 250 Contemporary Topics in Computer Science ▲
- CS 251 Special Topics in Computer Science and Data Processing ▲
- ECO 201 Principles of Economics I ▲
- SPE 105 Fundamentals of Public Speaking ▲

*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

(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 .......................... 3
††OFC 172 Beginning Typing or ........... 3
OFC 173 Intermediate Typing .. 3
**COM 131 Applied Composition and Speech or ........... 3
ENG 101 Composition and Expository Reading ................... 3
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 ....... 3
BUS 105 Introduction to Business .... 3
**COM 132 Applied Composition and Speech or ........... 3
ENG 102 Composition and Literature .... 3

17-19

††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 .... 3
††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

††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 186. OFC 181, OFC 182 and OFC 185 taken cumulatively will be equivalent to OFC 180.

††NOTE:

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
MG 136 Principles of Management ........... 3
MG 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.
OPTICAL TECHNOLOGY

(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.

<table>
<thead>
<tr>
<th>CREDIT HOURS</th>
</tr>
</thead>
<tbody>
<tr>
<td>SEMESTER I</td>
</tr>
<tr>
<td>OPT 101 Ophthalmic Materials</td>
</tr>
<tr>
<td>OPT 102 Ophthalmic Grinding and Polishing</td>
</tr>
<tr>
<td>OPT 103 Optical Lens Design and Measurements</td>
</tr>
<tr>
<td>OPT 104 Optical Lens and Frame Selection</td>
</tr>
<tr>
<td>MTH 195 Technical Mathematics</td>
</tr>
<tr>
<td>15</td>
</tr>
<tr>
<td>SEMESTER II</td>
</tr>
<tr>
<td>OPT 205 Anatomy and Physiology of the Eye</td>
</tr>
<tr>
<td>OPT 206 Introduction to Contact Lenses</td>
</tr>
<tr>
<td>OPT 207 Bifocal and Trifocal Lenses</td>
</tr>
<tr>
<td>PHY 131 Applied Physics</td>
</tr>
<tr>
<td>13</td>
</tr>
<tr>
<td>SUMMER SEMESTERS I &amp; II (12 weeks)</td>
</tr>
<tr>
<td>OPT 703 Cooperative Work Experience</td>
</tr>
<tr>
<td>SEMESTER III</td>
</tr>
<tr>
<td>OPT 208 Ophthalmic Laboratory Equipment</td>
</tr>
<tr>
<td>OPT 209 Ophthalmic Dispensing Ethics</td>
</tr>
<tr>
<td>OPT 211 Optical Principles</td>
</tr>
<tr>
<td>OPT 803, 813 Cooperative Work Experience</td>
</tr>
<tr>
<td>12</td>
</tr>
<tr>
<td>Minimum Hours Required:</td>
</tr>
</tbody>
</table>

OPTICAL 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.

<table>
<thead>
<tr>
<th>CREDIT HOURS</th>
</tr>
</thead>
<tbody>
<tr>
<td>SEMESTER I</td>
</tr>
<tr>
<td>OPT 101 Ophthalmic Materials</td>
</tr>
<tr>
<td>OPT 102 Ophthalmic Grinding and Polishing</td>
</tr>
<tr>
<td>COM 131 Applied Composition and Speech or ENG 101 Composition and Expository Reading</td>
</tr>
<tr>
<td>MTH 195 Technical Mathematics</td>
</tr>
<tr>
<td>PSY 131 Human Relations</td>
</tr>
<tr>
<td>15</td>
</tr>
<tr>
<td>SEMESTER II</td>
</tr>
<tr>
<td>OPT 103 Optical Lens Design and Measurements</td>
</tr>
<tr>
<td>OPT 104 Optical Lens and Frame Selection</td>
</tr>
<tr>
<td>BUS 105 Introduction to Business</td>
</tr>
<tr>
<td>GVT 201 American Government or HST 101 History of the United States</td>
</tr>
<tr>
<td>PHY 131 Applied Physics</td>
</tr>
<tr>
<td>16</td>
</tr>
<tr>
<td>SUMMER SEMESTERS I &amp; II (12 weeks)</td>
</tr>
<tr>
<td>OPT 703 Cooperative Work Experience</td>
</tr>
<tr>
<td>SEMESTER III</td>
</tr>
<tr>
<td>OPT 205 Anatomy and Physiology of the Eye</td>
</tr>
<tr>
<td>OPT 206 Introduction to Contact Lenses</td>
</tr>
<tr>
<td>OPT 207 Bifocal and Trifocal Lenses</td>
</tr>
<tr>
<td>OPT 208 Ophthalmic Laboratory Equipment</td>
</tr>
<tr>
<td>OPT 803 Cooperative Work Experience</td>
</tr>
<tr>
<td>15</td>
</tr>
<tr>
<td>SEMESTER IV</td>
</tr>
<tr>
<td>Lab Majors</td>
</tr>
<tr>
<td>OPT 209 Ophthalmic Dispensing Ethics</td>
</tr>
<tr>
<td>OPT 211 Optical Principles</td>
</tr>
<tr>
<td>OPT 813 Cooperative Work Experience</td>
</tr>
<tr>
<td>†Elective</td>
</tr>
<tr>
<td>12</td>
</tr>
<tr>
<td>Dispensing Majors</td>
</tr>
<tr>
<td>OPT 210 Ophthalmic Fitting</td>
</tr>
<tr>
<td>OPT 212 Measurements</td>
</tr>
<tr>
<td>OPT 213 Dispensing Occupational Eyewear</td>
</tr>
<tr>
<td>OPT 813 Cooperative Work Experience</td>
</tr>
<tr>
<td>12</td>
</tr>
<tr>
<td>Minimum Hours Required:</td>
</tr>
</tbody>
</table>
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.

<table>
<thead>
<tr>
<th>CREDIT HOURS</th>
</tr>
</thead>
<tbody>
<tr>
<td>SEMESTER I</td>
</tr>
<tr>
<td>POP 101 Introduction to Precision Optics Technology ..................... 3</td>
</tr>
<tr>
<td>POP 104 Industrial Shop Safety ........................................... 3</td>
</tr>
<tr>
<td>BPR 177 Blueprint Reading ................................................... 2</td>
</tr>
<tr>
<td>COM 131 Applied Composition &amp; Speech ....................................... 3</td>
</tr>
<tr>
<td>MTH 195 Technical Mathematics ............................................. 3</td>
</tr>
<tr>
<td>14</td>
</tr>
</tbody>
</table>

| 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
REAL ESTATE

(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.

<table>
<thead>
<tr>
<th>CREDIT HOURS</th>
</tr>
</thead>
<tbody>
<tr>
<td>SEMESTER I</td>
</tr>
<tr>
<td>*COM 131 Applied Composition and Speech or ENG 101 Composition and Expository Reading</td>
</tr>
<tr>
<td>.....            3</td>
</tr>
<tr>
<td>BUS 105 Introduction to Business 3</td>
</tr>
<tr>
<td>MTH 130 Business Mathematics or</td>
</tr>
<tr>
<td>MTH 111 Mathematics for Business and Economics I</td>
</tr>
<tr>
<td>RE 130 Real Estate Principles 3</td>
</tr>
<tr>
<td>RE 131 Real Estate Finance 3</td>
</tr>
<tr>
<td>15</td>
</tr>
</tbody>
</table>

| SEMESTER II   |
| *COM 132 Applied Composition and Speech or ENG 102 Composition and Literature |
| .....            3|
| 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 |
| 15               |

| 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 |
| 15               |

| SEMESTER IV    |
| GVT 201 American Government 3 |
| ACC 201 Principles of Accounting I 3 |
| ♦Elective 9 |
| 15               |

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 if the 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.
VIDEO-TECHNOLOGY

( 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:

<table>
<thead>
<tr>
<th>CREDIT HOURS</th>
<th>SEMESTER I</th>
</tr>
</thead>
<tbody>
<tr>
<td>VFT 102 Contemporary Trends in Video Production</td>
<td>1</td>
</tr>
<tr>
<td>VFT 104 Video Software and Equipment Theory</td>
<td>3</td>
</tr>
<tr>
<td>VFT 106 Video Production I</td>
<td>4</td>
</tr>
<tr>
<td>VFT 108 Video Sound and Lighting I</td>
<td>3</td>
</tr>
<tr>
<td>ENG 101 Composition and Expository Reading</td>
<td>3</td>
</tr>
<tr>
<td>MTH 101 College Algebra or</td>
<td>3</td>
</tr>
<tr>
<td>MTH 130 Business Mathematics or</td>
<td></td>
</tr>
<tr>
<td>MTH 195 Technical Mathematics</td>
<td>17</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>SEMESTER II</th>
</tr>
</thead>
<tbody>
<tr>
<td>VFT 102 Video Production II</td>
</tr>
<tr>
<td>VFT 112 Video Editing and Post-Production I</td>
</tr>
<tr>
<td>VFT 114 Video Engineering I</td>
</tr>
<tr>
<td>SPE 105 Fundamentals of Public Speaking</td>
</tr>
<tr>
<td>†Elective</td>
</tr>
<tr>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>SEMESTER III</th>
</tr>
</thead>
<tbody>
<tr>
<td>VFT 202 Video Production III</td>
</tr>
<tr>
<td>VFT 206 Video Sound and Lighting II</td>
</tr>
<tr>
<td>VFT 803 Cooperative Work Experience or</td>
</tr>
<tr>
<td>VFT 804 Cooperative Work Experience</td>
</tr>
<tr>
<td>PSY 131 Human Relations or</td>
</tr>
<tr>
<td>PHY 131 Applied Physics</td>
</tr>
<tr>
<td>CS 175 Introduction to Computer Science or</td>
</tr>
<tr>
<td>HUM 101 Introduction to the Humanities or</td>
</tr>
<tr>
<td>ART 104 Art Appreciation</td>
</tr>
<tr>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>SEMESTER IV</th>
</tr>
</thead>
<tbody>
<tr>
<td>VFT 210 Video Production IV</td>
</tr>
<tr>
<td>VFT 212 Video Editing and Post-Production II</td>
</tr>
<tr>
<td>VFT 214 Business Aspects of Video Management</td>
</tr>
<tr>
<td>VFT 813 Cooperative Work Experience or</td>
</tr>
<tr>
<td>VFT 814 Cooperative Work Experience</td>
</tr>
<tr>
<td>†Elective</td>
</tr>
<tr>
<td></td>
</tr>
</tbody>
</table>

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 |
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.

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.)

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) 207 Intermediate Accounting II (3)
This course continues Accounting 203. Principles and problems in fixed liabilities and capital stock are examined. Equities, business combinations and the analysis and interpretation of supplementary statements are also included. (3 Lec.)

(ACC) 238 Cost Accounting (3)
Prerequisite: Accounting 202. The theory and practice of accounting for a manufacturing concern are presented. The measurement and control of material, labor, and factory overhead are studied. 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 proprietors. 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).

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.)

(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., 2 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, condensors, 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, condensors, 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
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) 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. (2 Lec., 3 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) 703, 713, 803, 813 (3)
(See Cooperative Work Experience)

(AC) 704, 714, 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, geophysical 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, geophysical 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) 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.)

(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) 102 Cultural Anthropology (3)
Emphasis is on the development of visual and aesthetic awareness. (3 Lec.)

(ANT) 103 Introduction To 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 Cultural Anthropology (3)
Emphasis is on the development of visual and aesthetic awareness. (3 Lec.)

(ANT) 105 Survey Of Anthropology (3)
This course covers the history of art from prehistoric time through the Renaissance. It explores the culture, geophysical and personal influences on art styles. (3 Lec.)

(ANT) 106 Survey Of Anthropology (3)
This course covers the history of art from the Baroque period through the present. It explores the cultural, geophysical and personal influences on art styles. (3 Lec.)

(ANT) 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.)

(ANT) 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.)

(ANT) 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.)

(ANT) 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.)

(ANT) 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.)

(ANT) 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.)

(ANT) 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) 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) 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.)
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.)

(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.)

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 systems: digestive, circulatory, respiratory, urinary, and reproductive. Emphasis is on homeostasis. Laboratory fee. (3 Lec., 3 Lab.)

(BIO) 123 Applied Anatomy And Physiology (4)
This course surveys human anatomy and physiology. The various body systems are studied and examined. This course is suggested for students of the health occupations in accordance with their program requirements. It is open to other students. This course will apply toward meeting the science requirement for non-science majors. No previous science background is presumed. Laboratory fee. (3 Lec., 2 Lab.)

(BIO) 203 Intermediate Botany (4)
Prerequisites: Biology 101 and 102. The major plant groups are surveyed. Emphasis is on morphology, physiology, classification, and life cycles. Evolutionary relationships of
plants to each other and their economic importance to humans are also covered. 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.)

(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) 207 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) 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, stereochemistry, 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, polyfunctional 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 202, 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.)

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/sort 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.)
COMPUTER SCIENCE CONTINUED

(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.)

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.

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 I (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 tech-
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 multiprocessor 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.
(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.)

(DF) 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.)

(DF) 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.)

(DF) 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.)

(DF) 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., 3 Lab.)

(DF) 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.)

(DF) 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.)

(DF) 246 Data Base Systems (4)
Prerequisites: Data Processing 136 or demonstrated competence approved by the instructor. This course is an introduction to applications program development in a 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.)

(DF) 701, 711, 801, 811 (1)
(See Cooperative Work Experience)

(DF) 702, 712, 802, 812 (2)
(See Cooperative Work Experience)

(DF) 703, 713, 803, 813 (3)
(See Cooperative Work Experience)

(DF) 704, 714, 804, 814 (4)
(See Cooperative Work Experience)

DEVELOPMENTAL MATHEMATICS

(DFM) Developmental Mathematics

(DFM) 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 proportion. (1 Lec.)

(DFM) 061 Basic Mathematics II (1)
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.)

(DFM) 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.)

(DFM) 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. 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 designed 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, oxyacetylene 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)

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 antitrust policy, business deregulation, social security, wage and price controls, budget deficits, economic growth, medical care, nuclear power, farm policy, labor unions, foreign trade, and economic stabilization. This course is 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.)

ELECTRONICS TECHNOLOGY

(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 relating to 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)

(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., 96 Contact Hours)

(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) 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, multivibrators, 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) 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 busses 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 introduction to BASIC language programming for electronic circuit analysis is also included. Laboratory experiments in addition to computer programming include basic logic gate analysis and test procedures. Laboratory fee. (3 Lec., 3 Lab.)

(ET) 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)
Prerequisites: 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)
Prerequisite: Electronics Technology 290 or concurrent enrollment in Electronics Technology 290. This course will familiarize the student with the following topics: telephone set, public switched networks, local exchanges, networks, two- and four-wire systems, tip and ringing requirements, and an introduction to digital transmission techniques. Laboratory fee. (3 Lec., 3 Lab.)

(ET) 293 Basic Radio Circuity (4)
Prerequisite: Electronics Technology 290 or concurrent enrollment in Electronics Technology 290. This course covers the theory and practices of modern communications systems. Topics include amplitude modulation, frequency modulation, single sideband techniques and digital radio characteristics. Laboratory fee. (3 Lec., 3 Lab.)

(ET) 296 System Installation and Testing (6)
Prerequisite: 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) 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.)

(ET) 294 High Frequency Transmission Systems (4)
Prerequisite: 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, fiber optics principles and satellite communication are major areas of emphasis. Laboratory fee. (3 Lec., 3 Lab.)

(ET) 296 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.)

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.

(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 litera-
ture 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.)
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) 101 Beginning French (4)
The course is a continuation of French 101. Emphasis is on idiomatic language and complicated syntax. 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.)

(FR) 205 Introduction To French Literature (3)
Prerequisite: 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. (3 Lec., 3 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.)

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 nation 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) 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.)

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 Intercultural 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.)

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.)

JOURNALISM

(JN) 101 Introduction To Mass Communications (3)
This course surveys the field of mass communications. Emphasis is on the role of mass media in modern society. (3 Lec.)

(JN) 102 News Gathering And Writing (3)
Prerequisite: Typing ability. This course focuses upon recognizing newsworthy events, gathering information and writing the straight news story. It provides a basis for future study in newspaper and magazine writing, advertising, broadcast journalism and public relations. Students are required to write for the campus newspaper. (2 Lec., 3 Lab.)

(JN) 103 News Gathering And Writing (3)
Prerequisite: Journalism 102 or professional experience approved by the instructor. This course is a continuation of Journalism 102. Students study and practice writing more complex stories, such as features, profiles, 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.)
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) 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) 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 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 man-
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 analysis methods. 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)

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) 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 sales people and retailers. The management of promotion programs is covered, including goals, strategies, evaluation, and control of promotional activities. (3 Lec.)

MATHMATICS

(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, solutions 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 sets, 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.)

(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 the 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.)

MUSIC

(MUS) 103 Guitar 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) 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) 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.)

(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) 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: 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) 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) 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) 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) 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) 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.)

(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.)

OFFICE CAREERS

(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 rates. Special attention is given to the review of grammar, spelling, and punctuation rules. Laboratory fee. (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.)

(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 letters, 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)
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 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) 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.)

(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 refractorist'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 decetration to fit prescription specifications, 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)
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.)

(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) 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) 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) 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) 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) 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) 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) 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.)

(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) 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 swimming ability. This course qualifies students for the Red Cross Advanced Life Saving 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) 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 lifesaving 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.)
This course is primarily for non-science majors. It is a study technical course in physics. Mechanics and heat are introduced and atomic theory are explained. Laboratory fee. (PSC) 118 Physical Science (4).

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. (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. (PHV) 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. (PHV) 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. (PHV) 113 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. (PHV) 114 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. (PHY) 201 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. (PHY) 202 General 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. (PHY) 203 Introduction To Modern Physics (4)

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. (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. (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 milling, blocking, core drilling, generating and sawing precision optical elements is identified and developed. Classroom instruction and actual machine operation are included. Laboratory fee. (POP) 104 Industrial Shop Safety (3)
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 Lee., 3 Lab.)

(Pop) 201 Basic Precision Optics Theory (3)
This course includes basic theory of lens design, properties of wares and ware motion, refraction and reflection, Hugen's principle, and a functional understanding of optical instrument design. (3 Lee.)

(Pop) 203 Precision Optics Quality Control (3)
The faction 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 Lee.)

(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 Lee. 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 Lee. 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.)

(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.)
READING

(RE) 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.)

(RE) 102 Speed Reading And Learning (3)
Reading and learning skills are addressed. Speed reading techniques and comprehension are emphasized. Learning and memory skills are also covered. (3 Lec.)

REAL ESTATE

(RE) 130 Real Estate Principles (3)
This course provides an overview of licensing for the real estate broker and salesman, ethics of practice, titles to and conveyancing of real estate, legal descriptions, law of agency, deeds, encumbrances and liens. Distinctions between personal and real property, contracts, appraisal, finance and regulations, closing procedures, and real estate mathematics are also included. Three classroom hours will be devoted to federal, state and local laws governing housing discrimination, housing credit discrimination, and community reinvestment. (3 Lec.)

(RE) 131 Real Estate Finance (3)
Prerequisite: Real Estate 130 or concurrent enrollment in Real Estate 130 or equivalent. This course covers monetary systems, primary and secondary money markets, sources of mortgage loans, federal government programs and loan applications, processes, and procedures. Closing costs, alternative financial instruments, equal credit opportunity 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. (3 Lec.)

(RE) 135 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) 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) 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) 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.)

SOCI OCIOLOGY

(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) 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) 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.)

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 201 or the equivalent. This course is a continuation of Spanish 201. Contemporary literature and composition are studied. (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 reading 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) 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.)

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, costing, 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) 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 a continuation of theatre 107. Emphasis is on developing dramatic action through detailed study of text 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)

(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 ground plans, 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.)

**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)
Prerequisites: 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 shot 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 III (5)
Prerequisites: 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 productions with real deadlines and quality control restrictions. Students will be introduced to a variety of more sophisticated production equipment than used in Video Technology 106 or 110. 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 use 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 student's 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)
Prerequisites: 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, tilting, 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)