North Lake College
1983-84 Catalog

5001 N. MacArthur Blvd. • Irving, Texas 75062
a member of the Dallas County Community College District
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North Lake College

NORTH LAKE COLLEGE
Member of the Southern Association of Colleges and Schools (SACS)
Member of the American Association of Community and Junior Colleges
Member of Texas Public Community/Junior College Association
Member of the Association of Texas Colleges and Universities
Member of the League for Innovation in the Community College
An Affirmative Action Equal Opportunity Institution

This catalog contains policies, regulations, and procedures in existence at the time this publication went to press. The College reserves the right to make changes at any time to reflect current Board policies, administrative regulations and procedures, and applicable state and federal laws and regulations. This catalog is for informational purposes and does not constitute a contract.
# Academic Calendar

## FALL SEMESTER, 1983

<table>
<thead>
<tr>
<th>Date</th>
<th>Event</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aug. 17</td>
<td>Faculty reports</td>
</tr>
<tr>
<td>Aug. 18</td>
<td>Registration</td>
</tr>
<tr>
<td>Aug. 19</td>
<td>Faculty development</td>
</tr>
<tr>
<td>Aug. 22</td>
<td>Classes begin</td>
</tr>
<tr>
<td>Aug. 23</td>
<td>Saturday classes begin</td>
</tr>
<tr>
<td>Aug. 31</td>
<td>Last day for tuition refund</td>
</tr>
<tr>
<td>Sept. 5</td>
<td>Labor Day holiday</td>
</tr>
<tr>
<td>Sept. 7</td>
<td>12th class day</td>
</tr>
<tr>
<td>Nov. 24</td>
<td>Thanksgiving holidays begin</td>
</tr>
<tr>
<td>Nov. 29</td>
<td>Classes resume</td>
</tr>
<tr>
<td>Dec. 2</td>
<td>Last day to withdraw &quot;W&quot;</td>
</tr>
<tr>
<td>Dec. 13</td>
<td>Last day of classes</td>
</tr>
<tr>
<td>Dec. 14-16</td>
<td>Final examinations</td>
</tr>
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## SPRING SEMESTER, 1984

<table>
<thead>
<tr>
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<tbody>
<tr>
<td>Jan. 9</td>
<td>Faculty reports</td>
</tr>
<tr>
<td>Jan. 10-12</td>
<td>Registration</td>
</tr>
<tr>
<td>Jan. 13</td>
<td>Faculty development</td>
</tr>
<tr>
<td>Jan. 14</td>
<td>Saturday classes begin</td>
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<tr>
<td>Jan. 16</td>
<td>Classes begin</td>
</tr>
<tr>
<td>Jan. 23</td>
<td>Last day for tuition refund</td>
</tr>
<tr>
<td>Jan. 27</td>
<td>12th class day</td>
</tr>
<tr>
<td>Feb. 16</td>
<td>District Conference Day</td>
</tr>
<tr>
<td>Feb. 17</td>
<td>Faculty development</td>
</tr>
<tr>
<td>Mar. 19</td>
<td>Spring break begins</td>
</tr>
<tr>
<td>Mar. 23</td>
<td>Spring holiday for all employees</td>
</tr>
<tr>
<td>Apr. 20</td>
<td>Easter holidays begin</td>
</tr>
<tr>
<td>Apr. 23</td>
<td>Classes resume</td>
</tr>
<tr>
<td>Apr. 27</td>
<td>Last day to withdraw &quot;W&quot;</td>
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<tr>
<td>May 9</td>
<td>Last day of classes</td>
</tr>
<tr>
<td>May 10-11</td>
<td>Final examinations</td>
</tr>
<tr>
<td>(RFM)</td>
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<tr>
<td>May 12</td>
<td>Final exams, Sat. classes</td>
</tr>
<tr>
<td>May 15</td>
<td>Graduation</td>
</tr>
<tr>
<td>May 17</td>
<td>Semester closes</td>
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## SUMMER SESSIONS, 1984

### First Session

<table>
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<tbody>
<tr>
<td>May 25</td>
<td>Registration</td>
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<tr>
<td>May 28</td>
<td>Memorial Day holiday</td>
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<td>May 29</td>
<td>Classes begin</td>
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<tr>
<td>June 1</td>
<td>Last day for tuition refund</td>
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<td>June 25</td>
<td>Last day to withdraw &quot;W&quot;</td>
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<tr>
<td>July 2</td>
<td>Final examinations</td>
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<tr>
<td>July 2</td>
<td>Semester closes</td>
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### Second Session

<table>
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<tr>
<td>July 5</td>
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<td>July 9</td>
<td>Classes begin</td>
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<tr>
<td>July 10</td>
<td>Last day for tuition refund</td>
</tr>
<tr>
<td>July 12</td>
<td>4th class day</td>
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<tr>
<td>Aug. 3</td>
<td>Last day to withdraw &quot;W&quot;</td>
</tr>
<tr>
<td>Aug. 10</td>
<td>Final examinations</td>
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<tr>
<td>Aug. 10</td>
<td>Semester closes</td>
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## 1983

<table>
<thead>
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<td>MAY</td>
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<tr>
<td>AUGUST</td>
<td>1 2 3 4 5 6 7</td>
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## 1984

<table>
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<th>Month</th>
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<tbody>
<tr>
<td>JANUARY</td>
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<td>FEBRUARY</td>
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<tr>
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<tr>
<td>AUGUST</td>
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North Lake is a college that makes learning opportunities accessible to all citizens of the area. It is another link in the Dallas County Community College District's commitment to build facilities close to the communities where people live and work.

THE CAMPUS
Opened in 1977, North Lake is one of the newer members of the District. The split-level college is situated on 276 wooded acres in the Las Colinas area of Irving, and has won numerous architectural design awards for the skillful blending of brick terraced buildings into the surrounding natural beauty.

Jogging trails, athletic fields, tennis courts and a man-made lake provide the backdrop for the nine-building campus. The excellent facilities of North Lake's $21 million campus include a 450 seat performance hall, a 2,000-seat field house, an arena theatre and exceptionally well-equipped laboratories, studios and learning centers. The outstanding facilities provide a stimulating and pleasant environment for students to encounter and explore new educational opportunities.

PROGRAMS & LEARNING OPTIONS
However, North Lake is more than just
a campus. Faculty and staff work hard to implement the best known concepts in teaching and learning, making North Lake an exciting center for personal growth for each of its 10,000 plus students.

The college's administrators also recognize that learning can 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 locations.

Through this far-reaching extension of the North Lake "campus," the whole community can be involved in a meaningful educational process. This broad-mindedness also provides students the benefits of "real world" experience created from the marriage of pure education and society at large.

Among the many fine curriculum offerings at North Lake, several are unique within the District and even the state. North Lake is one of three colleges in the entire nation to offer a two-year Associate Degree program in Solar Energy Technology, and one of three colleges in the state of Texas to offer a curriculum in Optical Technology.

Other career programs unique to North Lake within the District are the Building Trades of Carpentry and Electricity, Distribution Technology and Diesel Mechanics.

Additional outstanding programs such as management, real estate and nursing courses provide students with a wide variety of career choices.

FACULTY & STUDENTS
Of North Lake's 65 full-time faculty members, approximately 70% hold Masters Degrees and 30% hold Doctorates in their fields. An additional 100 instructors teach as part-time faculty, and approximately 120 instructors teach in the college's Community Service program.

The average age of North Lake's students is 29, although the majority of credit students is between the ages of 18 and 22. About 40% of the students attend day classes, 50% attend evening classes, and 10% attend both. More than half of the credit students work in addition to their college studies.

North Lake College is tuned in to the educational needs of tomorrow, offering specially designed courses for business and industry, developing telecourses and cable TV programs, and projecting the needs of the "over 30" age group that will form the majority of our population by 1990. It is, in every sense of the word, a community college.
In addition to the traditional Associate Degrees, North Lake offers the Associate in General Studies Degree for students desiring education for individual development. Students make their own course selections from liberal studies, technical/occupational offerings, adult continuing education courses, and non-credit Community Service Programs.

To earn this degree, students must complete at least 60 General Studies Units (GSU's). One GSU is awarded for one credit hour or 1.5 Continuing Education Units (CEU's) of work. One CEU is awarded for 10 contact hours of participation in an organized continuing education program, such as Community Service Programs. The number of CEU's for Community Service Programs are indicated in the Community Service Catalog.

Students pursue the degree under the supervision of the Committee on General Studies. The Committee assigns an advisor for each student. The advisor and student work together to design the individual degree plan. The degree plan must be reviewed and approved by the full committee.

The program has five areas of study. Students must earn at least nine GSU's in at least four of the five areas for a total of 36 GSU's.

1. Communication skills—English, Communications, Journalism, Speech, etc.
2. Personal Growth and Development—Psychology, Human Development, Personal Finance, etc.
3. The Dimensions of Society—History, Sociology, Government, Economics, Business, etc.
4. Humanities and Recreation—Physical Education, Art, Music, Theatre, Humanities, etc.
5. Experiential Learning—Specially designed courses which can include a wide range of learning experiences under the College's auspices. These include, but are not limited to, internships, short-term or long-term seminars, or working experiences. Such courses are approved by the student's advisor.

The remaining 24 GSU's needed for graduation may be taken as elective hours.

A maximum of 30 credit hours applied toward a previously earned college degree may be transferred to this program. A maximum of nine GSU's earned in Developmental Studies may be applied in this program. A maximum of 15 GSU's earned in Community Service Programs may be applied. All 15 of the Community Service GSU's must be earned in the Dallas County Community College District. The last 15 GSU's must be completed at North Lake College.

Students must receive a grade point average of 2.00 ("C") or better in credit courses. Performance in non-credit courses must meet course standards for awarding CEU's.

Contact the Admissions Office or Continuing Education Division for further information.
Current Programs

North Lake seeks to provide programs in response to community wants and needs. For individual students, the College offers many options that help students succeed. For example, the College has designed a flexible system to encourage students to enter when they are ready, leave when they have completed their objectives, and reenter when they feel a need for more education.

Cognitive Style Mapping is another option that helps students succeed. It is a method that helps a student discover how he or she prefers to learn. A student may prefer a large group or individual study. Reading may be preferred over listening. Visual demonstrations may be preferable to verbal presentations. In any case, Cognitive Style Mapping helps a student gain a clearer picture of how he or she learns best.

A student's cognitive style map can tell him how he relates to others, to groups, and to different surroundings. The method can show a student how he solves problems best. A student who understands his "cognitive style" can better choose situations that suit his or her particular and individual way of learning.

Cognitive Style Mapping is a service offered throughout the year in the Testing Center at North Lake. It is also offered prior to registration each semester during orientation sessions.

Nearly all programs offered by North Lake allow for progress based on ability to learn and perform required objectives. This process does not freeze persons into a set time requirement which ignores individual learning rates. In addition, the use of performance objectives allows students to know exactly what is required of them.

Another unique feature of North Lake is its dedication to providing a variety of "earn and learn" experiences so that students have the opportunity to combine the reality of the everyday world of work with the theory of classroom and laboratory.

The Future

The development of good short-term educational programs for the communities the College serves is not enough. The educational process is a human one, and if it is to be truly successful, the College must be concerned with persons throughout their lives. The future is sure to bring change and today's student will have a continuing need for education five, ten, and twenty years from now.

North Lake, therefore, will not only assist its students in getting their first jobs or in making successful transitions to four-year colleges, but it will also follow-up with its students. It will determine how individual students are doing and what strengths and weaknesses the College has. This information will help the College better prepare for the future.

Most important, North Lake College will work hard to assure that its students feel they are a part of the institution throughout their lives and that they are welcome back at any time for further skill development or enrichment. After all, the success of individuals is North Lake's success.
Administrative Offices

North Lake College Administration
President ........................................... James F. Horton 659-5200
Vice President of Instruction .................... Glen L. Bounds 659-5240
Vice President of Student Services .............. Walter H. Bowie 659-5242
Vice President of Business Services ............. Mike Howard 659-5235
Associate Dean, Technical/Occupational Programs . Clifton Weaver 659-5234
Associate Dean of Continuing Education ......... Robert Bolin 659-5204
Assistant Director, Community Service .......... Nancy Kinsey 659-5203
Associate Dean of Education Resources ........... Jim Picquet 659-5240
Assistant Dean ........................................ Joel Vela 659-5238
Director of Admissions and Registration ......... Stephen Twenge 659-5220
Director, Center for Independent Study .......... Patricia Feldman 659-5279
Director of Cooperative Education ............... Shirley Farrow 659-5371
Director of Financial Aid .......................... Paul Chapman 659-5226
Director of Placement and Scholarships ......... Mary Holdcroft 659-5372
Director, Police Academy .......................... David Klundt 659-5355
Director of Public Information ..................... Susan Aycock 659-5230
Director of Student Development .................. Sharon Beauchamp 659-5307
Coordinator of Special Needs Program .......... Mary Climenelli 659-5237

DIVISION CHAIRPERSONS
Business and Management .......................... Gary Bacon 659-5290
Communications and Humanities ................. D'Ann Madewell 659-5270
Mathematics and Technology ........................ Grady Grizzle 659-5230
Science and Technology ........................... Bob Agnew 659-5250
Social Science and Physical Education .............. Martha Hughes 659-5350

OTHER TELEPHONE NUMBERS
Admissions and Registration ........................ 659-5220
Business Office ...................................... 659-5244
Community Service Programs ...................... 659-5200
Data Processing Office .............................. 659-5269
Health Center ........................................ 659-5208
Library ................................................ 659-5247
Physical Plant ........................................ 659-5310
Placement Office .................................... 659-5372
Safety and Security .................................. 659-5300
Wallace Bookstore ................................... 258-8250
Faculty and Administration

Agnew, Robert L .......................... Chairperson, Science/Technology
North Texas State Unlv., B.A., M.A., Ph.D.

Anderson, Dianne .......................... Vocational Nursing
Baylor Unlv., B.S.N.

Ates, Clarence .......................... Counselor
Oakwood College, B.S.; Oklahoma State Unlv., M.S.

Aycock, Susan .......................... Director, Public Information
Univ. of Missouri, B.J.; Univ. of Strasbourg, France, Study; North
Texas State Unlv., Study

Bacon, Gary .......................... Chairperson, Business/Management
U.S. Military Academy, B.S.; Southern Methodist Unlv., M.B.A.;
Univ. of Arizona Naval War College, Study

Baen, John .......................... Real Estate
Texas A&M Unlv., B.S., M.S., Ph.D.

Baty, Ida .......................... Counselor
Stephen F. Austin State Unlv., B.S., M.S.; Univ. of Northern
Colorado, Ed.D.

Beauchamp, Sharon .......................... Director, Student Development
Brigham Young Unlv., B.A.: North Texas State Unlv., M.A.

Bishop, Joe R .......................... Electricity
North Texas State Unlv., B.A.; East Texas State Unlv., Study

Blankenship, Patay .......................... Office Careers
North Texas State Unlv., B.B.A., M.B.E.

Blevins, Larry G .......................... Electricity
Cook County College, A.A.; Wayland Baptist College B.S.O.E.

Bollin, Robert R .......................... Associate Dean, Continuing Education
Univ. of Wisconsin at Madison, B.B.A., M.S., Study

Bounds, Glen I .......................... Vice President, Instruction
Northwestern State Univ. of Louisiana, B.S.; East Texas State
Unlv., M.S., Ed.D.

Bowie, Walter H .......................... Vice President, Student Services
Central State Unlv., Ohio, B.S.; Marshall Univ. of West Virginia,
M.S.; Ohio State Unlv., Study; North Texas State Unlv., Study

Bravo, Luis .......................... Accounting
Univ. of Arizona, B.A.; Univ. of Texas, B.B.A.; Univ. of Houston
at Clear Lake City, M.S.; Univ. of Houston, M.S.; Texas, C.P.A.

Briggs, Cathy .......................... French/Spanish
Oklahoma State Unlv., B.S.; Univ. of Oklahoma, M.A., Ph.D.

Briggs, Olill .......................... Journalism
Presbyterian College, B.A.; Univ. of South Carolina, M.A.; Univ.
of Alabama, Ph.D.; Univ. of Michigan, Texas Christian Unlv.,
Univ. of Dallas, Southwestern Unlv., Study

Brink, Lynn .......................... Government
Southwestern Unlv., B.A.; North Texas State Unlv., M.A., Study

Butler, Alice .......................... Theatre
North Texas State Unlv., B.S.; Stephen F. Austin State Unlv.,
M.A., Study

Chamberlain, Enrique A .......................... Head Librarian
North Texas State Unlv., B.A.; East Texas State Unlv., M.L.S.,
Ph.D.

Chapman, Paul .......................... Director, Financial Aid
Trinity Univ., B.A.; Southern Methodist Univ., M.Th.

Cherry, Grady .......................... English
Stephen F. Austin State Unlv., B.A., M.A.; Texas A&M Unlv.,
Ph.D.

Ciminelli, Mary .......................... Coordinator/Counselor, Special Needs Program
State Univ. of New York at Buffalo, B.S.; North Texas State
Univ., M.S.

Conklin, Lillian M .......................... English
Univ. of Texas at El Paso, B.A.; North Texas State Unlv., M.A.,
Texas Christian Unlv., Study

Crowley, Lee B .......................... Instructional Development Consultant
Lamar Unlv., B.S.; Texas A&M Unlv., M.Ed., Ph.D.

Davis, Annetta N .......................... Accounting
Southern Methodist Unlv., B.B.A., M.B.A.; Univ. of Texas at
Arlington, Study

Davis, Jeanne .......................... Psychology
University of Texas, B.A., M.A.; North Texas State Unlv., Study

Farrow, Shirley .......................... Director, Cooperative Education
North Texas State Unlv., B.A.; Stephen F. Austin State Unlv.,
M.Ed.

Faulkner, Bob .......................... Diesel Mechanics
Eastfield College, East Texas State Unlv., Prairie View A&M,
Diesel Technology

Feldman, Patricia .......................... Director, Center for Independent Study
St. Lawrence Unlv. in New York, B.A.; Univ. of North Carolina,
M.Ed.

Fleming, Richard .......................... Computer Science/Data Processing/Mid-management
Memphis State Unlv., B.S.; Univ. of Dallas, M.S., M.B.A.

Giles, Charles P .......................... Counselor
Univ. of Arkansas, B.S., B.A., M.Ed., Ed.D.

Gonzalez, Carlos .......................... Chemistry/Aviation
College of the City of New York, B.S.; Texas Christian Unlv.,
M.S., Ph.D.

Grizzle, Grady .......................... Chairperson, Math/Technology
North Texas State Unlv., B.A., M.A., Ph.D.

Holden, Mary .......................... Director, Placement/Scholarships
Texas Tech Univ., B.A.; North Texas State Unlv., Study

Horton, James F .......................... President
Univ. of Illinois, B.S., M.S.; North Texas State Unlv., Ph.D.

Howard, Mike .......................... Vice President, Business Services
Lamar State Unlv., B.B.A.; Univ. of Dallas, North Texas State
Unlv., Study

Hughes, Martha .......................... Chairperson, Social Science/Physical Education
Texas Tech Univ., B.A., M.A.

Humphrey, Jerry .......................... Optical Technology
Stephen F. Austin State Unlv., B.S., M.Ed.

Hunter, Paul .......................... English
Univ. of Texas, B.A.; Univ. of Florida, M.A.
<table>
<thead>
<tr>
<th>Name</th>
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<tr>
<td>Ironside, Robert</td>
<td>Distribution Technology</td>
<td>U.S. Military Academy, B.S.; Univ. of Arizona, M.B.A.; Univ. of Texas at Arlington, B.A.</td>
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<tr>
<td>Jones, Nancy</td>
<td>English</td>
<td>East Texas State Univ., B.A., M.A.; North Texas State Univ., Ph.D.</td>
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<td>Jones, Sue</td>
<td>Psychology</td>
<td>Nebraska Wesleyan Univ., B.A.; Southern Methodist Univ., M.A.</td>
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<tr>
<td>Kelemen, Paul</td>
<td>Counselor</td>
<td>Univ. of Texas, B.A.; Univ. of Houston at Clear Lake City, M.A.; North Texas State Univ., Study</td>
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<tr>
<td>King, Floyd</td>
<td>Chemistry</td>
<td>Colorado College, B.S., M.A.T.</td>
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<tr>
<td>Kinsey, Nancy</td>
<td>Assistant Director</td>
<td>University of Texas at Arlington, B.A., M.A.</td>
</tr>
<tr>
<td>Kirchhoff, Edwin E.</td>
<td>Economics</td>
<td>Univer of Kansas, B.A., M.A.</td>
</tr>
<tr>
<td>Klundt, David</td>
<td>Director</td>
<td>North Lake College Police Academy</td>
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<tr>
<td>Knowles, Jim</td>
<td>Physics</td>
<td>Texas Christian Univ., B.S., Ph.D.</td>
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<tr>
<td>Kubicek, Leonard</td>
<td>Geology/Environmental Science</td>
<td>Lamar Univ., B.S.; Southern Illinois Univ., M.S.; Univ. of Northern Colorado, Ed.D</td>
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<tr>
<td>Lindsey, Paul J.</td>
<td>Air Conditioning/Refrigeration</td>
<td>Eastfield College, A.A.A.S; U.S. Air Force Training Program, AC/R</td>
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<tr>
<td>Lindstrom, Peter</td>
<td>Mathematics</td>
<td>Allegheny College, B.S.; Kent State, M.S.; State Univ. of New York at Buffalo, Ed.D.</td>
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<tr>
<td>Madewell, D'Ann</td>
<td>Chairperson</td>
<td>Communications/Humanities Kansas State College of Pittsburgh, B.A.; North Texas State Univer, M.A., Ph.D</td>
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<tr>
<td>Magee, Paul</td>
<td>Sociology</td>
<td>Harding College, B.A., M.A.; Washington Univ., M.A., Ph.D.</td>
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<td>Mays, Marilyn</td>
<td>Mathematics</td>
<td>Texas Tech Univ., B.A., M.S.; Southern Methodist Univ., Study</td>
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<tr>
<td>McClung, Rachel</td>
<td>Art</td>
<td>Univ. of Dallas, B.A., M.A.</td>
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<tr>
<td>Miller, Harvey</td>
<td>Physical Education</td>
<td>Sam Houston Univ., B.S., M.Ed.; Texas A&amp;M Univ., Study</td>
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<td>Mormon, Sheila Jean</td>
<td>Mathematics</td>
<td>Southern Arkansas Univ., B.S.; Louisiana Univ., M.A.; Univ. of Houston, Ed.D</td>
</tr>
<tr>
<td>Olson, Margot</td>
<td>Instructional Development</td>
<td>Carnegie-Mellon Univ., B.S.; Florida State Univ., M.S., Ph.D.</td>
</tr>
<tr>
<td>Osentowski, Francis</td>
<td>Music</td>
<td>Kearney State College, B.M.Ed.; North Texas State Univ., M.M.Ed., D.M.A.</td>
</tr>
<tr>
<td>Parr, Lona</td>
<td>Physical Education</td>
<td>Univ. of Texas, B.S.; Southern Methodist Univ., M.S.</td>
</tr>
<tr>
<td>Perdue, Beth</td>
<td>A.D. Nursing</td>
<td>West Texas State Univ., B.S.N., R.N.</td>
</tr>
<tr>
<td>Pickholz, Anthony</td>
<td>History</td>
<td>Univ. of Texas at Arlington, B.A.; M.A.; North Texas State Univ., M.Ed., Ph.D.</td>
</tr>
<tr>
<td>Piquet, Jim</td>
<td>Associate Dean of Education</td>
<td>Resources Texas A&amp;M Univ., B.S.; East Texas State Univ., M.S.; North Texas State Univ., Study</td>
</tr>
<tr>
<td>Proctor, William H.</td>
<td>Real Estate</td>
<td>Univ. of Texas, B.A.; Princeton Theological Seminary, M.T.</td>
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<tr>
<td>Ray, Marty</td>
<td>Art</td>
<td>East Texas State Univ., B.A.; Southern Methodist Univ., M.P.A.</td>
</tr>
<tr>
<td>Rading, Diana</td>
<td>A.D. Nursing</td>
<td>Hartwick College, R.N.; East Texas State Univ., M.S.</td>
</tr>
<tr>
<td>Reppond, Kent M.</td>
<td>Biology</td>
<td>Midwestern Univ., B.S.; East Texas State Univ., M.S.</td>
</tr>
<tr>
<td>Rike, Charlotte</td>
<td>History</td>
<td>Univ. of Arkansas, B.A., M.A.; Univ. of Wyoming, Study</td>
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<tr>
<td>Robbins, Dalton</td>
<td>Diesel Mechanics</td>
<td>U.S. Air Force Schools; National Institute for Automotive Excellence; International Correspondence Schools; Dana Parts, Doctor of Motors for Diesel Mechanics</td>
</tr>
<tr>
<td>Sconce, Evelyn</td>
<td>Mid-Management</td>
<td>George Mason College of Univ. of Virginia, B.A.; Univ. of Missouri, B.S.; East Texas State Univ., Study</td>
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<tr>
<td>Sealey, Robert</td>
<td>Music</td>
<td>North Texas State Univ., B.A., M.M.Ed.; Southwestern Baptist Theological Seminary, D.M.A.</td>
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<tr>
<td>Simmons, Phil</td>
<td>Director, Diesel Truck Training Center</td>
<td>East Texas State Univ., B.S., M.S.</td>
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<td>Sims, Ruth</td>
<td>Biology</td>
<td>Texas Woman's Univ., B.A.; Univ. of Texas Southwestern Medical School, M.A., Ph.D.</td>
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<td>Smith, Laura</td>
<td>Vocational Nursing</td>
<td>Oak Park Hospital School of Nursing, R.N.; East Texas State Univ., B.S., M.S.</td>
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<td>Starksen, Richard</td>
<td>Diesel Truck Training Center</td>
<td>U.S. Army Aberdeen Maryland Proving Grounds, Heavy Duty Track and Auto Repair; National Institute for Automotive Excellence Certification</td>
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<td>Swaim, Gary D.</td>
<td>English</td>
<td>Univ. of California at Riverside, B.A.; Univ. of Redlands/Claremont Graduate School, Ph.D.</td>
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<td>Thompson, Shirley</td>
<td>Physical Education</td>
<td>American River College, A.A.; Texas Woman's Univ., B.S., M.A.</td>
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<td>Thorpe, Diane</td>
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<td>North Texas State Univ., B.S., M.Ed.</td>
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<td>Todes, Jay</td>
<td>Mid-Management</td>
<td>Univ. of Texas, B.A., M.A.; Univ. of Houston, Ed.D</td>
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<tr>
<td>Twenge, Stephen P.</td>
<td>Director, Admissions/Registration</td>
<td>St. Cloud State Univ., B.S., M.A.</td>
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<tr>
<td>Veil, Joel E.</td>
<td>Assistant Dean</td>
<td>Incarnate Word College, B.A.; Angelo State Univ., M.A.; Univ. of Wyoming, Ed.D</td>
</tr>
<tr>
<td>Weaver, Cliff</td>
<td>Associate Dean, Technical/Occupational Programs</td>
<td>Southern State Univ., B.S.; North Texas State Univ., M.Ed.; East Texas State Univ., Study</td>
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<td>Mid-Management</td>
<td>Texas A&amp;M Univ., B.B.A.; North Texas State Univ., M.B.A.; Southwestern Baptist Theological Seminary, M.R.E.</td>
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<tr>
<td>Wilson, Kay</td>
<td>Real Estate</td>
<td>Texas Woman's Univ., B.S., Study</td>
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<tr>
<td>Young, Lois</td>
<td>Vocational Nursing</td>
<td>Baptist Hospital School, R.N.</td>
</tr>
<tr>
<td>Younger, Charles</td>
<td>Solar Energy Technology</td>
<td>West Texas State Univ., B.S.; Univ. of Rochester, Univ. of Houston, Study</td>
</tr>
</tbody>
</table>
BOARD OF TRUSTEES

TOP ROW FROM LEFT:
Don Buchholz, Chairman; Bob Beard, Vice Chairman; Jerry Gilmore; Pattie T. Powell

BOTTOM ROW FROM LEFT:
Trammell S. Crow; J. D. Hall; Bob Bettis; R. Jan LeCroy, Chancellor

DALLAS COUNTY COMMUNITY COLLEGE DISTRICT

DALLAS COUNTY COMMUNITY COLLEGE DISTRICT ADMINISTRATORS
Chancellor .......................................................... R. Jan LeCroy
Vice Chancellor of Business Affairs ................................. Ted B. Hughes
Vice Chancellor of Educational Affairs ................................... Terry O'Banion
Assistant Chancellor of Planning and Development Affairs ............ Bill Tucker
Associate Vice Chancellor of Educational Affairs ....................... Ruth Shaw
Assistant to the Chancellor ........................................ Jackie Caswell
Director of Development ........................................... Carole Shlipak
Legal Counsel ...................................................... Robert Young
Special Assistant to the Chancellor ................................... Lehman Marks
Director of Business Services ....................................... Robb Dean
Director of Educational Resources .................................... Rodger Pool
Director of Computer Services ...................................... Jim Hill
Director of Community & Student Programs ............................ Richard McCrary
Director of Facilities Management .................................... Edward Bogard
Director of Personnel Services and Development ....................... Barbara K. Barnes
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
Director of Technical Services ....................................... Paul Dumont
I General Information

HISTORY OF THE DALLAS COUNTY COMMUNITY COLLEGE DISTRICT

The Dallas County Community College District is comprised of seven colleges located strategically throughout Dallas County. Together the colleges enroll approximately 75,000 students 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 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 higher administrative authority are considered on the merits of the case.

FAMILY EDUCATIONAL RIGHTS AND PRIVACY ACT OF 1974

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

A student may request that all or any part of the directory information be withheld from the public by giving written notice to the Registrar’s Office during the first twelve 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.

STANDARDS 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.
II 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 admissions.

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

a. Graduates from an accredited high school 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 6 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 Community Services.

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.

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.

e. Complete a health information form.

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 ensure 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. An official transcript from the last school (high school or college) attended. Students seeking certificates or associate degrees must submit official transcripts of all previous college work. The College's accrediting agency requires transcripts, and the College uses them in program advisement.

c. Written proof from a medical office of (1) a negative tuberculin skin test or chest X-ray, (2) a polio immunization if the applicant is under 19 years of age, and (3) a diphtheria/tetanus injection within the last 10 years.

This medical proof is required by state law (Tex. ED. Code 2.09). 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 Flexible Entry Courses 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.
2. Students who reduce their semester load by officially dropping a course or courses and who remain enrolled at North Lake will have applicable tuition fees refunded according to the following schedule:

<table>
<thead>
<tr>
<th>FALL AND SPRING SEMESTERS</th>
<th>SUMMER SEMESTERS</th>
</tr>
</thead>
<tbody>
<tr>
<td>During the first 12 official days of classes</td>
<td>Prior to the first official day of classes</td>
</tr>
<tr>
<td>100%</td>
<td>100%</td>
</tr>
<tr>
<td>After the first 12 official days of classes</td>
<td>During the second or third official day of classes</td>
</tr>
<tr>
<td>NONE</td>
<td>80%</td>
</tr>
<tr>
<td>SUMMER SEMESTERS</td>
<td>SUMMER SEMESTERS</td>
</tr>
<tr>
<td>During the first 4 official days of classes</td>
<td>During the fourth, fifth, or sixth official day of classes</td>
</tr>
<tr>
<td>100%</td>
<td>50%</td>
</tr>
<tr>
<td>After the first 4 official days of classes</td>
<td>After the sixth official day of classes</td>
</tr>
<tr>
<td>NONE</td>
<td>NONE</td>
</tr>
</tbody>
</table>

Separate refund schedules may be established for optional fees such as intercollegiate athletics, cultural events, parking, etc. Tuition and fees paid directly to the institution by a sponsor, donor or scholarship shall be refunded from the source rather than directly to the student.

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 accredited colleges and universities. 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.

In addition, a student’s original enrollment represents a sizable cost to the District whether or not he continues in that class. Therefore, a refund will be made only under the following conditions:

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

<table>
<thead>
<tr>
<th>FALL AND SPRING SEMESTERS (Standard 16-week courses)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Prior to the first official day of classes</td>
</tr>
<tr>
<td>During the first 5 official days of classes</td>
</tr>
<tr>
<td>During the second 5 official days of classes</td>
</tr>
<tr>
<td>During the third 5 official days of classes</td>
</tr>
<tr>
<td>During the fourth 5 official days of classes</td>
</tr>
<tr>
<td>After the fourth 5 official days of classes</td>
</tr>
</tbody>
</table>

*For refund policies on courses which are longer or shorter than the standard 16 weeks, please contact the Admissions Office.

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

<table>
<thead>
<tr>
<th>FALL AND SPRING SEMESTERS</th>
</tr>
</thead>
<tbody>
<tr>
<td>During the first 12 official days of classes</td>
</tr>
<tr>
<td>After the first 12 official days of classes</td>
</tr>
<tr>
<td>SUMMER SEMESTERS</td>
</tr>
<tr>
<td>During the first 4 official days of classes</td>
</tr>
<tr>
<td>After the first 4 official days of classes</td>
</tr>
</tbody>
</table>

ADVISEMENT PROCEDURES
Individual assessment of skill levels is an important part of student success in college. Therefore, the District has provided an assessment process available through the counseling centers at each of the District colleges. 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 students are required to go through an assessment process and should schedule it prior to initial registration. Developmental studies are available for students who need skill development in reading, writing, or math. Test data, transcripts, previous work, and counseling may be used to determine placement in this program.

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

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

### FALL AND SPRING SESSIONS

<table>
<thead>
<tr>
<th>Semester</th>
<th>Dallas County #1</th>
<th>Out-of District #2</th>
<th>Out-of-State #3 or Out-of-Country #4</th>
</tr>
</thead>
<tbody>
<tr>
<td>Credit Hours</td>
<td>Tuition</td>
<td>Fee</td>
<td>Total</td>
</tr>
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<td>$25</td>
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</tr>
<tr>
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</tbody>
</table>

### SUMMER SESSIONS

<table>
<thead>
<tr>
<th>Semester</th>
<th>Credit Hours</th>
<th>Dallas County #1</th>
<th>Out-of-District #2</th>
<th>Out-of-State #3 or Out-of-Country #4</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
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</tr>
</tbody>
</table>

### Residency Requirements:

**#1** Dallas County resident: A person currently residing in Dallas County, who has lived in Texas for the past 12 months. The Dallas County Community College District (DCCCD) has waived the difference in the rate of tuition for non-residents and resident students for a person who owns taxable property in the District, or for any of his dependents.

**#2** Out of District student: A person 18 years of age or older who resides in a county other than Dallas County who has lived in Texas for the past 12 months; or a person less than 18 years of age whose parents do not live in Dallas County.

**#3** Out of State student: A person 18 years of age or older who has not lived in Texas for the past 12 months; or a person less than 18 years of age living away from his family and whose family resides in another state, or whose family has not lived in Texas for 12 months immediately preceding the date of registration.

**#4** Out of Country student: A non-U.S. citizen who is not a resident alien.

These definitions are intended as a guideline for students. For more complete definitions, please see the Director of Admissions.

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

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

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 6 hours of English for a total of 12 credit hours in English.
- 8 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 3 credit hours of history and 3 credit hours of government may be earned through credit by examination. CLEP credit may not be used to meet this requirement.
- 3 credit hours in Humanities, selected from Theater 101, Art 104, Music 104, Humanities 101 or Philosophy 102.
- A maximum of 4 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.

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. January and August graduates may participate in the next commencement if they desire, but they are not 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 twenty 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 6 credit hours. The recommended load limit in a six-week summer session is 6 credit hours. A total of 14 credit hours is the maximum that may be earned in any twelve-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. Students who do not attend class during the first twelve days of a long semester or the first four days of a summer session are dropped by the instructor. After this time, it is the responsibility of the student to withdraw from the course. A student, however, may be dropped from the class roll prior to the published withdrawal deadline for lack of attendance at the discretion of the instructor.

If an instructor drops a student, the student is notified by a letter from the Registrar’s Office sent to the student’s address of record. The effective drop date is stated in the letter. A student who desires to remain in class must contact the instructor within the time specified in the instructor’s letter. With the instructor’s approval, a student may be reinstated. Students dropped for excessive absences prior to the published withdrawal deadline receive a grade of “W.”

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>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>
<tr>
<td>Total Credit Hours:</td>
<td>12</td>
<td></td>
</tr>
<tr>
<td>Total Grade Points:</td>
<td>35</td>
<td></td>
</tr>
<tr>
<td>35 + 12 = 2.93</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

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.
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 session 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 Services.

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 classroom instruction. It 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 LRC helps students to learn in their own ways and at their own speeds. It provides books, slides, tapes, 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.

Classroom Resource Services is a part of the LRC and supports the instructional program. It is responsible for all campus audiovisual equipment and non-print materials used in the classroom or by individual students 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.
IV Special Educational Opportunities

ACADEMIC TRANSFER STUDIES

Students who desire to earn a bachelor's degree may complete the first two years at this college before transferring to a four-year institution. The academic transfer curriculum is coordinated with senior colleges and universities to facilitate the transfer of credits to these schools.

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 colleges 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. (CLEP exam does not meet this requirement.)

NON-TRADITIONAL LEARNING

The College is committed to serve students and the community in the most effective manner possible while maintaining high standards of education. Students learn in a variety of ways and through a multitude of experiences; therefore, the College shall assess these learning activities and grant equivalent college credit according to the following guidelines:

1. A 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.
3. A student is required to complete at least 12 semester hours of course work with the District 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 teacourses varies each semester and may include courses in anthropology, astronomy, business, earth science, ecology, biology, English, economics, government, history, humanities, psychology, religion, and sociology. Credit 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 science courses having laboratories. These 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 or by persons who are not enrolled in any on-campus courses. Students may register for telecourses by mail or through the regular on-campus registration process.

**COOPERATIVE WORK EXPERIENCE EDUCATION**

Students may enrich their education in certain career programs by enrolling in Cooperative Work Experience Courses. These courses allow students to combine classroom study with on-the-job experience at training stations approved by the College. Students must have completed at least two courses in their occupational major to be eligible for Cooperative Work Experience.

A full-time student (carrying 12 credit hours or more) must take two courses which relate to the student's work experience, and a maximum of 4 credit hours may be in Cooperative Work Experience. Part-time students (carrying under 12 credit hours) may take a maximum of 4 credit hours of work experience. They must be concurrently enrolled in a course related to their work experience (or a support course to be applied toward their occupational degree or certificate).

To enroll in a Cooperative Work Experience Course, students must have the approval of their instructor/coordinator. Course credit is awarded at the rate of 1 credit hour for each 80 hours of approved work experience during the semester. The 80 hours is approximately 5 hours per week during a fall or spring semester.

Additional information regarding Cooperative Work Experience may be secured from the Cooperative Education Office. The Technical/Occupational Programs having work experiences are indicated in the Course Descriptions Section of this catalog.

**INTERNATIONAL STUDIES**

Selected programs combine learning experiences with foreign travel. 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 explore the relationship between meaningful education and some of the dilemmas or questions commonly brought to college. "Why learn" and "how to learn" are put in a perspective of "who is to learn?" 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.
COMMUNITY SERVICE PROGRAMS

Community Service 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. Community Service 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 seeking to supplement their own training and development programs.

Community Service 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.

Community Service 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 ensure that students acquire a greater perspective of the subject and have a meaningful experience. Although most Community Service 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 Community Service students during the term they are registered. Contact the Community Service Office for further information.

CONTINUING EDUCATION UNITS (CEUS)

Although no college credit is awarded for Community Service 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.
V Student Services

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 DEVELOPMENT AND ACTIVITIES

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

GUIDANCE AND COUNSELING 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. Confidential 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 course.
3. Confidential personal counseling to make adjustment and life decisions about personal concerns.
4. Small group discussions led by counselors and 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. Standardized testing to provide additional information about interests, personality and abilities needed in planning and making decisions.
6. 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 for appropriate class placement. These tests are very strongly recommended to insure student success.
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 HANDICAPPED STUDENTS

The Services for Handicapped Students Office offers a variety of support services to enable handicapped 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. Handicapped 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 Handicapped Students Office or the Counseling Center.

STUDENT ORGANIZATIONS

Information about participation in any organization may be obtained through the Student Development 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 Development 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.

CAMPUS SECURITY

Campus security is required by State law to "protect and police buildings and grounds of state institutions of
VI 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 take 4-6 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.

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 it 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 6 credit hours each semester. Students must apply each year.

SUPPLEMENTAL EDUCATIONAL OPPORTUNITY GRANT (SEOG)

The SEOG is a Federal program to help pre-baccalaureate students with eligibility based solely on need. The amount of a SEOG award depends on the individual student's needs, the total number of applicants, and funds available. To be eligible, students must enroll for at least 6 credit hours, make satisfactory progress toward their educational goal and have financial need. Students must apply each year for the SEOG.

TEXAS PUBLIC EDUCATIONAL GRANT (TPEG)

The TPEG is a State program to assist students attending state-supported colleges. To be eligible, students must make satisfactory progress toward the educational goal and have financial need according to an approved needs analysis system. Grants are awarded by eligibility on a first-come, first-served basis for credit and some non-credit courses. Students must apply each year for the TPEG.

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

The TPE-SSIG is a state program. To qualify, students must enroll for at least 6 credit hours per semester, make satisfactory progress toward their educational goal, be a Texas resident, and have financial need. Grants are awarded by eligibility on a first-come, first-served basis. Students must apply each year for the TPE-SSIG.

HINSON-HAZLEWOOD COLLEGE STUDENT LOAN PROGRAM

The Hinson-Hazlewood College Student Loan Program is a State operated, federally insured student loan program. To qualify, students must enroll for at least 6 credit hours in the fall or spring semester, be a Texas resident, and demonstrate financial need. Students must apply for any other types of aid before applying for this loan, and they must apply each year to renew the loan. New students must have applied for and been denied a Texas Guaranteed Student Loan before applying for this loan.

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

They have the power to enforce all Texas laws and rules, regulations, and policies of the College, including the Code of Student Conduct.

Repayment may extend up to 10 years, but a minimum payment of $50 a month is required. The interest rate is 9% a year (adjusted).

STUDENT EMPLOYMENT

The College Work/Study Program is a Federal program to assist students through jobs both on and off campus. To be eligible, students must demonstrate financial need, be enrolled in 6 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 must be enrolled in 6 or more credit hours and make satisfactory progress toward their educational goal. 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, most students who are not currently receiving Social Security Educational Benefits will not be eligible in Fall 1982, because of a phaseout of this program as part of the Omnibus Budget Reconciliation Act. 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 2044 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.

TELEVISION COURSES

For financial aid purposes, TV courses are considered to be the same as correspondence courses by the federal government. Enrollment in TV courses may affect your financial aid award; therefore, please contact the Financial Aid Office for additional information if you intend to enroll in any of these classes.

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 in Texas at the time they entered the service and have resided in Texas for at least the period of 12 months before the date of registration, have an honorable discharge, and be ineligible for Federal Student Aid programs. Applications for Federal Student Aid are available at the Financial Aid Office and will take a minimum of 8 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 REQUIREMENT

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

The 2.0 Grade Point average (GPA) Requirement

a. Students funded for full-time course loads must complete a full-time course load with a minimum GPA of 2.0 each semester an award is made.
b. Students funded for part-time course loads are expected to achieve a minimum GPA of 2.0 on all courses funded each semester. No drops or withdrawals are allowed:
   Academic Compliance
   a. If the 2.0 GPA requirement is not met once, a warning notice is mailed to the student. Transfer students enrolling in the District on probation are considered to be in this category.
   b. If the 2.0 GPA requirement is not met twice, no award is made for six months.
   c. A third chance may be approved at the discretion of the Financial Aid Director after the six-month suspension period. The student must sign acknowledgement of conditional approval before the award is made. If the 2.0 GPA requirement is not met three times, no award is made for two years.
d. A fourth chance may be approved at the discretion of the Financial Aid Director after the two-year suspension period. If approved, the student must sign a warning notice before the award is made.

Students may appeal the financial aid director's decisions to the Vice President of Student Service. The appeal must be in writing. The Financial Aid Office reserves the right to review and cancel awards at any time because of (1) failure to maintain an acceptable academic record, (2) failure to meet the minimum course load requirements, (3) changes in the financial status of the student or the student's family, or (4) failure by the student to meet any regulations governing the program from which the student is receiving aid. It is understood that the student is aware of the conditions under which aid is offered and agrees to meet all requirements.

SELECTIVE SERVICE

Students who were born after December 31, 1959, and who are required under the Military Selective Service Act to register for the draft, are required to file a statement of compliance and provide a copy of the registration acknowledgment letter from the Selective Service to the Financial Aid Office. Female students must also file this 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.

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 sixty to ninety 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.
SYNOPSIS:

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   b. Scope
   c. Definitions
2. Compliance with Policies, Rules Regulations
3. Campus Regulations
   a. Standards
      i. Authorized Disciplinary Penalties
         (1) Alcoholic Beverages
         (2) Drugs
         (3) Speech and Advocacy
         (4) Obscene Materials
         (5) Involuntary Manslaughter
         (6) Campus Security
   b. Definitions
      i. Authorized Disciplinary Penalties
      (1) Alcoholic Beverages
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4. Campus Security
   a. General Provisions
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      i. Authorized Disciplinary Penalties
      (1) Alcoholic Beverages
      (2) Drugs
      (3) Speech and Advocacy
      (4) Obscene Materials
      (5) Involuntary Manslaughter
      (6) Campus Security
5. Education Code Section 4.20 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 of or property of any private or public school or institution of higher education, public vocational and technical school, or institution.
   b. For the purposes of this section, disruptive activity means:
      (1) Conducting or sponsoring the passage of persons in an act of force or violence or due to a reasonable fear of force or violence that is likely to result in injury to persons or property, or that threatens public safety or public order.
      (2) Conducting or sponsoring a meeting when the following conditions are met:
         (a) The meeting is called a meeting when the following conditions are met:
         (b) The meeting is called a meeting when the following conditions are met:
         (c) The meeting is called a meeting when the following conditions are met:
         (d) The meeting is called a meeting when the following conditions are met:
         (e) The meeting is called a meeting when the following conditions are met:
         (f) The meeting is called a meeting when the following conditions are met:
9. This office also maintains a statement on procedures for resolving disputes.
   a. Speech and Advocacy: Student and faculty members shall have the right of freedom of expression, the right to engage in peaceful assembly, and the right to petition the government for a redress of grievances, in such a manner as not to interfere with the rights of others.
Gambling: State law expressly forbids gambling of any kind on state property.

Hazing: Each college of the Dallas County College District, as a matter of principle and because it is a violation of state law, is opposed to and will endeavor to prevent hazing activities which involve any of the following factors singly or in conjunction:
(a) Any actions which seriously impair the physical well-being of any student (all walks and all callathons are held to be actions which seriously impair the physical well-being of students and are, therefore, accordingly specifically prohibited).
(b) Activities which are by nature indecent, degrading, or morally offensive.
(c) Activities which by their nature may reasonably be assumed to have a degrading effect upon the mental or moral attitude of the persons participating therein.

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

Academic Dishonesty
(a) The Vice President of Student Services may initiate disciplinary proceedings against a student accused of academic dishonesty.
(b) "Academic dishonesty" includes, but is not limited to, cheating on a test, plagiarism and collusion.
(c) "Cheating on a test" includes:
(i) Copying from another student's test paper;
(ii) Using, during a test, materials not authorized by the person giving the test;
(iii) Collaborating with another student during a test without authority;
(iv) Knowingly using, buying, selling, renting, or transporting documents in whole or in part the contents of an unadministered test.
(v) Substituting for another student, or permitting another to substitute for one's self, to take a test; and
(vi) Bribing another student 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.

Financial Transactions with the College
(a) No student may refuse to pay or fail to pay debt he owes to the college.
(b) No student may give the college a check, draft, or order with intent to defraud the college.
(c) A student who gives the college the amount due on a check, draft, or order, or on before the fifth class after the day the business office sends written notice that the drawer has rightfully refused payment on the check, draft of order, is prima facie evidence that the student intended to defraud the college.
(d) The Vice President of Student Services may initiate disciplinary proceedings against a student who has allegedly violated the provisions of this section.

Other Offenses
(a) The Vice President of Student Services may initiate disciplinary proceedings against a student who:
(i) Conducts himself in a manner that significantly interferes with college teaching, research, administration, disciplinary proceedings or other college activities, including its functions, or with other authorized activities on college premises;
(ii) Damages, defaces or destroys college property or property of a member of the college community or campus visitor;
(iii) Knowingly gives false information in response to requests from the college;
(iv) Engages in hazing, as defined by state law and college regulations;
(v) Forges, alters or misuses college documents, records or I.D. cards;
(vi) Violates college policies or regulations concerning parking, registration of student organizations, use of college facilities, or the time, place and manner of public expression;
(vii) Fails to comply with directions of college officials acting in the performance of their duties;
(viii) Conducts himself in a manner which adversely affects his suitability as a member of the academic community or endangers his own safety or the safety of others;
(ix) Illegally possesses, uses, sells, or purchases drugs, narcotics, hallucinogens, or alcoholic beverages on or off campus;
(x) Complies any act which is classified as an indecent offense under either state or federal law.

4. Disciplinary Proceedings

a. Administrative Disposition

(1) Investigation, Complaint and Complaint
(a) When the Vice President of Student Services' Office receives information that a student has allegedly violated a Board policy, college regulation, or administrative rule, the Vice President or a subordinate delegated by him shall investigate the alleged violation. After completing the preliminary investigation, the Vice President may:
(i) Dismiss the allegations as unfounded, either before or after conferring with the student; or
(ii) Proceed administratively and impose disciplinary action.

(b) The President may take immediate interim disciplinary action, suspend the right of a student to be present on the campus and to attend classes, or otherwise alter the status of a student for violation of a Board policy, college regulation, or administrative rule, when in the opinion of such official the interest of the college would best be served by such action.
(c) No person shall search a student's personal possessions for the purpose of enforcing this code unless the individual's prior permission has been obtained. Searches by law enforcement and college regulators shall be only as authorized by law.

(2) Summons
(a) A student may be summoned to appear in connection with an alleged violation by sending him a letter by certified mail, return receipt requested, addressed to the student at his address appearing in the registrar's office records. It is the student's responsibility to immediately notify the registrar's office of any change of address.
(b) The letter shall direct the student to appear at a specified time and place not less than three class days after the date of the letter. The letter shall also describe briefly the alleged violation and shall state the Vice President of Student Services' intention to handle the allegation as a minor or major violation.
(c) The Vice President of Student Services may place on disciplinary probation a student who fails without good cause to comply with a letter of summons, or the Vice President may proceed against the student as stated below in the sections of Disposition and Penalties.

3. Disposition

(a) At a conference with a student in connection with an alleged minor or major violation, the Vice President shall advise the student of his rights.
(b) A student who refuses administrative disposition of the alleged violation and, on refusal, is entitled to a hearing, if a student accepts administrative disposition, he shall sign a statement that he understands the nature of the charge, his right to a hearing or to waive the same, the penalty imposed, and his waiver of the right of appeal.
(c) The Vice President of Student Services shall prepare an accurate, written summary of each administrative disposition and forward a copy to the student and, if the student is a minor, to the parent or guardian of the student, to the Director of Student Development and to the Director of Campus Security.

(d) The Vice President of Student Services may impose disciplinary action as follows:
(i) For minor violations, any action authorized by this code in the section of Penalties (from 1-11, i.e. Admonition through Suspension of eligibility).
(ii) For major violations, any action authorized by this code in the section of Penalties (from 1-11, i.e. Admonition through Expulsion).

b. Student Discipline Committee

(1) Composition: Organization
(a) When a student refuses administrative
disposition of either a major or a minor violation, he is entitled to a hearing before the Student Discipline Committee. This request must be made in writing on or before the sixth working day following admis

(a) The Commitee Chairman shall by letter notify the parent or guardian. (b) A student defendant may not be compelled to present himself or his designated representative before the committee on the date and place shown in the notice. (c) 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) A member of the student's immediate family; (ii) A staff member of the College newspaper; (iii) Representatives of the Faculty Association; (iv) A legal counselor; 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 Services shall inform the student of his rights, as stated in (a) above, in writing and may question the student. (ii) The Vice President of Student Services and the student may present rebuttal or evidence in writing. (iii) The Committee will vote the issue of whether the student is under 18 years of age, a copy of the notice of hearing shall be sent to the parents or guardian.

(c) If the student's name, the date of the decision or action, the name of his legal counselor, if any, and a statement of the reasons for the decision or action is announced.

Notice of appeal timely given suspends the imposition of penalty until the appeal is finally decided. The Vice President of Student Services shall have thirty days to reconsider the decision or action and any new decision shall be filed with the committee and any new decision shall be filed with the committee and the student in writing. (d) A student defendant may not be compelled to present himself or his designated representative before the committee on the date and place shown in the notice of appeal given.

(b) The Vice President of Student Services shall present the College's case; (v) The Vice President of Student Services and the student may present rebuttal evidence in writing at any time, and at the discretion of the Committee, the Committee will determine an appropriate penalty; (vi) The Committee shall state in writing each finding of fact and the evidence on which it is based; (vii) The Committee shall exclude counsel and other persons designated by the student at the discretion of the Committee, and the Committee shall exclude counsel and other persons designated by the student at the discretion of the Committee.

(c) When the hearing is set under waiver of notice or for other good cause determined by the Committee, the Vice President of Student Services shall be entitled to furnish the information described in paragraph (b) hereof at any time before the hearing.

(d) The Committee shall file a written report of its findings of fact and the evidence supporting the findings, and any oral evidence presented, with the minutes of the hearing. The written report shall be a part of the minutes of the hearing. (e) The Hearing officer shall have the power to grant the student a temporary reprieve from any penalty if the student waives his right to appeal and presents good cause for the temporary reprieve. (f) The Hearing officer shall have the power to grant the student a temporary reprieve from any penalty if the student waives his right to appeal and presents good cause for the temporary reprieve.

The Committee shall exclude counsel and other persons designated by the student at the discretion of the Committee, and the Committee shall exclude counsel and other persons designated by the student at the discretion of the Committee. (g) The Board of Review shall have the power to grant the student a temporary reprieve from any penalty if the student waives his right to appeal and presents good cause for the temporary reprieve. (h) The Hearing officer shall have the power to grant the student a temporary reprieve from any penalty if the student waives his right to appeal and present...
shall file his petition with the President on or before the third day after the day the Board of Review announces its action on the appeal. If the President rejects the petition, and the student appellant wishes to petition the Chancellor, he shall file the petition with the Chancellor on or before the third day after the President rejects the petition in writing.

(c) 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.

4. Penalties

a. Authorized Disciplinary Penalties: The Vice President of Student Services, 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) Suspension
(2) Probation
(3) Disciplinary probation
(4) Withholding of transcript or degree
(5) Bar against readmission
(6) Expulsion
(7) Disciplinary suspension

b. Definitions: The following definitions apply to the penalties provided above:

(1) "Amendment" is a written reprimand from the Vice President of Student Services to the student on whom it is imposed.
(2) "Probation" indicates that further violations may result in suspension. Disciplinary probation may be imposed for any length of time up to one calendar year and the student shall be automatically removed from probation when the imposed period expires.
(3) "Disciplinary probation" indicates that further violations may result in suspension. Disciplinary probation may be imposed for any length of time up to one calendar year and the student shall be automatically removed from probation when the imposed period expires. Students will be placed on disciplinary probation for engaging in activities such as; being intoxicated, misuse of I.D. card, creation of disturbance in or on campus facilities, and gambling.
(4) "Withholding of transcript or degree" is imposed upon a student who fails to pay a debt owed the college or who has a disciplinary case pending. The penalty terminates on payment of the debt or final disposition of the case.
(5) "Bar against readmission" is imposed on a student who has left the college on enforced withdrawal for disciplinary reasons.
(6) "Restitution" is reimbursement for damage to or misappropriation of property. Restitution may take the form of appropriate service to repair or otherwise compensate for damages.

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

(a) "Suspension of rights and privileges" is an elastic penalty which may impose limitations or restrictions to the particular case. This suspension may be imposed for any length of time up to one calendar year. Students will be placed on disciplinary suspension for engaging in activities such as; being intoxicated, misuse of I.D. card, creation of disturbance in or on campus facilities, and gambling.
(b) "Suspension of eligibility for official athletic and non-athletic extracurricular activities" prohibits, during the period of suspension, the student on whom it is imposed from joining a registered student organization, taking part in a registered student organization's activities, or attending its meetings or functions; and from participating in an official athletic or non-athletic extracurricular activities. Such suspension may be imposed for any length of time up to one calendar year. Students will be placed on disciplinary suspension for engaging in activities such as; being intoxicated, misuse of I.D. card, creation of disturbance in or on campus facilities, and gambling.

(c) 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.

(d) The College campus officers have the authority to issue the traffic tickets and parking permits 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.

(e) Under the direction of the College President, the Department of Safety and Security shall post proper traffic and parking signs.

(f) Each student that files an application for a parking permit with the Security Office upon forms prescribed by the College.

6. Parking and Traffic

(a) Reserved Parking Areas

(1) Handicapped persons, College visitors
(2) Motorcycles
(3) Fire Aways
(4) Parking in "No Parking" zones
(5) Parking during hours when service organization is closing

(b) General Information

(1) College parking areas are regulated by state, municipal and campus authorities. 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) Movement 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 area.

(d) Campus Parking and Driving Regulations

(1) The College, acting by and through its Board of Trustees, is authorized to adopt and enforce campus parking and driving regulations. Campus officers are commissioned police officers, and as such, all traffic and criminal violations are within their jurisdiction.

(2) The College has authority for the issuance and use of suitable vehicle identification insignia as permits to park and drive on campus. Permits may be suspended for the violation of campus parking and driving regulations.

(3) The College campus officers have the authority to issue the traffic tickets and parking permits 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.
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, Diesel Mechanics, 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 for 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 parentheses 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 (3)
BOOKKEEPING I (3 LEC.)
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.

ACCOUNTING (ACC) 132 (3)
BOOKKEEPING II (3 LEC.)
Prerequisite: Accounting 131. This course covers accruals, bad debts, taxes, depreciation, controlling accounts, and business vouchers. Bookkeeping for partnerships and corporations is introduced.

ACCOUNTING (ACC) 201 (3)
PRINCIPLES OF ACCOUNTING I (3 LEC.)
This course covers the theory and practice of measuring and interpreting financial data for business units. Topics include depreciation, inventory valuation, income statements, balance sheets, working capital statements, and income tax computation.

ACCOUNTING (ACC) 202 (3)
PRINCIPLES OF ACCOUNTING II (3 LEC.)
Prerequisite: Accounting 201. Accounting procedures and practices for partnerships and corporations are studied. Topics include cost data and control systems, financial statements, and income tax computation.

ACCOUNTING (ACC) 203 (3)
INTERMEDIATE ACCOUNTING I (3 LEC.)
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.

ACCOUNTING (ACC) 204 (3)
MANAGERIAL ACCOUNTING (3 LEC.)
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.

ACCOUNTING (ACC) 207 (3)
INTERMEDIATE ACCOUNTING II (3 LEC.)
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.

ACCOUNTING (ACC) 238 (3)
COST ACCOUNTING (3 LEC.)
Prerequisite: Accounting 202. The theory and practice of accounting for a manufacturing concern are presented. The measurement and control of material, labor, and factory overhead are studied. Budgets, variance
This is a comprehensive course that includes Air Conditioning/Refrigeration 151 and 152. Students may register in the comprehensive course or either of the inclusive courses. Piping practices are studied. Topics include pipe size selection and techniques of soldering, silver-soldering and silver-brazing. Leak detection, and repair methods are also covered. Laboratory fee.

**AIR CONDITIONING/ REFRIGERATION (AC) 150 (3)**

**BASIC PRINCIPLES OF ELECTRICITY (90 CONTACT HOURS)**

This is a comprehensive course that includes air conditioning/refrigeration 151, 152, and 153. Students may register in the comprehensive course or any of the inclusive courses. This course is a study of the principles of electricity as applied in simple circuits and circuit components. Included are basic electrical units and test instruments. Laboratory fee.

**AIR CONDITIONING/ REFRIGERATION (AC) 151 (1)**

**BASIC ELECTRICAL UNITS (30 CONTACT HOURS)**

Basic electrical units are covered. Volts, ohms, amperes, and watts are calculated and measured. Laboratory fee.

**AIR CONDITIONING/ REFRIGERATION (AC) 152 (1)**

**SIMPLE CIRCUITS (30 CONTACT HOURS)**

This course focuses on simple circuits. Topics include the interpretation of simple schematic diagrams and the construction of series, parallel and combination circuits with resistive loads. Laboratory fee.

**AIR CONDITIONING/ REFRIGERATION (AC) 153 (1)**

**CIRCUIT COMPONENTS (30 CONTACT HOURS)**

Components of circuits are examined. Circuits are constructed using switches, relays, solenoids, basic control and protective devices.

**AIR CONDITIONING/ REFRIGERATION (AC) 155 (3)**

**ADVANCED ELECTRICAL CIRCUITS (90 CONTACT HOURS)**

This is a comprehensive course that includes air conditioning/refrigeration 156 and 157. Students may register in the comprehensive course or either of the inclusive courses. Advanced electrical circuits are presented. Basic electrical principles are applied to the construction and diagnosis of complex electrical circuits and alternating current motors. Laboratory fee.

**AIR CONDITIONING/ REFRIGERATION (AC) 156 (2)**

**COMPLEX CIRCUITS (60 CONTACT HOURS)**

This course is an advanced study of complex circuits. Included are the construction and interpretation of complex schematics and the construction and diagnosis of complex electrical circuits with resistive, inductive, and capacitive loads. Laboratory fee.

**AIR CONDITIONING/ REFRIGERATION (AC) 157 (1)**

**A.C. MOTOR FUNDAMENTALS (30 CONTACT HOURS)**

Magnetic principles as applied in AC motors are covered. Wiring, diagnosis, and repair of AC motors are included, as well as starting and protective devices commonly used in the air conditioning industry.

**AIR CONDITIONING/ REFRIGERATION (AC) 160 (3)**

**BASIC PRINCIPLES OF REFRIGERATION (90 CONTACT HOURS)**

This is a comprehensive course that includes Air Conditioning/Refrigeration 161, 162, and 163. Students may register in the comprehensive course or any of the inclusive courses. Principles of physics as applied to refrigeration systems are studied. Topics include thermodynamics, gas laws, heat transfer, and properties of air and refrigerants. Laboratory fee.

**AIR CONDITIONING/ REFRIGERATION (AC) 161 (1)**

**ELEMENTARY THERMODYNAMICS (30 CONTACT HOURS)**

This course presents the principles of thermodynamics, physics, and gas laws as applied to basic refrigeration systems. Laboratory fee.

**AIR CONDITIONING/ REFRIGERATION (AC) 162 (1)**

**HEAT TRANSFER AND AIR PROPERTIES (30 CONTACT HOURS)**

Principles of heat flow and heat transfer are covered. Included are simple load calculations, air properties, and basic psychrometric chart construction.

**AIR CONDITIONING/ REFRIGERATION (AC) 163 (1)**

**REFRIGERANT PROPERTIES (30 CONTACT HOURS)**

Common refrigerant types are identified. Basic refrigerant properties are compared and the pressure-enthalpy diagram is constructed.

**AIR CONDITIONING/ REFRIGERATION (AC) 165 (3)**

**VAPOR COMPRESSION SYSTEMS (90 CONTACT HOURS)**

This course covers the various features of vapor compression systems. The major components, their function, and relationship are examined. Also presented are the four processes of the vapor compression system service, including evacuation and charging.

**AIR CONDITIONING/ REFRIGERATION (AC) 170 (3)**

**PIPEFITTING PROCEDURES (90 CONTACT HOURS)**

This is a comprehensive course that includes Air Conditioning/Refrigeration 171 and 172. Students may register in the comprehensive course or either of the inclusive courses. Piping practices are studied. Topics include pipe size selection and techniques of soldering, silver-soldering and silver-brazing. Leak detection, and repair methods are also covered. Laboratory fee.

**AIR CONDITIONING/ REFRIGERATION (AC) 171 (2)**

**PIPING AND FITTINGS (60 CONTACT HOURS)**

This course presents piping practices. Topics include the identification and selection of correct pipe sizes and fittings and the construction of piping circuits using proper soft-solder, silver-solder, and silver-brazing techniques. Laboratory fee.

**AIR CONDITIONING/ REFRIGERATION (AC) 172 (1)**

**LEAK DETECTION AND REPAIR (30 CONTACT HOURS)**

The location and repair of refrigeration system leaks are covered. Correct repair methods and materials are emphasized. Laboratory fee.

**AIR CONDITIONING/ REFRIGERATION (AC) 175 (3)**

**RESIDENTIAL LOAD CALCULATIONS (90 CONTACT HOURS)**

This is a comprehensive course that includes Air Conditioning/Refrigeration 176, 177, and 178. Students may register in the comprehensive course or any of the inclusive courses. This course is a study of heating and cooling load calculations for psychrometric chart construction and interpretation. Laboratory fee.

**AIR CONDITIONING/ REFRIGERATION (AC) 176 (1)**

**COOLING LOAD CALCULATIONS (30 CONTACT HOURS)**

Cooling load calculations for residences are presented. Topics include the identification of heat sources, calculation of heat transfer coefficients, and calculation of the cooling load. Emphasis is on energy conservation. Laboratory fee.

**AIR CONDITIONING/ REFRIGERATION (AC) 177 (1)**

**HEATING LOAD CALCULATIONS-RESIDENTIAL (30 CONTACT HOURS)**

Heating load calculations for residences are presented. Topics include the identification of sources of heat loss, calculation of heat transfer coefficients, and calculation of the heating load. Emphasis is on energy conservation. Laboratory fee.
AIR CONDITIONING/REFRIGERATION (AC) 178 (1)
AIR PROPERTIES-RESIDENTIAL (30 CONTACT HOURS)
Measurement of residential air properties is covered. Included are the plotting and interpretation of psychrometric charts and identification of methods of humidity control. Laboratory fee.

AIR CONDITIONING/REFRIGERATION (AC) 180 (3)
RESIDENTIAL COOLING SYSTEMS (90 CONTACT HOURS)
This is a comprehensive course that includes Air Conditioning/Refrigeration 181, 182, and 183. Students may register in the comprehensive course or any of the inclusive courses. This course presents principles of refrigeration for residential cooling systems. Emphasis is on compressors, condensers, evaporators, metering devices, electrical components, and the reverse cycle system (heat pump). Laboratory fee.

AIR CONDITIONING/REFRIGERATION (AC) 181 (1)
REFRIGERATION SYSTEMS-RESIDENTIAL (30 CONTACT HOURS)
Types of cooling systems for residences are covered. Major components are included, such as compressors, evaporators, condensers, and metering devices with emphasis on acceptable piping practices. Laboratory fee.

AIR CONDITIONING/REFRIGERATION (AC) 182 (1)
ELECTRICAL SYSTEMS-RESIDENTIAL COOLING (30 CONTACT HOURS)
The components of the electrical system for residential cooling are presented. Topics include electrical control devices, protective devices and AC motors. Laboratory fee.

AIR CONDITIONING/REFRIGERATION (AC) 183 (1)
REVERSE CYCLE SYSTEMS (30 CONTACT HOURS)
This course is a study of the residential heat pump and its use in summer/winter air conditioning. The electrical and mechanical system is included. Laboratory fee.

AIR CONDITIONING/REFRIGERATION (AC) 185 (3)
RESIDENTIAL HEATING SYSTEMS (90 CONTACT HOURS)
This is a comprehensive course that includes Air Conditioning/Refrigeration 186, 187, and 188. Students may register in the comprehensive course or any of the inclusive courses. Principles and procedures used in residential heating systems are studied. Emphasis is on the gas and electric warm-air furnace. Included are the mechanical and electrical components of the heating systems. Laboratory fee.

AIR CONDITIONING/REFRIGERATION (AC) 186 (1)
WARM-AIR FURNACE-GAS (30 CONTACT HOURS)
The gas warm-air furnace is examined. Included are the diagnosis and service of heat exchangers, burner assemblies and gas valves. The combustion process, vent systems and safety procedures are also studied. Laboratory fee.

AIR CONDITIONING/REFRIGERATION (AC) 187 (1)
WARM-AIR FURNACE-ELECTRIC (30 CONTACT HOURS)
The electric warm-air furnace is examined. Included are the principles and practices of resistance heating, the components of the system, and their relationship. Laboratory fee.

AIR CONDITIONING/REFRIGERATION (AC) 188 (1)
ELECTRICAL SYSTEMS-HEATING (30 CONTACT HOURS)
The electric heating systems are examined. Included are the identification and diagnosis of individual components of the electrical system and the relationship of the components to the system. Laboratory fee.

AIR CONDITIONING/REFRIGERATION (AC) 190 (3)
COMMERCIAL REFRIGERATION SYSTEMS SERVICE (90 CONTACT HOURS)
This is a comprehensive course that includes Air Conditioning/Refrigeration 191, 192, and 193. Students may register in the comprehensive course or any of the inclusive courses. This course is a study of commercial refrigeration systems. Topics include system components such as flow control and pressure control devices, defrost systems and humidity control. Laboratory fee.

AIR CONDITIONING/REFRIGERATION (AC) 191 (1)
INTRODUCTION TO COMMERCIAL REFRIGERATION SYSTEMS (30 CONTACT HOURS)
Commercial refrigeration systems are presented. Emphasis is on systems common to light commercial fixtures. Laboratory fee.

AIR CONDITIONING/REFRIGERATION (AC) 192 (1)
SYSTEM COMPONENTS-COMMERCIAL REFRIGERATION (30 CONTACT HOURS)
Major components of commercial systems are studied. Included are compressors, flow control, pressure control devices and the relationship of the components to the total system. Laboratory fee.

AIR CONDITIONING/REFRIGERATION (AC) 193 (1)
DEFROST SYSTEMS AND HUMIDITY CONTROL (30 CONTACT HOURS)
This course covers the diagnosis, service, repair and replacement of components of defrost systems. Air properties and humidity control are included. Laboratory fee.
register in the comprehensive course or in the inclusive courses. This course presents the service of commercial refrigeration systems. Topics include the principles and practices for fixture installations, pipe-fitting procedures, leak detection and repair, evacuation and system charging for peak performance, system lubrication at low temperatures, and diagnosis and service of electrical system components. Laboratory fee.

AIR CONDITIONING/REFRIGERATION (AC) 196 (1) INSTALLATION PROCEDURES—COMMERCIAL REFRIGERATION (30 CONTACT HOURS)

Principles and practices for fixture installation are studied. Included are pipe-fitting procedures with emphasis on oil return. Laboratory fee.

AIR CONDITIONING/REFRIGERATION (AC) 197 (1) SYSTEM SERVICE AND REPAIR—COMMERCIAL REFRIGERATION (30 CONTACT HOURS)

System leaks are located and repaired. Also included are system evacuation and the refrigerant charge for peak performance. The diagnosis, and service of system components, such as compressors, evaporators, condensers, metering devices, and defrost mechanisms are covered. Laboratory fee.

AIR CONDITIONING/REFRIGERATION (AC) 198 (1) ELECTRICAL SYSTEMS SERVICE—COMMERCIAL REFRIGERATION (30 CONTACT HOURS)

This course focuses on the servicing of electrical systems in commercial refrigeration. Included are the diagnosis, service, repair and replacement of components of electrical systems. Laboratory fee.

AIR CONDITIONING/REFRIGERATION (AC) 240 (3) AIR DISTRIBUTION SYSTEM—RESIDENTIAL (90 CONTACT HOURS)

This is a comprehensive course that includes Air Conditioning/Refrigeration 241, 242, and 243. Students may register in the comprehensive course or any of the inclusive courses. Principles and practices of acceptable air distribution systems are presented. Topics include flow patterns, velocity, volume, and stratification for heating and cooling applications. Filter service, electronic air cleaners and humidifiers are also studied. Laboratory fee.

AIR CONDITIONING/REFRIGERATION (AC) 241 (1) AIR DISTRIBUTION—COOLING (30 CONTACT HOURS)

Air distribution for residential cooling is studied. Topics include air flow, velocity, volume, flow patterns, methods of air distribution and system balance for best performance.

Laboratory fee.

AIR CONDITIONING/REFRIGERATION (AC) 242 (1) AIR DISTRIBUTION—HEATING (30 CONTACT HOURS)

Air distribution for residential heating is studied. Topics include air flow, velocity, volume, flow patterns, methods of air distribution and system balance for best performance.

Laboratory fee.

AIR CONDITIONING/REFRIGERATION (AC) 243 (1) ELECTRONIC AIR CLEANERS AND HUMIDIFIERS (30 CONTACT HOURS)

This course examines the principles of electronic air cleaners and humidifiers. Included are the service and adjustment of air cleaners and humidifiers and their use in environmental conditioning.

Laboratory fee.

AIR CONDITIONING/REFRIGERATION (AC) 245 (3) RESIDENTIAL SYSTEMS SERVICE (90 CONTACT HOURS)

This is a comprehensive course that includes Air Conditioning/Refrigeration 246 and 247. Students may register in the comprehensive course or either of the inclusive courses. The servicing of residential air conditioning systems is presented. Topics include the diagnosis, service, adjustment, repair, and replacement of system components. Installation procedures are also covered. Laboratory fee.

AIR CONDITIONING/REFRIGERATION (AC) 246 (2) SYSTEMS SERVICE AND REPAIR—RESIDENTIAL (60 CONTACT HOURS)

This course focuses on the diagnosis, service, repair, and replacement of air conditioning system components. Included are leak detection and repair, evacuation and charging procedures, and adjustment of systems for peak performance. Laboratory fee.

AIR CONDITIONING/REFRIGERATION (AC) 247 (1) INSTALLATION PROCEDURES—RESIDENTIAL (30 CONTACT HRS.)

This course focuses on the installation of air conditioning systems. Included is the application of correct piping principles. Laboratory fee.

AIR CONDITIONING/REFRIGERATION (AC) 250 (3) AIR CONDITIONING EQUIPMENT SELECTION (90 CONTACT HOURS)

This is a comprehensive course that includes Air Conditioning/Refrigeration 251 and 252. Students may register in the comprehensive course or in either of the inclusive courses. Selection of the proper air conditioning equipment is presented. Topics include the calculation of residential cooling and heating loads using approved forms and the selection of equipment required for the calculated loads. Laboratory fee.

AIR CONDITIONING/REFRIGERATION (AC) 251 (2) ADVANCED LOAD CALCULATIONS (60 CONTACT HOURS)

This course focuses on the calculation of residential cooling and heating loads using the approved forms. Laboratory fee.

AIR CONDITIONING/REFRIGERATION (AC) 255 (3) AIR DISTRIBUTION SYSTEMS DESIGN (90 CONTACT HOURS)

This course is a comprehensive course that includes Air Conditioning/Refrigeration 256 and 257. Students may register in the comprehensive course or either of the inclusive courses. The custom design of air distribution systems according to the particular needs of the structure is covered. Included are advanced psychrometrics, duct design, diffuser selection and air-flow patterns. Laboratory fee.

AIR CONDITIONING/REFRIGERATION (AC) 256 (1) ADVANCED PSYCHROMETRICS—RESIDENTIAL (30 CONTACT HOURS)

This course is the specific study of advanced psychrometrics for residential use. Included are use of the psychrometric chart in air mixtures problems, apparatus dew point and bypass factor selection, air properties and the determination of actual system performance. Laboratory fee.

AIR CONDITIONING/REFRIGERATION (AC) 257 (2) AIR DISTRIBUTION EQUIPMENT SELECTION (60 CONTACT HOURS)

This course is the specific study of equipment selection as indicated by calculated heating and cooling loads. Topics include the selection of air distribution duct systems, diffusers and air-flow patterns. Emphasis is on energy conservation. Laboratory fee.

AIR CONDITIONING/REFRIGERATION (AC) 260 (3) SPECIAL COMMERCIAL REFRIGERATION APPLICATIONS (90 CONTACT HOURS)

This is a comprehensive course that includes Air Conditioning/Refrigeration 261, 262, and 263. Students may register in the comprehensive course or in any of the inclusive courses. Commercial refrigeration principles are applied to special cases. Included
are ice makers (flakers and cubers), beverages coolers and special display cases. Laboratory fee.

**AIR CONDITIONING/REFRIGERATION (AC) 261 (1)**
**ICE MAKERS-FLAKERS (30 CONTACT HOURS)**
This course focuses on ice makers (flakers). Topics include the diagnosis, service, repair and replacement of components of ice makers (flakers). Emphasis is on the mechanical and control systems. Laboratory fee.

**AIR CONDITIONING/REFRIGERATION (AC) 262 (1)**
**ICE MAKERS-CUBERS (30 CONTACT HOURS)**
This course focuses on ice makers (cubers). Topics include the diagnosis, service, repair and replacement of components of ice makers (cubers). Emphasis is on harvest methods and control systems. Laboratory fee.

**AIR CONDITIONING/REFRIGERATION (AC) 263 (1)**
**BEVERAGE COOLERS AND SPECIAL DISPLAY CASES (30 CONTACT HOURS)**
This course focuses on beverage coolers and special display cases. Topics include the diagnosis and service of beverage coolers, water fountains, dairy cases, and special display cases that require close temperature and/or humidity ranges. Laboratory fee.

**AIR CONDITIONING/REFRIGERATION (AC) 265 (3)**
**ADVANCED COMMERCIAL REFRIGERATION SYSTEMS (90 CONTACT HOURS)**
This is a comprehensive course that includes Air Conditioning/Refrigeration 266 and 267. Students may register in the comprehensive course or in either of the inclusive courses. Advanced commercial refrigeration systems are presented. Included are multiple compressors, evaporators, condensers, and metering devices. Product and structural loads are calculated and analyzed. Laboratory fee.

**AIR CONDITIONING/REFRIGERATION (AC) 266 (1)**
**MULTIPLE SYSTEMS (30 CONTACT HOURS)**
This course covers multiple systems. Included are the diagnosis, service, repair and replacement of components of the multiple compressor, evaporator, condenser, and metering device system. Emphasis is on control systems. Laboratory fee.

**AIR CONDITIONING/REFRIGERATION (AC) 267 (2)**
**PRODUCT AND STRUCTURAL LOAD ANALYSIS (60 CONTACT HOURS)**
This course covers the calculation and analysis of product and structural loads. The relationship of these loads to the total environmental system is included. Laboratory fee.

**AIR CONDITIONING/REFRIGERATION (AC) 270 (3)**
**INDUSTRIAL AIR CONDITIONING SYSTEMS (90 CONTACT HOURS)**
This is a comprehensive course that includes Air Conditioning/Refrigeration 271, 272, and 273. Students may register in the comprehensive course or in any of the inclusive courses. Industrial air conditioning systems are surveyed. Topics include the principles and operation of water-cooled condensing systems, water-treatment, water towers and piping. Also included are centrifugal and reciprocating compression systems. Absorption system principles are applied to industrial air conditioning. Laboratory fee.

**AIR CONDITIONING/REFRIGERATION (AC) 271 (1)**
**WATER-COOLED CONDENSING SYSTEM (30 CONTACT HOURS)**
This course examines water-cooled condensing systems, water towers, and water treatment. Applicable principles, pipe-sizing, and piping practices are covered. Laboratory fee.

**AIR CONDITIONING/REFRIGERATION (AC) 272 (1)**
**CENTRIFUGAL AND RECIPROCATING COMPRESSOR SYSTEMS (30 CONTACT HOURS)**
This course examines the principles and operation of centrifugal and large reciprocating compressor systems. Emphasis is on the compressor components. Laboratory fee.

**AIR CONDITIONING/REFRIGERATION (AC) 273 (1)**
**PRINCIPLES OF ABSORPTION SYSTEMS (30 CONTACT HOURS)**
This course examines the principles of absorption systems. Topics include the identification of components, operational theory of absorption systems and advantages and disadvantages of industrial absorption systems. Laboratory fee.

**AIR CONDITIONING/REFRIGERATION (AC) 275 (3)**
**INDUSTRIAL AIR CONDITIONING SERVICE (90 CONTACT HOURS)**
This is a comprehensive course that includes Air Conditioning/Refrigeration 276, 277, and 278. Students may register in the comprehensive course or any of the inclusive courses. The servicing of industrial air conditioning systems is presented. Included are the service, repair and replacement of capacity control systems and lubrication systems. Also covered are principles and practices of refrigerant circuit piping, leak detection and repair, evacuation and system charging for best performance, and preventative maintenance and schedules.

**AIR CONDITIONING/REFRIGERATION (AC) 276 (1)**
**CAPACITY CONTROL AND LUBRICATION SYSTEMS (30 CONTACT HOURS)**
This course focuses on the adjustment, service, repair, and replacement of components of capacity control systems. Lubrication systems and oil pressure control devices are included. Laboratory fee.

**AIR CONDITIONING/REFRIGERATION (AC) 277 (1)**
**REFRIGERANT CIRCUIT SERVICE (30 CONTACT HOURS)**
This course focuses on refrigerant circuit service. Included are leak detection and repairs, evacuation, charging procedures for best system performance and piping principles and practices. Laboratory fee.

**AIR CONDITIONING/REFRIGERATION (AC) 278 (1)**
**PREVENTATIVE MAINTENANCE PROCEDURES (30 CONTACT HOURS)**
This course focuses on system components requiring preventative maintenance. The preparation of preventative maintenance schedules is covered. Laboratory fee.

**AIR CONDITIONING/REFRIGERATION (AC) 280 (3)**
**HYDRONIC SYSTEMS (90 CONTACT HOURS)**
This is a comprehensive course that includes Air Conditioning/Refrigeration 281 and 282. Students may register in the comprehensive course or in either of the inclusive courses. Hydronic air conditioning systems are studied. Water chiller, and low-pressure boiler systems are included. Laboratory fee.

**AIR CONDITIONING/REFRIGERATION (AC) 281 (1)**
**WATER CHILLERS (30 CONTACT HOURS)**
This course covers specifically the principles of operation and service of systems using water chillers as a
secondary refrigerant: Control and protective devices are included. Laboratory fee.

**AIR CONDITIONING/REFRIGERATION (AC) 282 (2)**
LOW-PRESSURE BOILERS (60 CONTACT HOURS)

This course covers specifically low-pressure boilers. Included are the combustion process, burner assemblies, fuel circuit devices, heat exchanger control and protection devices. The electrical system is also studied. Laboratory fee.

**AIR CONDITIONING/REFRIGERATION (AC) 285 (3)**
ADVANCED INDUSTRIAL AIR CONDITIONING SYSTEMS (90 CONTACT HOURS)

This is a comprehensive course that includes Air Conditioning/Refrigeration 286, 287, and 288. Students may register in the comprehensive course or in any of the inclusive courses. Advanced industrial air conditioning systems are presented. Applied psychrometrics in air mixtures, coil bypass factors, evaporator coil dew point, total system load are included. Multi-zone systems, air distribution systems, and air balancing are covered. Laboratory fee.

**AIR CONDITIONING/REFRIGERATION (AC) 286 (1)**
ADVANCED PSYCHROMETRICS-INDUSTRIAL AIR CONDITIONING (30 CONTACT HOURS)

Use of the psychrometric chart and air-measuring instruments in air mixtures, evaporator coil performance, calculating total system load and balancing system components. Laboratory fee.

**AIR CONDITIONING/REFRIGERATION (AC) 287 (1)**
MULTI-ZONE SYSTEMS (30 CONTACT HOURS)

This course examines multi-zone systems. Topics include components of the multi-zone system, operational and diagnostic procedures, and balancing system performance. Laboratory fee.

**AIR CONDITIONING/REFRIGERATION (AC) 288 (1)**
AIR DISTRIBUTION SYSTEMS AND AIR BALANCING (30 CONTACT HOURS)

This course examines air distribution systems and air balancing. Principles of industrial air conditioning distribution systems, flow patterns, face and bypass devices, are included as well as air balancing for total system performance. Laboratory fee.

**AIR CONDITIONING/REFRIGERATION (AC) 290 (3)**
INDUSTRIAL AIR CONDITIONING CONTROL SYSTEMS (90 CONTACT HOURS)

Control systems for industrial air conditioning are presented. Included are the diagnosis, service, repair and replacement of components of electrical, pneumatic, and electronic control systems. Emphasis is on control system principles. Laboratory fee.

**AIR CONDITIONING (AC) 703, 713, 803, 813 (3)**
(See Cooperative Work Experience)

**AIR CONDITIONING (AC) 704, 714, 804, 814 (4)**
(See Cooperative Work Experience)

**ANTHROPOLOGY (ANT) 100 (3)**
INTRODUCTION TO ANTHROPOLOGY (3 LEC.)

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.

**ANTHROPOLOGY (ANT) 101 (3)**
CULTURAL ANTHROPOLOGY (3 LEC.)

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.)

**ART (ART) 104 (3)**
ART APPRECIATION (3 LEC.)

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.

**ART (ART) 106 (3)**
SURVEY OF ART HISTORY (3 LEC.)

This course covers the history of art from prehistoric time through the Renaissance. It explores the cultural, geophysical and personal influences on art styles.
and texture is considered. Laboratory fee.

ART (ART) 114 (3) DRAWING I (2 LEC., 4 LAB.)
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.

ART (ART) 115 (3) DRAWING II (2 LEC., 4 LAB.)
Prerequisite: Art 114. This course is an expansion of Art 114. It stresses the descriptive 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.

ART (ART) 116 (3) INTRODUCTION TO JEWELRY I (2 LEC., 4 LAB.)
Prerequisites: Art 114, Art 111, or the consent of the instructor. The basic techniques of fabrication and casting of metals are presented. Emphasis is on original design. Laboratory fee.

ART (ART) 117 (3) INTRODUCTION TO JEWELRY II (2 LEC., 4 LAB.)
Prerequisite: Art 116. This course continues Art 116. Advanced fabrication and casting techniques are presented. Emphasis is on original design. Laboratory fee.

ART (ART) 199 (1) ART SEMINAR (1 LEC.)
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.

ART (ART) 201 (3) DRAWING III (2 LEC., 4 LAB.)
Prerequisites: Art 110, Art 111, Art 115, Sophomore standing and/or permission of the division chair. This course covers the analytic and expressive drawing of the human figure. Movement and volume are stressed. Laboratory fee.

ART (ART) 202 (3) DRAWING IV (2 LEC., 4 LAB.)
Prerequisites: Art 201. Sophomore standing and/or permission of the division chair. This course continues Art 201. Emphasis is on individual expression. Laboratory fee.

ART (ART) 205 (3) PAINTING I (2 LEC., 4 LAB.)
Prerequisites: Art 110, Art 111, Art 115 or the consent of 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.

ART (ART) 206 (3) PAINTING II (2 LEC., 4 LAB.)
Prerequisite: Art 205. This course continues Art 205. Emphasis is on individual expression.

ART (ART) 208 (3) SCULPTURE I (2 LEC., 4 LAB.)
Prerequisites: Art 110, Art 111, Art 115 or the consent of the instructor. Various sculptural approaches are explored. Different media and techniques are used. Laboratory fee.

ART (ART) 209 (3) SCULPTURE II (2 LEC., 4 LAB.)
Prerequisite: Art 208. This course continues Art 208. Emphasis is on individual expression. Laboratory fee.

ART (ART) 210 (3) COMMERCIAL ART I (2 LEC., 4 LAB.)
Prerequisites: Art 110, Art 111, Art 115 or the consent of 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.

ART (ART) 211 (3) COMMERCIAL ART II (2 LEC., 4 LAB.)
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.

ART (ART) 212 (3) ADVERTISING ILLUSTRATION (2 LEC., 4 LAB.)
Prerequisite: Art 210. Problems of the illustrator are investigated. Elements used by the illustrator are explored. Problem-solving projects are conducted.

ART (ART) 215 (3) CERAMICS I (2 LEC., 4 LAB.)
Prerequisites: Art 110, Art 111, Art 115 or the consent of 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.

ART (ART) 216 (3) CERAMICS II (2 LEC., 4 LAB.)
Prerequisite: Art 215 or the consent of the instructor. Glaze technology is studied. Advanced problems in the creation of artistic and practical ceramic ware. Laboratory fee.

ART (ART) 217 (3) WATERCOLOR I (2 LEC., 4 LAB.)
Prerequisites: Art 110, Art 111 and Art 115 or the consent of the instructor. Art 217 is a studio course exploring techniques in water base media. Emphasis is placed on exploration of a variety of modes and techniques as a means to original expression.

ART (ART) 220 (3) PRINTMAKING I (2 LEC., 4 LAB.)
Prerequisites: Art 110, Art 111, Art 115 or the consent of the instructor. Basic printmaking processes are introduced. Included are planographic, intaglio, stencil and relief processes. Laboratory fee.

ART (ART) 222 (3) PRINTMAKING II (2 LEC., 4 LAB.)
Prerequisite: Art 220. This course is a continuation of Printmaking I. Laboratory fee.

ART (ART) 228 (3) THREE-DIMENSIONAL DESIGN (2 LEC., 4 LAB.)
Prerequisite: Art majors: Art 110, 111, 114. Drafting Technology majors: Drafting 183, Engineering 186. Development of three-dimensional projects in metal, plastic, and wood through the stages of design: idea, sketches, research, working drawing, model and finished product. Emphasis is on function, material and esthetic form. Laboratory fee.

ASTRONOMY (AST) 101 (3) DESCRIPTIVE ASTRONOMY (3 LEC.)
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.)

ASTRONOMY (AST) 102 (3)  
GENERAL ASTRONOMY (3 LEC.)  
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.

ASTRONOMY (AST) 103 (1)  
ASTRONOMY LABORATORY I (3 LAB.)  
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.

ASTRONOMY (AST) 104 (1)  
ASTRONOMY LABORATORY II (3 LAB.)  
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.

BIOLOGY (BIO) 101 (4)  
GENERAL BIOLOGY (3 LEC., 3 LAB.)  
This course is a prerequisite for all higher level biology courses and should be taken in sequence. Topics include the cell, tissue, and structure and function in plants and animals. Laboratory fee.

BIOLOGY (BIO) 102 (4)  
GENERAL BIOLOGY (3 LEC., 3 LAB.)  
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.

BIOLOGY (BIO) 115 (4)  
BIOLOGICAL SCIENCE (3 LEC., 3 LAB.)  
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.

BIOLOGY (BIO) 203 (4)  
INTERMEDIATE BOTANY (3 LEC., 4 LAB.)  
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.

BIOLOGY (BIO) 216 (4)  
GENERAL MICROBIOLOGY (3 LEC., 4 LAB.)  
Prerequisites: Biology 102 or Biology 121 or the consent of the instructor. Microbes are studied. Topics include growth, reproduction, nutrition, genetics and ecology of micro-organisms. Laboratory activities constitute a major part of the course. Laboratory fee.

BIOLOGY (BIO) 217 (4)  
FIELD BIOLOGY (3 LEC., 4 LAB.)  
Prerequisite: Eight hours of biological science or the consent of the division chairperson. 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 tech-
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.)

**BUSINESS (BUS) 143 (3)**
**PERSONAL FINANCE (3 LEC.)**
Personal financial issues are explored. Topics include financial planning, insurance, budgeting, credit use, home ownership, savings, investment, and tax problems.

**BUSINESS (BUS) 234 (3)**
**BUSINESS LAW (3 LEC.)**
This course presents the historical and ethical background of the law and current legal principles. Emphasis is on contracts, property, and torts.

**BUSINESS (BUS) 237 (3)**
**ORGANIZATIONAL BEHAVIOR (3 LEC.)**
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.

**CARPENTRY (CAR) 101 (3)**
**WOODWORKING TOOLS AND MATERIALS (90 CONTACT HOURS)**
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.

**CARPENTRY (CAR) 102 (3)**
**SITE PREPARATION (90 CONTACT HOURS)**
Knowledge and skills for site preparation are included. Included are laying out and constructing foundations for domestic buildings, constructing and placing piers, erecting concrete foundation forms, and pouring concrete foundations. Laboratory fee.

**CARPENTRY (CAR) 103 (1)**
**CONSTRUCTION SAFETY (30 CONTACT HOURS)**
Construction safety is covered. This course is based on standards of the Occupational Safety and Health Administration for residential commercial construction.

**CARPENTRY (CAR) 104 (3)**
**RESIDENTIAL FRAMING (90 CONTACT HOURS)**
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.

**CARPENTRY (CAR) 105 (3)**
**ROOF FRAMING I (90 CONTACT HOURS)**
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.

**CARPENTRY (CAR) 106 (3)**
**EXTERIOR TRIM AND FINISH (90 CONTACT HOURS)**
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.

**CARPENTRY (CAR) 107 (3)**
**CONSTRUCTION COST ESTIMATING (48 CONTACT HOURS)**
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.

**CARPENTRY (CAR) 108 (3)**
**MODERN CONSTRUCTION PRACTICES (90 CONTACT HOURS)**
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.

**CARPENTRY (CAR) 109 (3)**
**CONCRETE SLABS IN COMMERCIAL BUILDING (90 CONTACT HOURS)**
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.

**CARPENTRY (CAR) 201 (3)**
**CABINET BUILDING I (90 CONTACT HOURS)**
The design and layout of modern cabinets is presented. Emphasis is on quality work. Included are making material lists, drafting cabinet details, and installing factory-built cabinets. Laboratory fee.

**CARPENTRY (CAR) 202 (3)**
**CABINET BUILDING II (90 CONTACT HOURS)**
This course focuses on cabinet designs and construction. All stages from rough materials to a finished product are covered. Laboratory fee.

**CARPENTRY (CAR) 203 (3)**
**STAIR BUILDING (90 CONTACT HOURS)**
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.
CARPENTRY (CAR) 204 (3)
COMMERCIAL WALL FORMS
(90 CONTACT HOURS)
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.

CARPENTRY (CAR) 205 (3)
ROOFING FRAMING II
(90 CONTACT HOURS)
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 roof system is also included. Laboratory fee.

CARPENTRY (CAR) 206 (3)
VERTICAL PIERS AND COLUMNS
(90 CONTACT HOURS)
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.

CARPENTRY (CAR) 208 (3)
INTERIOR FINISH I
(90 CONTACT HOURS)
This course covers interior finish. Cutting, applying, and finishing paneling is included. Dry wall and trim are also included. The fitting and hanging of interior doors and installing of hardware are covered. Laboratory fee.

CHEMISTRY (CHM) 101 (4)
GENERAL CHEMISTRY (3 LEC., 3 LAB.)
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.

CHEMISTRY (CHM) 102 (4)
GENERAL CHEMISTRY (3 LEC., 3 LAB.)
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.

CHEMISTRY (CHM) 105 (4)
CHEMICAL SCIENCES (3 LEC., 3 LAB.)
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.

CHEMISTRY (CHM) 115 (4)
CHEMICAL SCIENCES (3 LEC., 3 LAB.)
Prerequisite: Chemistry 115 or the consent of 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.

CHEMISTRY (CHM) 201 (4)
ORGANIC CHEMISTRY I (3 LEC., 4 LAB.)
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
and aromatic compounds are dis·

**INTRODUCTION TO COMPUTER SCIENCE (3 LEC.)**

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.

**INTRODUCTION TO PASCAL PROGRAMMING (2 LEC., 2 LAB.)**

Prerequisites: Computing Science 174 or Computing Science 175 and Math 101 or the consent of the instructor based on equivalent experience. This course is an introduction to PASCAL. Topics will include problem solving and structured programming techniques introduced through examples from applications such as text processing, numerical computing, and simulation, together with programming assignments. Laboratory fee.

**INTRODUCTION TO ASSEMBLY LANGUAGE (2 LEC., 2 LAB.)**

Prerequisites: Computing Science 174 or Computing Science 175 and six semester hours of computer programming or the consent of 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.

**INTRODUCTION TO COBOL PROGRAMMING (2 LEC., 2 LAB.)**

Prerequisites: Computing Science 174 or Computing Science 175 or the consent of the instructor based on equivalent experience. An introduction to the COBOL programming language. Proficiency will be developed as the student codes and executes several COBOL programs using interactive computing equipment. Laboratory fee.

**INTRODUCTION TO PL/1 PROGRAMMING (2 LEC., 2 LAB.)**

Prerequisites: Computing Science 174 or Computing Science 175 or the consent of the instructor based on equivalent experience. Study of PL/1 language with numeric and non-near applications. Computing techniques will be developed in such areas as program design, basic aspects of string processing, recursion, internal search/so methods, and simple data structures. Laboratory fee.

**INTRODUCTION TO FORTRAN PROGRAMMING (2 LEC., 2 LAB.)**

Prerequisites: Computing Science 174 or Computing Science 175 and Math 101 or the consent of the instructor based on equivalent experience. This course is an introduction to FORTRAN. Topics will include 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.
DATA PROCESSING (DP) 137 (3)
DATA PROCESSING MATHEMATICS (3 LEC)
Prerequisites: One year of high school algebra or Developmental Math 091 or the consent of the instructor. This course introduces the principles of computer operation. Topics include the number system, fundamental processes, number bases, and the application of mathematics to typical business problems and procedures.

DATA PROCESSING (DP) 139 (3)
TECHNICIAN (2 LEC., 4 LAB.)
Prerequisite: Credit or concurrent enrollment in Computing Science 175 or the consent of the instructor. 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. Laboratory fee.

DATA PROCESSING (DP) 142 (3)
RPG PROGRAMMING (2 LEC., 2 LAB.)
Prerequisite: Data Processing 133 or the consent of the instructor. This course introduces programming skills using the RPG II language. Emphasis is on languages and not on operation and functioning of the equipment. Programming problems emphasize card images and disk processing, and will include basic listings with levels of totals, multi-record records, exception reporting, look-ahead feature, and multitile processing. Laboratory fee.
DATA PROCESSING (DP) 231 (4)
ADVANCED PROGRAMMING (3 LEC., 4 LAB.)
Prerequisite: Data Processing 136 or the consent of the instructor. This course focuses on basic concepts and instructions in the IBM 360/370 Assembler language, using the standard instruction set emphasizing the decimal features, with a brief introduction to fixed point operations using registers. Selected macro instructions, table handling, editing, printed output, and reading memory dumps are included. Laboratory fee.

DATA PROCESSING (DP) 232 (4)
APPLIED SYSTEMS (3 LEC., 4 LAB.)
Prerequisite: Data Processing 136 or the consent of the instructor. This course introduces and develops skills to analyze existing systems and to design new systems. Emphasis is placed on a case study involving all facets of the system design from the original source of data to final reports. Flowcharts and documentation are included.

DATA PROCESSING (DP) 233 (4)
OPERATING SYSTEMS AND COMMUNICATIONS (3 LEC., 4 LAB.)
Prerequisite: Data Processing 133 or the consent of the instructor. Concepts and technical knowledge of 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.

DATA PROCESSING (DP) 234 (4)
ADVANCED ASSEMBLY LANGUAGE CODING (3 LEC., 3 LAB.)
Prerequisite: Data Processing 231. The development of programming skills using the assembly language instruction set is covered. Topics include indexing, indexed sequential file organization, table search methods, data and bit manipulation techniques, code translation, advanced problem analysis, and debugging techniques. Floating point operations are introduced. Laboratory fee.

DATA PROCESSING (DP) 235 (4)
ADVANCED COBOL TECHNIQUES (3 LEC., 4 LAB.)
Prerequisites: Data Processing 133 and Data Processing 136 or the consent of the instructor. This course provides advanced programming techniques using structured programming with the COBOL language. Random and sequential updating of disk files, table-handling, report writer, the internal sort verb, and calling and copying techniques are emphasized. Laboratory fee.

DATA PROCESSING (DP) 240 (4)
TELECOMMUNICATIONS I (3 LEC., 4 LAB.)
Prerequisite: A minimum of two semesters of a high-level language and credit in Data Processing 136 or the consent of the instructor. Telecommunications concepts are introduced. Topics include configuration of a teleprocessing network on a third generation computer, vocabulary, modems, terminal configuration, polling simulation, and common carrier characteristics. An existing telecommunications system and a student conceived national data system are investigated, analyzed, and designed. Laboratory fee.

DATA PROCESSING (DP) 241 (4)
TELECOMMUNICATIONS II (3 LEC., 3 LAB.)
Prerequisite: Data Processing 240 or the consent of the instructor. This course is a continuation of Data Processing 240. Topics include basic telecommunications programming, terminal configurations, line configurations, synchronous transmission, asynchronous transmission, and polling techniques at the central unit. Laboratory fee.

DATA PROCESSING (DP) 243 (3)
COMPUTER CENTER MANAGEMENT (3 LEC.)
Prerequisite: Computing Science 175, a minimum of one semester of high-level language, or the consent of 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 real-time systems are explored. Methods for computer selection and evaluation are described.

DATA PROCESSING (DP) 244 (3)
BASIC PROGRAMMING (2 LEC., 2 LAB.)
Prerequisite: Computing Science 175 or the consent of 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.

DATA PROCESSING (DP) 246 (4)
DATA BASE SYSTEMS (3 LEC., 4 LAB.)
Prerequisites: Data Processing 136 or the consent of 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.

DEVELOPMENTAL MATHEMATICS

DEVELOPMENTAL MATHEMATICS (DM) 060 (1)
BASIC MATHEMATICS I (1 LEC.)
This course is designed to give an understanding of fundamental operations. Selected topics include whole numbers, decimals, and ratio and proportions.

DEVELOPMENTAL MATHEMATICS (DM) 061 (1)
BASIC MATHEMATICS II (1 LEC.)
This course is designed to give an understanding of fractions. Selected topics include primes, factors, least common multiples, percent, and basic operations with fractions.

DEVELOPMENTAL MATHEMATICS (DM) 063 (1)
PRE ALGEBRA (1 LEC.)
This course is designed to introduce students to the language of algebra with such topics as integers, metrics, equations, and properties of counting numbers.
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.

DEVELOPMENTAL MATHEMATICS (DM) 070 (1) ELEMENTARY ALGEBRA I (1 LEC.)
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.

DEVELOPMENTAL MATHEMATICS (DM) 072 (1) ELEMENTARY ALGEBRA III (1 LEC.)
Prerequisite: Developmental Mathematics 071 or equivalent. This course includes selected topics such as rational numbers, algebraic polynomials, factoring, and algebraic fractions.

DEVELOPMENTAL MATHEMATICS (DM) 073 (1) INTRODUCTION TO GEOMETRY (1 LEC.)
This course introduces principles of geometry. Axioms, theorems, axiom systems, models of such systems, and methods of proof are stressed.

DEVELOPMENTAL MATHEMATICS (DM) 080 (1) INTERMEDIATE ALGEBRA I (1 LEC.)
Prerequisite: Developmental Mathematics 072, 091 or equivalent. This course includes selected topics such as systems of rational numbers, real numbers, and complex numbers.

DEVELOPMENTAL MATHEMATICS (DM) 081 (1) INTERMEDIATE ALGEBRA II (1 LEC.)
Prerequisite: Developmental Mathematics 080 or equivalent. This course includes selected topics such as sets, relations, functions, inequalities, and absolute values.

DEVELOPMENTAL MATHEMATICS (DM) 082 (1) INTERMEDIATE ALGEBRA III (1 LEC.)
Prerequisite: Developmental Mathematics 081 or equivalent. This course includes selected topics such as graphing, exponents, and factoring.

DEVELOPMENTAL MATHEMATICS (DM) 083 (1) PRE-ALGEBRA MATHEMATICS (3 LEC.)
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.

DEVELOPMENTAL MATHEMATICS (DM) 090 (3) PRE-ALGEBRA MATHEMATICS (3 LEC.)
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.

DEVELOPMENTAL MATHEMATICS (DM) 091 (3) ELEMENTARY ALGEBRA (3 LEC.)
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.

DEVELOPMENTAL MATHEMATICS (DM) 093 (3) INTERMEDIATE ALGEBRA (3 LEC.)
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.

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.

DEVELOPMENTAL READING (DR) 090 (3) TECHNIQUES OF READING/LEARNING (3 LEC.)
Comprehension, vocabulary, development, and study skills are the focus of this course. Emphasis is on learning how to learn. Included are reading and learning experiences to strengthen the total educational background of each student. Meeting individual needs is stressed.

DEVELOPMENTAL READING (DR) 091 (3) TECHNIQUES OF READING AND LEARNING (3 LEC.)
This course is a continuation of developmental reading 090. Meeting individual needs is stressed.

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.
DEVELOPMENTAL WRITING (DW) 090 (3)
WRITING (3 LEC.)
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.

DEVELOPMENTAL WRITING (DW) 091 (3)
WRITING LAB (3 LAB.)
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.

DEVELOPMENTAL WRITING (DW) 092 (1)
This course is a writing workshop. Students are given instruction and supervision in written assignments. The research paper and editing are both included.

DIESEL MECHANICS (DME) 101 (4)
CATERPILLAR DIESEL ENGINE (120 CONTACT HOURS)
Prerequisite: Credit or concurrent enrollment in Mathematics 195 or consent of instructor. The complete overhaul of a Caterpillar Diesel Engine is conducted. Included are the removal, disassembly, servicing, and assembly of each major component. Laboratory fee.

DIESEL MECHANICS (DME) 102 (4)
CUMMINS DIESEL ENGINE (120 CONTACT HOURS)
A Cummins Diesel Engine is completely overhauled. Included are the removal, disassembly, servicing, and assembly of each major component. Laboratory fee.

DIESEL MECHANICS (DME) 103 (4)
DETROIT DIESEL ENGINE (120 CONTACT HOURS)
This course focuses on the complete overhaul of a Detroit Diesel Engine. Included are the removal, disassembly, servicing, and assembly of each major component. Laboratory fee.

DIESEL MECHANICS (DME) 122 (2)
HEAVY DUTY CLUTCHES AND TORQUE CONVERTORS (60 CONTACT HOURS)
This course covers clutches and torque converters. The removal, repair, and installation of heavy duty clutches are included. The theory of operation, removal, repair, and installation of torque converters are also covered. Laboratory fee.

DIESEL MECHANICS (DME) 123 (2)
AIR BRAKE SYSTEMS (60 CONTACT HOURS)
This course focuses on air brake systems used in heavy trucks. The inspection, repair, and adjustment of these systems are covered. Laboratory fee.

DIESEL MECHANICS (DME) 124 (2)
DIFFERENTIALS AND DRIVE LINES (60 CONTACT HOURS)
Differentials are examined. Included are removal, disassembly, repair, reassembly, and installation. Laboratory fee.

DIESEL MECHANICS (DME) 125 (2)
AUTOMATIC TRANSMISSIONS (60 CONTACT HOURS)
Automatic transmissions are studied. Included are removal, inspection, repair, and assembly. Laboratory fee.

DIESEL MECHANICS (DME) 126 (2)
HEAVY TRUCK AIR CONDITIONING (60 CONTACT HOURS)
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.

SHOP PRACTICES (60 CONTACT HOURS)
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.

DIESEL MECHANICS (DME) 137 (3)
FUNDAMENTALS OF OXYGEN/ACETYLENE AND ARC WELDING (90 CONTACT HOURS)
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.
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.

**DIESEL MECHANICS (DME) 144 (1)**
DIESEL ENGINE AIR INDUCTION COOLING AND LUBRICATION SYSTEMS (30 CONTACT HOURS)
Prerequisite: Credit or concurrent enrollment in Communications 131 or the consent of the instructor. The theory of operation of the diesel engine is studied. Included are engine air induction, cooling, and lubrication systems. Emphasis is on troubleshooting and servicing. Laboratory fee.

**DIESEL MECHANICS (DME) 145 (1)**
ELECTRICAL THEORY AND BASIC CIRCUITY (30 CONTACT HOURS)
The fundamentals of electricity and magnetism are introduced. Laboratory fee.

**DIESEL MECHANICS (DME) 146 (1)**
STARTING, CHARGING, LIGHTING, AND ACCESSORY CIRCUITRY (30 CONTACT HOURS)
Starting motors, alternators, regulators, switches, and wiring circuits are examined. Emphasis is on removal, maintenance, and repair. Laboratory fee.

**DIESEL MECHANICS (DME) 703, 713, 803, 813 (3)**
(See Cooperative Work Experience)

**DIESEL MECHANICS (DME) 704, 714, 804, 814 (4)**
(See Cooperative Work Experience)

**DISTRIBUTION TECHNOLOGY (DT) 130 (3)**
INTRODUCTION TO DISTRIBUTION (3 LEC.)
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.

**DISTRIBUTION TECHNOLOGY (DT) 133 (3)**
TRANSPORTATION MANAGEMENT (3 LEC.)
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.

**DISTRIBUTION TECHNOLOGY (DT) 134 (3)**
WHOLESALE MARKETING (3 LEC.)
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.

**DISTRIBUTION TECHNOLOGY (DT) 231 (3)**
PURCHASING, PRICING, AND INVENTORY MANAGEMENT (3 LEC.)
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.

**DISTRIBUTION TECHNOLOGY (DT) 232 (3)**
WAREHOUSE OPERATIONS (3 LEC.)
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.

**DISTRIBUTION TECHNOLOGY (DT) 803, 813 (3)**
(See Cooperative Work Experience)

**DISTRIBUTION TECHNOLOGY (DT) 804, 814 (4)**
(See Cooperative Work Experience)

**DRAFTING (DFT) 182 (2)**
TECHNICIAN DRAFTING (1 LEC., 3 LAB.)
This course focuses on the reading and interpretation of engineering drawings. Topics include multiview drawings, pictorial drawings, dimensioning, measurement with scales, schematic diagrams, and printed circuit boards. Laboratory fee.

**DRAFTING (DFT) 185 (4)**
ARCHITECTURAL DRAFTING (2 LEC., 6 LAB.)
This course begins with architectural lettering, and drafting of construction details. Emphasis is on technique and use of appropriate symbols and conventions. Working drawings are prepared, including plans, elevations, sections, and details. Drawings for
buildings using steel, concrete, and timber structural components are covered. Reference materials are used to provide skills in locating data and in using handbooks.

ECOLOGY (ECY) 291 (3)

People and Their Environment I (3 LEC.)

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.)

ECONOMICS (ECO) 201 (3)

Principles of Economics I (3 LEC.)

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.)

ECONOMICS (ECO) 202 (3)

Prerequisites: Economics 201 or the consent of 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.

ELECTRICITY (ELE) 105 (2)

Introduction to Electrical Technology (2 LEC., 1 LAB.)

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.

ELECTRICITY (ELE) 106 (4)

Fundamentals of Electricity (4 LEC., 3 LAB.)

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.

ELECTRICITY (ELE) 107 (4)

Electrical Transformers (4 LEC., 2 LAB.)

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.

ELECTRICITY (ELE) 108 (2)

General Electrical Codes (2 LEC.)

General Electrical Codes as identified in the current National Electric Code are presented. General codes concepts and residential applications are stressed.

ELECTRICITY (ELE) 115 (3)

Low Voltage Circuits (2 LEC., 2 LAB.)

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.

ELECTRICITY (ELE) 116 (3)

General Electrical Wiring (2 LEC., 4 LAB.)

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.

ELECTRICITY (ELE) 117 (4)

General Electrical Planning (4 LEC., 2 LAB.)

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.

ELECTRICITY (ELE) 118 (2)

Commercial Codes (2 LEC.)

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.

ELECTRICITY (ELE) 205 (3)

Commercial Wiring (2 LEC., 4 LAB.)

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.

ELECTRICITY (ELE) 206 (4)

Commercial Planning (4 LEC., 2 LAB.)

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.

ELECTRICITY (ELE) 207 (2)

Industrial Planning (2 LEC., 1 LAB.)

This course covers power applications for industrial locations. Topics include high voltage wiring, feeder bus systems, switching, and system protection. Laboratory fee.

ELECTRICITY (ELE) 208 (2)

Industrial Codes (2 LEC.)

This course presents those areas of the current National Electric Code dealing with transformer and welder馈er circuits, motor and branch circuit overload protection.

ELECTRICITY (ELE) 215 (3)

Electrical Motor Fundamentals (3 LEC., 1 LAB.)

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.

ELECTRICITY (ELE) 216 (3)

Motor Controls (3 LEC., 2 LAB.)

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.

ELECTRICITY (ELE) 217 (2)

Solid State Controls (2 LEC., 1 LAB.)

Solid state digital logic concepts and applications for motor controls are presented. System diagnostic procedures are covered. Laboratory fee.

ELECTRICITY (ELE) 218 (3)

Electrical Design (2 LEC., 4 LAB.)

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.

ELECTRICITY (ELE) 703, 713, 803, 813 (3)

(See Cooperative Work Experience)
ENGLISH (ENG) 201 (3)
AMERICAN LITERATURE (3 LEC.)
Prerequisite: English 102. Significant works of American writers before Walt Whitman are studied. Emphasis is on the context of the writers' times.

ENGLISH (ENG) 208 (3)
AMERICAN LITERATURE (3 LEC.)
Prerequisite: English 102. Significant works of American writers from Walt Whitman to the present are studied.

ENGLISH (ENG) 209 (3)
CREATIVE WRITING (3 LEC.)
Prerequisite: English 102. The writing of fiction is the focus of this course. Included are the short story, poetry, and short drama.

ENGLISH (ENG) 210 (3)
TECHNICAL WRITING (3 LEC.)
Prerequisite: English 101 and/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.

ENGLISH (ENG) 215 (3)
STUDIES IN LITERATURE (3 LEC.)
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.

ENGLISH (ENG) 216 (3)
STUDIES IN LITERATURE (3 LEC.)
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.

FRENCH (FR) 101 (4)
BEGINNING FRENCH (3 LEC., 2 LAB.)
The essentials of grammar and easy idiomatic prose are studied. Emphasis is on pronunciation, comprehension, and oral expression. Laboratory fee.

FRENCH (FR) 102 (4)
BEGINNING FRENCH (3 LEC., 2 LAB.)
Prerequisite: French 101 or the equivalent. This course is a continuation of French 101. Emphasis is on idiomatic language and complicated syntax. Laboratory fee.

FRENCH (FR) 201 (3)
INTERMEDIATE FRENCH (3 LEC.)
Prerequisite: French 102 or the equivalent. Reading, composition, and intense oral practice are covered in this course. Grammar is reviewed.

FRENCH (FR) 202 (3)
INTERMEDIATE FRENCH (3 LEC.)
Prerequisite: French 201 or the equivalent. This course is a continuation of French 201. Contemporary literature and composition are studied.

FRENCH (FR) 203 (3)
INTRODUCTION TO FRENCH LITERATURE (3 LEC.)
Prerequisite: French 202 or the consent of the instructor. This course is an introduction to French literature. It includes readings in French literature, history, culture, art, and civilization.

FRENCH (FR) 204 (3)
INTRODUCTION TO FRENCH LITERATURE (3 LEC.)
Prerequisite: French 202 or the consent of the instructor. This course is a continuation of French 203. It includes readings in French literature, history, culture, art, and civilization.

FRENCH (FR) 205 (3)
INTERMEDIATE GERMAN (3 LEC.)
Prerequisite: French 201 or the equivalent. Reading, composition, and intense oral practice are covered in this course. Grammar is reviewed.

FRENCH (FR) 206 (3)
INTERMEDIATE GERMAN (3 LEC.)
Prerequisite: French 201 or the equivalent. This course is a continuation of French 201. Contemporary literature and composition are studied.

FRENCH (FR) 207 (3)
INTRODUCTION TO FRENCH LITERATURE (3 LEC.)
Prerequisite: French 203 or the consent of the instructor. This course is an introduction to French literature. It includes readings in French literature, history, culture, art, and civilization.

FRENCH (FR) 208 (3)
INTRODUCTION TO FRENCH LITERATURE (3 LEC.)
Prerequisite: French 203 or the consent of the instructor. This course is a continuation of French 207. It includes readings in French literature, history, culture, art, and civilization.
GOVERNMENT (GVT) 201   (3)
AMERICAN GOVERNMENT (3 LEC.)
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 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.)

GOVERNMENT (GVT) 202   (3)
AMERICAN GOVERNMENT (3 LEC.)
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.)

GOVERNMENT (GVT) 205   (3)
STUDIES IN GOVERNMENT (3 LEC.)
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.

HISTORY (HST) 101   (3)
HISTORY OF THE UNITED STATES (3 LEC.)
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.)

HISTORY (HST) 102   (3)
HISTORY OF THE UNITED STATES (3 LEC.)
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.)

HISTORY (HST) 105   (3)
WESTERN CIVILIZATION (3 LEC.)
The civilization in the West from ancient time through the Enlightenment is surveyed. Topics include the Mediterranean world, including Greece and Rome, the Middle Ages, and the beginnings of modern history. Particular emphasis is on the Renaissance, Reformation, the rise of the national state, the development of parliamentary government, and the influences of European colonization.

HISTORY (HST) 106   (3)
WESTERN CIVILIZATION (3 LEC.)
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, the 19th century, and the social, economic, and political factors of recent world history.

HISTORY (HST) 205   (3)
STUDIES IN U.S. HISTORY (3 LEC.)
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.

HUMAN DEVELOPMENT (HD) 100   (1)
EDUCATIONAL ALTERNATIVES (1 LEC.)
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.

HUMAN DEVELOPMENT (HD) 102   (1)
SPECIAL TOPICS IN HUMAN DEVELOPMENT (1 LEC.)
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.

HUMAN DEVELOPMENT (HD) 104   (3)
EDUCATIONAL AND CAREER PLANNING (3 LEC.)
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.

**HUMAN DEVELOPMENT (HD) 105 (3)**

**BASIC PROCESSES OF INTERPERSONAL RELATIONSHIPS (3 LEC.)**

This course is designed to help the student increase self-awareness and to 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 nonverbal behavior, listening, and conflict resolution.

**HUMAN DEVELOPMENT (HD) 108 (3)**

**PERSONAL AND SOCIAL GROWTH (3 LEC.)**

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.

**HUMAN DEVELOPMENT (HD) 110 (1)**

**ASSESSMENT OF PRIOR LEARNING (1 LEC.)**

Prerequisite: Limited to students in Technical/Occupational programs. The consent of 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.

**HUMANITIES (HUM) 101 (3)**

**INTRODUCTION TO THE HUMANITIES (3 LEC.)**

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.)

**HUMANITIES (HUM) 102 (3)**

**ADVANCED HUMANITIES (3 LEC.)**

Prerequisite: Humanities 101 and/or the consent of 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.

**JOURNALISM (IN) 101 (3)**

**INTRODUCTION TO MASS COMMUNICATIONS (3 LEC.)**

This course surveys the field of mass communications. Emphasis is on the role of mass media in modern society.

**JOURNALISM (IN) 102 (3)**

**NEWS GATHERING AND WRITING (2 LEC., 3 LAB.)**

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.

**JOURNALISM (IN) 103 (3)**

**NEWS GATHERING AND WRITING (2 LEC., 3 LAB.)**

Prerequisite: Journalism 102 or professional experience approved by the instructor. This course is a continuation of Journalism 102. Students study and practice writing more complex stories, such as features, profiles, follow-up stories, and sidewhrs. Students are required to write for the campus newspaper.

**JOURNALISM (IN) 104 (1)**

**STUDENT PUBLICATIONS (3 LAB.)**

Prerequisite: The consent of 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.

**JOURNALISM (IN) 105 (1)**

**STUDENT PUBLICATIONS (3 LAB.)**

Prerequisite: The consent of the instructor. This course may not be taken for credit concurrently with Journalism 102 or 103. This course is a continuation of Journalism 104.

**JOURNALISM (IN) 106 (1)**

**STUDENT PUBLICATIONS (3 LAB.)**

Prerequisite: The consent of the instructor. This course may not be taken for credit concurrently with Journalism 102 or 103. The course is a continuation of Journalism 105.

**JOURNALISM (IN) 201 (3)**

**FEATURE WRITING (3 LEC.)**

Prerequisite: Six hours of journalism or the consent of the instructor. This course covers research, interviewing techniques, and the development of feature stories for use in newspapers and magazines.

**MANAGEMENT (MGT) 136 (3)**

**PRINCIPLES OF MANAGEMENT (3 LEC.)**

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.

**MANAGEMENT (MGT) 150 (4)**

**MANAGEMENT TRAINING (20 LAB.)**

Prerequisite: Concurrent enrollment in Management 154 or the consent of 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 management skills through the completion of job-related projects which will enhance and complement classroom knowledge.

**MANAGEMENT (MGT) 151 (4)**

**MANAGEMENT TRAINING (20 LAB.)**

Prerequisite: Concurrent enrollment in Management 155 or the consent of 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.

**MANAGEMENT (MGT) 153 (3)**

**SMALL BUSINESS MANAGEMENT (3 LEC.)**

The student will be studying the fundamental approaches to planning, establishing and operating a small business. The day-to-day operation of the business and reporting procedures will be studied as well as exploring the concepts of general management.

**MANAGEMENT (MGT) 154 (2)**

**MANAGEMENT SEMINAR: ROLE OF SUPERVISOR (2 LEC.)**

Prerequisite: Concurrent enrollment in Management 150 or the consent of 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.
MANAGEMENT (MGT) 155 (2)
MANAGEMENT SEMINAR: PERSONNEL MANAGEMENT (2 LEC)
Prerequisite: Concurrent enrollment in Management 151 or the consent of 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.

MANAGEMENT (MGT) 171 (3)
INTRODUCTION TO SUPERVISION (3 LEC)
Prerequisite: Enrollment in Technical/Occupational Program or the consent of 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.

MANAGEMENT (MGT) 206 (3)
PRINCIPLES OF MARKETING (3 LEC)
The scope and structure of marketing are examined. Marketing functions, consumer behavior, market research, sales forecasting, and relevant State and Federal laws are analyzed.

MANAGEMENT (MGT) 212 (1)
SPECIAL PROBLEMS IN BUSINESS (1 LEC)
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.

MANAGEMENT (MGT) 230 (3)
SALESMANSHIP (3 LEC)
The selling of goods and ideas is the focus of this course. Buying motives, sales psychology, customer approach, and sales techniques are studied.

MANAGEMENT (MGT) 233 (3)
ADVERTISING AND SALES PROMOTION (3 LEC)
This course introduces the principles, practices, and media of persuasive communication. Topics include buyer behavior, use of advertising media, and methods of stimulating salespeople and retailers. The management of promotion programs is covered, including goals, strategies, evaluation, and control of promotional activities.

MANAGEMENT (MGT) 242 (3)
-PERSONNEL ADMINISTRATION (3 LEC)
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.

MANAGEMENT (MGT) 250 (4)
MANAGEMENT TRAINING (20 LAB) Prerequisite: Concurrent enrollment in Management 254 or the consent of 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.

MANAGEMENT (MGT) 251 (4)
MANAGEMENT TRAINING (20 LAB) Prerequisite: Concurrent enrollment in Management 255 or the consent of 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.

MANAGEMENT (MGT) 254 (2)
MANAGEMENT SEMINAR: ORGANIZATIONAL DEVELOPMENT (2 LEC) Prerequisite: Concurrent enrollment in Management 250 or the consent of 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.

MANAGEMENT (MGT) 255 (2)
MANAGEMENT SEMINAR: PLANNING, STRATEGY, AND THE DECISION PROCESS (2 LEC) Prerequisite: Concurrent enrollment in Management 251 or the consent of 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.

MANAGEMENT (MGT) 280 (3)
INDUSTRIAL MANAGEMENT (3 LEC) Prerequisite: Management 136. This course is an overview of the relationship of industrial functions. The philosophy and practices of management are included. Topics cover plant location and layout, process design, equipment selection, and methods analysis. Work measurement, materials control, production planning and control, quality control, cost control, and industrial relations are also presented.

MATHEMATICS (See also Developmental Mathematics. Supplementary instruction in mathematics is available through the Learning Resources Center.)

MATHEMATICS (MTH) 101 (3)
COLLEGE ALGEBRA (3 LEC) Prerequisite: Two years of high school algebra or Developmental Mathematics 093. This course is a study of functions and relations, absolute values, variation, quadratic equations, complex numbers, functions of two variables, systems of equations and inequalities, elementary aspects of the theory of equations, progressions, the binomial theorem, and algebraic proof.

MATHEMATICS (MTH) 102 (3)
PLANE TRIGONOMETRY (3 LEC) 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.

MATHEMATICS (MTH) 106 (5)
ELEMENTARY FUNCTIONS AND COординATE GEOMETRY II (5 LEC) 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.

MATHEMATICS (MTH) 111 (3)
MATHEMATICS FOR BUSINESS AND ECONOMICS (13 LEC) Prerequisite: Two years of high school algebra or Developmental Mathematics 093. This course includes equations, inequalities, matrices, linear programming, and linear, quadratic, polynomial, rational, exponential, and logarithmic functions. Applications to business and economics problems are emphasized.
MATHEMATICS (MTH) 112  (3)  
MATHEMATICS FOR BUSINESS AND ECONOMICS II (3 LEC.)  
Prerequisite: Mathematics 111. This course includes sequences and limits, differential calculus, integral calculus, and appropriate applications.

MATHEMATICS (MTH) 115  (3)  
COLLEGE MATHEMATICS I (3 LEC.)  
Prerequisites: One year of high school algebra and one year of high school geometry or two years of high school algebra or Developmental Mathematics 093. Designed for liberal arts students, this course includes the study of logic, mathematical patterns, mathematical recreations, systems of numeration, mathematical systems, sets and statements and sets of numbers. Historical aspects of selected topics are emphasized.

MATHEMATICS (MTH) 116  (3)  
COLLEGE MATHEMATICS II (3 LEC.)  
Prerequisite: Mathematics 115 or equivalent. This course is designed for liberal arts and appropriate applications, 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.

MATHEMATICS (MTH) 117  (3)  
FUNDAMENTAL CONCEPTS OF MATHEMATICS FOR ELEMENTARY TEACHERS (3 LEC.)  
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.

MATHEMATICS 121  (3)  
ANALYTIC GEOMETRY (3 LEC.)  
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.

MATHEMATICS (MTH) 124  (5)  
CALCULUS I (5 LEC.)  
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.

MATHEMATICS (MTH) 130  (3)  
BUSINESS MATHEMATICS (3 LEC.)  
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.

MATHEMATICS (MTH) 139  (3)  
APPLIED MATHEMATICS (3 LEC.)  
Prerequisite: One year of high school algebra or Developmental Mathematics 091 or equivalent. An effort will be made to tailor this course to fit the needs of the students enrolled in each semester. The course is a study of commercial, technical, and other applied uses of mathematics.

MATHEMATICS (MTH) 195  (3)  
TECHNICAL MATHEMATICS (3 LEC.)  
Prerequisite: One year of high school algebra or Development 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.

MATHEMATICS (MTH) 196  (3)  
TECHNICAL MATHEMATICS (3 LEC.)  
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.

MATHEMATICS (MTH) 202  (3)  
INTRODUCTORY STATISTICS (3 LEC.)  
Prerequisite: Two years of high school algebra or consent of 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.

MATHEMATICS (MTH) 221  (3)  
LINEAR ALGEBRA (3 LEC.)  
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.

MATHEMATICS (MTH) 225  (4)  
CALCULUS II (4 LEC.)  
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.

MATHEMATICS (MTH) 226  (3)  
DIFFERENTIAL EQUATIONS (3 LEC.)  
Prerequisite: Mathematics 125 or the equivalent. This course is a study of topics in vector calculus, functions of several variables, and multiple integrals, with applications.

MATHEMATICS (MTH) 230  (3)  
APPLIED MATHEMATICS (3 LEC.)  
Prerequisite: Mathematics 126 or the equivalent. This course is a study of applied uses of mathematics, especially designed to meet the needs of the students enrolled in each semester. The 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.

MUSIC (MUS) 101  (4)  
FRESHMAN THEORY (3 LEC., 1 LAB.)  
Musicianship skills are developed. Emphasis is on tonal and rhythmic perception and articulation. The essential elements of music are presented, and sight-singing, keyboard, and notation are introduced.

MUSIC (MUS) 102  (4)  
FRESHMAN THEORY (3 LEC., 1 LAB.)  
Prerequisite: Music 101 or the consent of the instructor. This course introduces part-writing and harmonization with triads and their inversions. Also included are the classification of chords, seventh chords, sight-singing, dictation, and keyboard harmony.

MUSIC (MUS) 103  (1)  
GUITAR ENSEMBLE (1 LEC.)  
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.

MUSIC (MUS) 104  (3)  
MUSIC APPRECIATION (3 LEC.)  
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.

**MUSIC (MUS) 108 (1) ENGLISH DICTION (2 LAB.)**

The phonetic sounds of the English language are studied. Included is selected vocabulary. This course is primarily for voice majors.

**MUSIC (MUS) 113 (3) FOUNDATIONS OF MUSIC (1 3 LEC.)**

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.

**MUSIC (MUS) 115 (2) JAZZ IMPROVISATION (1 LEC, 2 LAB.)**

The art of improvisation is introduced. Basic materials, aural training, analysis, and common styles are presented. This course may be repeated for credit.

**MUSIC (MUS) 117 (1) PIANO CLASS I (2 LAB.)**

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.

**MUSIC (MUS) 118 (1) PIANO CLASS II (2 LAB.)**

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.

**MUSIC (MUS) 119 (1) GUITAR CLASS I (2 LAB.)**

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.

**MUSIC (MUS) 120 (1) GUITAR CLASS II (2 LAB.)**

Prerequisite: Music 119 or the equivalent. This course is a continuation of Music 119. Emphasis is on classical guitar techniques and musical reading skills. This course may be repeated for credit.

**MUSIC (MUS) 121-143 (1) APPLIED MUSIC-MINOR (1 LEC.)**

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 half-hour lesson a week. Fee required. Private music may be repeated for credit.

**MUSIC (MUS) 150 (1) CHORUS (3 LAB.)**

Prerequisite: Consent of 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.

**MUSIC (MUS) 151 (1) VOICE CLASS I (2 LAB.)**

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.

**MUSIC (MUS) 152 (1) VOICE CLASS II (2 LAB.)**

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 department, and personality development. Two group lessons are given a week. This course may be repeated for credit.

**MUSIC (MUS) 155 (1) VOCAL ENSEMBLE (3 LAB.)**

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.

**MUSIC (MUS) 156 (1) MADRIGAL SINGERS (3 LAB.)**

A group of vocalists read and perform literature for small ensembles. Membership is by audition with the appropriate director. This course may be repeated for credit.

**MUSIC (MUS) 160 (1) BAND (3 LAB.)**

Prerequisite: The consent of 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.

**MUSIC (MUS) 170 (1) ORCHESTRA (3 LAB.)**

Experience is provided in performing and reading orchestral literature and in participating in the college orchestra. This course may be repeated for credit.

**MUSIC (MUS) 171 (1) WOODWIND ENSEMBLE (3 LAB.)**

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.

**MUSIC (MUS) 172 (1) BRASS ENSEMBLE (3 LAB.)**

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.

**MUSIC (MUS) 173 (1) PERCUSSION ENSEMBLE (3 LAB.)**

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.

**MUSIC (MUS) 181 (1) LAB BAND (3 LAB.)**

Prerequisite: The consent of the instructor. In the Lab Band students study and perform all forms of music, such as jazz, pop, avant-garde, and soul. Student arranging, composing, and conducting is encouraged. This course may be repeated for credit.

**MUSIC (MUS) 185 (1) STAGE BAND (3 LAB.)**

Prerequisite: The consent of the instructor. In the Stage Band students study and perform a wide variety of literature. This course focuses on participation in commercial music, such as jazz, pop, avant-garde, and soul. Student arranging, composing, and conducting is encouraged. This course may be repeated for credit.

**MUSIC (MUS) 199 (1) RECITAL (2 LAB.)**

Students of private lessons perform before an audience one period each week. Credit for this course does not apply to the Associate Degree. This course may be repeated for credit.

**MUSIC (MUS) 201 (4) SOPHOMORE THEORY (3 LEC., 3 LAB.)**

Prerequisite: Music 101 and 102 or the consent of the instructor. This course is a continuation of the study of theory. Topics include larger forms, thematic development, chromatic chords such as the Neapolitan sixth and augmented sixth chords, and diatonic seventh chords. Advanced sight-singing, keyboard harmony, and ear training are also included.

**MUSIC (MUS) 202 (4) SOPHOMORE THEORY (3 LEC., 3 LAB.)**

Prerequisite: Music 201 or the equivalent or the consent of the instructor. This course is a continuation of Music 201. Topics include the sonata-allegro form and the ninth, eleventh, and thirteenth chords. New key schemes, impressionism, melody, harmony, tonality, and formal processes of 20th century music are also included. Sight-singing, keyboard harmony, and ear training are developed further.

**MUSIC (MUS) 203 (3) COMPOSITION (3 LEC.)**

Prerequisite: Music 101 and 102 or the consent of 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.

**MUSIC (MUS) 204 (1) GUITAR PEDAGOGY (2 LEC.)**

Guitar method books are surveyed.
Emphasis is on the strengths and weaknesses of each method. Structuring lessons and optimizing each individual teacher-student relationship are also discussed.

**MUSIC (MUS) 217 (1)**

**PIANO CLASS III (2 LAB.)**

Prerequisite: Music 118 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.

**MUSIC (MUS) 218 (1)**

**PIANO CLASS IV (2 LAB.)**

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.

**MUSIC (MUS) 221-243 (2)**

**APPLIED MUSIC CONCENTRATION (1 LEC.)**

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.

**MUSIC (MUS) 251-270 (3)**

**APPLIED MUSIC MAJOR (1 LEC.)**

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.

**APPLIED MUSIC**

Subject to enrollment, students may receive private instruction in the following courses: piano, organ, voice, violin, viola, cello, double bass, flute, oboe, clarinet, bassoon, saxophone, trumpet, french horn, trombone, baritone, tuba, percussion, guitar, electric bass, and drum set. Private music may be repeated for credit.

**OFFICE CAREERS (OFC) 159 (4)**

**BEGINNING SHORTHAND (3 LEC., 2 LAB.)**

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 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.

**OFFICE CAREERS (OFC) 160 (3)**

**OFFICE CALCULATING MACHINES (3 LEC.)**

This course focuses on the development of skills in using electronic calculators. Emphasis is on developing the touch system for both speed and accuracy. Business math and fundamentals are reviewed.

**OFFICE CAREERS (OFC) 162 (3)**

**OFFICE PROCEDURES (3 LEC.)**

This course is primarily 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.

**OFFICE CAREERS (OFC) 166 (4)**

**INTERMEDIATE SHORTHAND (3 LEC., 2 LAB.)**

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.

**OFFICE CAREERS (OFC) 167 (3)**

**LEGAL TERMINOLOGY AND TRANSCRIPTION (3 LEC.)**

Prerequisites: Completion of Office Careers 174 or typing speed of 50 words per minute; completion of Office Careers 165. 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.

**OFFICE CAREERS (OFC) 172 (3)**

**BEGINNING TYPEWRITING (2 LEC., 3 LAB.)**

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.

**OFFICE CAREERS (OFC) 173 (3)**

**INTERMEDIATE TYPING (2 LEC., 3 LAB.)**

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.

**OFFICE CAREERS (OFC) 231 (3)**
BUSINESS COMMUNICATIONS (3 LEC.)
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.

**OFFICE CAREERS (OFC) 265 (3)**
WORD PROCESSING PRACTICES AND PROCEDURES (3 LEC.)
Prerequisite: Office Careers 165. This course concerns translating ideas into words, putting those words on paper, and turning that paper into communication. Emphasis is on training in composing and dictation business communications. Teamwork skills, priorities, scheduling, and procedures are included. Researching, storing, and retrieving documents, and managing word processing systems are also covered. Transcribing and magnetic keyboarding skills are developed. Typing skills and English mechanics are reinforced.

**OFFICE CAREERS (OFC) 286 (4)**
ADVANCED SHORTHAND (3 LEC., 2 LAB.)
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.

**OFFICE CAREERS (OFC) 273 (2)**
ADVANCED TYPING APPLICATIONS (1 LEC., 2 LAB.)
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.

**OFFICE CAREERS (OFC) 274 (3)**
LEGAL SECRETARIAL PROCEDURES (3 LEC.)
Prerequisite: Office Careers 174 or typing speed of 50 words per minute; Office Careers 166 or shorthand dictation speed 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 the law library, research techniques, timekeeping, billing, bookkeeping, and ethics are also covered. Ways to obtain a position as a Legal Secretary are described.

**OFFICE CAREERS (OFC) 703, 713, 803, 813 (3)**
(See Cooperative Work Experience)

**OFFICE CAREERS (OFC) 704, 714, 804, 814 (4)**
(See Cooperative Work Experience)

**OPTICAL TECHNOLOGY (OPT) 101 (3)**
OPHTHALMIC MATERIALS (3 LEC.)
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.

**OPTICAL TECHNOLOGY (OPT) 102 (3)**
OPHTHALMIC GRINDING AND POLISHING (2 LEC., 2 LAB.)
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.

**OPTICAL TECHNOLOGY (OPT) 103 (3)**
OPTICAL LENS DESIGN AND MEASUREMENTS (3 LEC.)
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.
OPTICAL TECHNOLOGY (OPT) 104 (3)
OPTICAL LENS AND FRAME
SELECTION (2 LEC., 2 LAB.)
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/lenometer. 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.

OPTICAL TECHNOLOGY (OPT) 205 (3)
ANATOMY AND PHYSIOLOGY OF THE EYE (3 LEC.)
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.

OPTICAL TECHNOLOGY (OPT) 206 (3)
INTRODUCTION TO CONTACT LENSES (3 LEC.)
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.

OPTICAL TECHNOLOGY (OPT) 207 (3)
BIFOCALS AND TRIFOCALS LENSES (2 LEC., 2 LAB.)
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.

OPTICAL TECHNOLOGY (OPT) 208 (3)
OPHTHALMIC LABORATORY EQUIPMENT (2 LEC., 2 LAB.)
Various equipment is introduced and used. Processes include automatic edging and blocking, interpreting and analyzing working orders, preparing compound lenses, creating prisms through decentration to fit prescription specification, and operation lens-hardening machines. Minor repairs to frames and temples and soldering of metal frames are also included. Laboratory fee.

OPTICAL TECHNOLOGY (OPT) 209 (3)
OPHTHALMIC DISPENSING ETHICS (3 LEC.)
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.

OPTICAL TECHNOLOGY (OPT) 210 (3)
PHOTOGRAPHY AND PHOTO-JOURNALISM (2 LEC., 2 LAB.)
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.

OPTICAL TECHNOLOGY (OPT) 211 (3)
OPHTHALMIC MEASUREMENT (2 LEC., 2 LAB.)
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.

OPTICAL TECHNOLOGY (OPT) 212 (3)
INTRODUCTION TO PHOTOGRAPHY AND PHOTO-JOURNALISM (2 LEC., 4 LAB.)
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.

PHOTOGRAPHY (PHO) 110 (3)
INTRODUCTION TO PHOTOGRAPHY AND PHOTO-JOURNALISM (2 LEC., 4 LAB.)
Techniques learned in Photography 110 are refined. Emphasis is on photographic communication. Laboratory fee.

PHOTOGRAPHY (PHO) 120 (4)
COMMERCIAL PHOTOGRAPHY (3 LEC., 3 LAB.)
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 photo.
PHOTOGRAPHY (PHO) 121 (4)
COMMERCIAL PHOTOGRAPHY II (3 LEC., 3 LAB.)
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.

PHYSICAL EDUCATION ACTIVITY COURSES
The Physical Education Division provides opportunity for each student to become skilled in at least one physical activity for personal enjoyment of leisure time. Activity courses are open to both men and women. A laboratory fee is required. Students are urged to take advantage of the program by registering for a physical education activity course each semester.

PHYSICAL EDUCATION NON-ACTIVITY COURSES

PHYSICAL EDUCATION (PEH) 100 (1)
LIFETIME SPORTS ACTIVITIES (3 LAB.)
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.

PHYSICAL EDUCATION (PEH) 101 (3)
FUNDAMENTALS OF HEALTH (3 LEC.)
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.

PHYSICAL EDUCATION (PEH) 115 (1)
PHYSICAL FITNESS (3 LAB.)
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.

PHYSICAL EDUCATION (PEH) 116 (1)
INTRAMURAL ATHLETICS (3 LAB.)
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.

PHYSICAL EDUCATION (PEH) 118 (1)
BEGINNING GOLF (3 LAB.)
Basic skills, rules and strategies of golf are taught. Equipment is furnished. Laboratory fee.

PHYSICAL EDUCATION (PEH) 119 (1)
BEGINNING TENNIS (3 LAB.)
This course is designed for the beginner. Tennis fundamentals are taught and played. A uniform is required. Laboratory fee.

PHYSICAL EDUCATION (PEH) 122 (1)
BEGINNING GYMNASTICS (3 LAB.)
Beginning gymnastics is offered. Emphasis is on basic skills in tumbling and in the various apparatus events. A uniform is required. Laboratory fee.

PHYSICAL EDUCATION (PEH) 123 (1)
BEGINNING SWIMMING (2 LAB.)
This course teaches a non-swimmer to survive in the water. A uniform is required. Laboratory fee.
PHYSICAL EDUCATION (PEH)

124 (1)
SOCIAL DANCE (3 LAB.)
This course is for students who have limited experience in dance. Ballroom and social dancing are offered. Included are fundamental steps and rhythms of the fox-trot, waltz, tango, and recent dances. "Country" dancing includes the reel, square dance, and other dances. Laboratory fee.

PHYSICAL EDUCATION (PEH)

127 (1)
BEGINNING BASKETBALL AND VOLLEYBALL (3 LAB.)
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.

PHYSICAL EDUCATION (PEH)

131 (1)
WEIGHT TRAINING AND CONDITIONING (3 LAB.)
Instruction and training in weight training and conditioning techniques are offered. A uniform is required. This course may be repeated for credit. Laboratory fee.

PHYSICAL EDUCATION (PEH)

133 (1)
OUTDOOR EDUCATION (3 LAB.)
Knowledge and skills in outdoor education and camping are presented. Planned and incidental experiences take place, including a week-end camp-out. Laboratory fee.

PHYSICAL EDUCATION (PEH)

147 (3)
SPORTS OFFICiating II (2 LEC., 2 LAB.)
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.

PHYSICAL EDUCATION (PEH)

148 (3)
SPORTS OFFICiating II (2 LEC., 2 LAB.)
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.

PHYSICAL EDUCATION (PEH)

200 (1)
LIFETIME SPORTS ACTIVITIES II (3 LAB.)
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.

PHYSICAL EDUCATION (PEH)

216 (1)
INTERMEDIATE GOLF (2 LAB.)
Prerequisite: The consent of the instructor. Skills and techniques in golf are developed beyond the "beginner" stage. Green fee paid by student. Laboratory fee.

PHYSICAL EDUCATION (PEH)

219 (1)
INTERMEDIATE TENNIS (3 LAB.)
Prerequisite: The consent of the instructor. Skills and techniques in tennis are developed beyond the "beginner" stage. A uniform is required. Laboratory fee.

PHYSICAL EDUCATION (PEH)

222 (1)
INTERMEDIATE GYMNASTICS (3 LAB.)
Prerequisite: Physical Education 122. Skills and techniques in gymnastics are developed beyond the "beginner" stage. A uniform is required. Laboratory fee.

PHYSICAL EDUCATION (PEH)

223 (1)
INTERMEDIATE SWIMMING (2 LAB.)
Prerequisite: Beginning swimming 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.

PHYSICAL EDUCATION (PEH)

226 (1)
ADVANCED LIFE SAVING (2 LAB.)
Prerequisite: Physical Education 223 or deep water swim ability. This course qualifies students for the Red Cross Advanced Lifesaving Certificate. A uniform is required. Laboratory fee.

PHYSICAL EDUCATION (PEH)

234 (2)
WATER SAFETY INSTRUCTOR (1 LEC., 2 LAB.)
Prerequisite: Current Advanced Life Saving card. The principles and techniques for instructors in water safety and life saving classes are covered. Completion of the course qualifies the student to test for certification by the Red Cross as a water safety instructor. A uniform is required. Laboratory fee.

PHYSICAL EDUCATION (PEH)

257 (3)
ADVANCED FIRST AID AND EMERGENCY CARE (3 LEC.)
The Advanced First Aid and Emergency Care course of the American Red Cross is taught, presenting both theory and practice. Various aspects of safety education also are included.

PHYSICAL SCIENCE (PSC) 118 (4)
PHYSICAL SCIENCE (3 LEC., 3 LAB.)
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.

PHYSICAL SCIENCE (PSC) 119 (4)
PHYSICAL SCIENCE (3 LEC., 3 LAB.)
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.

PHYSICS (PHY) 110 (4)
INTRODUCTORY PHOTOGRAPHIC SCIENCE (3 LEC., 3 LAB.)
Prerequisites: Photography 110, Art 113, or the consent of the instructor, and access to a camera with variable speed and aperture. This course introduces the physical and chemical principles which form the basis for photographic technology. Topics covered include the production of light, its measurement and control, principles of optics and the formation of images, the basic chemistry of black and white and color processes, film structure and characteristics, filter characteristics, lasers, and holography. Laboratory fee.

PHYSICS (PHY) 111 (4)
INTRODUCTORY GENERAL PHYSICS (3 LEC., 3 LAB.)
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
A two-semester technical course in physics. Mechanics and heat are studied. Laboratory fee.

**PHYSICS (PHY) 112 (4)**
INTRODUCTORY GENERAL PHYSICS (3 LEC., 3 LAB.)
Prerequisite: Physics 111. This course is a continuation of Physics 111. Electricity, magnetism, light, and sound are studied. Laboratory fee.

**PHYSICS (PHY) 131 (4)**
APPLIED PHYSICS (3 LEC., 3 LAB.)
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.

**PHYSICS (PHY) 132 (4)**
APPLIED PHYSICS (3 LEC., 3 LAB.)
Prerequisite: Physics 131. This course is a continuation of Physics 131. Concepts of sound, light, electricity, magnetism, and atomic theory are explained. Laboratory fee.

**PHYSICS (PHY) 201 (4)**
GENERAL PHYSICS (3 LEC., 3 LAB.)
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.

**PHYSICS (PHY) 202 (4)**
GENERAL PHYSICS (3 LEC., 3 LAB.)
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.

**PRECISION OPTICS TECHNOLOGY (POP) 101 (3)**
INTRODUCTION TO PRECISION OPTICS TECHNOLOGY (3 LEC.)
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.

**PRECISION OPTICS TECHNOLOGY (POP) 102 (3)**
PRECISION OPTICS MACHINING I (2 LEC., 2 LAB.)
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.

**PRECISION OPTICS TECHNOLOGY (POP) 103  (3)**
**PRECISION OPTICS MACHINING II (2 LEC., 2 LAB.)**

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 peell grinding, loose abrasive grinding, polishing and edging operations are included. Laboratory fee.

**PRECISION OPTICS TECHNOLOGY (POP) 104  (3)**
**INDUSTRIAL SHOP SAFETY (3 LEC.)**

This course is designed to develop a safety awareness, good safety attitudes and the ability to detect unsafe conditions and practices. The course covers materials handling and storage, industrial housekeeping, personal protective equipment, machines and power tools, fire prevention and first aid.

**PRECISION OPTICS TECHNOLOGY (POP) 105  (3)**
**PRECISION OPTICS MACHINING III (2 LEC., 2 LAB.)**

Prerequisite: Precision Optics Technology 103 or the equivalent. This course is a continuation of Optics Machining I & II advancing into the theory involved in each fabrication operation. The course also covers the methods and tooling required for the different lens types. Laboratory fee.

**PRECISION OPTICS TECHNOLOGY (POP) 106  (4)**
**THIN FILM OPTICAL COATINGS (3 LEC., 3 LAB.)**

This course includes principles and applications of thin film coatings emphasizing fundamental concepts, notation, machine operation, and clean room requirements. Laboratory fee.

**PRECISION OPTICS TECHNOLOGY (POP) 107  (2)**
**PRECISION OPTICS HANDLING AND CLEANING (1 LEC., 3 LAB.)**

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.

**PRECISION OPTICS TECHNOLOGY (POP) 201  (3)**
**BASIC PRECISION OPTICS THEORY (3 LEC.)**

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.

**PRECISION OPTICS TECHNOLOGY (POP) 203  (3)**
**PRECISION OPTICS QUALITY CONTROL (3 LEC.)**

The function of a standard quality control organization with a detailed look into the sampling and reporting requirements to insure quality standards is covered. The student gains a working knowledge of the required equipment and quality specification standards employed throughout the optical industry.

**PRECISION OPTICS TECHNOLOGY (POP) 204  (3)**
**PRECISION OPTICS ASSEMBLY (2 LEC., 2 LAB.)**

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.

**PRECISION OPTICS TECHNOLOGY (POP) 205  (3)**
**ADVANCED PRECISION OPTICS PROCESSES (2 LEC., 2 LAB.)**

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.

**PREVENTION OPTICS TECHNOLOGY (POP) 703  (3)**
(See Cooperative Work Experience)

**PSYCHOLOGY (PSY) 103  (3)**
**HUMAN SEXUALITY (3 LEC.)**

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.

**PSYCHOLOGY (PSY) 105  (3)**
**INTRODUCTION TO PSYCHOLOGY (3 LEC.)**

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.)

**PSYCHOLOGY (PSY) 131  (3)**
**HUMAN RELATIONS (3 LEC.)**

Psychological principles are applied to human relations problems in business and industry. Topics include group dynamics and adjustment factors for employment and advancement.

**PSYCHOLOGY (PSY) 201  (3)**
**DEVELOPMENTAL PSYCHOLOGY (3 LEC.)**

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.)
PSYCHOLOGY (PSY) 205  (3)
PSYCHOLOGY OF PERSONALITY (3 LEC.)
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.

PSYCHOLOGY (PSY) 207  (3)
SOCIAL PSYCHOLOGY (3 LEC.)
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.

PSYCHOLOGY (PSY) 210  (3)
SELECTED TOPICS IN PSYCHOLOGY (3 LEC.)
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.

READING (RD) 101  (3)
EFFECTIVE COLLEGE READING (3 LEC.)
Comprehension techniques for reading fiction and non-fiction 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 in specialized academic areas.

READING (RD) 102  (3)
SPEED READING AND LEARNING (3 LEC.)
Reading and learning skills are addressed. Speed reading techniques and comprehension are emphasized.

REAL ESTATE (RE) 130  (3)
REAL ESTATE PRINCIPLES (3 LEC.)
Real estate principles, law, and operating procedures in the State of Texas are presented. Topics include arithmetical calculations for real estate transactions, conveying, land economics and appraisals, obligations between the principal and agent, ethics, and rules and regulations of the State Commission of Real Estate. The purposes of various real estate instruments are also covered, such as deeds, deed of trust, mortgages, land contracts of sale, leases, liens, and listing contracts.

REAL ESTATE (RE) 131  (3)
REAL ESTATE FINANCE (3 LEC.)
Prerequisites: Real Estate 130, 131, 133, 135, and 136 or the consent of the instructor. Managing a real estate office is covered. Topics include office procedures, relations, communications, and ethics.

REAL ESTATE (RE) 132  (3)
COMMERCIAL AND INVESTMENT REAL ESTATE (3 LEC.)
Prerequisites: Real Estate 130, 131, 133, 135, and 136 or the consent of the instructor. Commercial and investment real estate is studied. Topics include syndication, "Joint Venture" or group ownership of real estate, selection, financing, and management.

REAL ESTATE (RE) 133  (3)
REAL ESTATE MARKETING (3 LEC.)
Prerequisites: Real Estate 130, 131, 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.

REAL ESTATE (RE) 134  (3)
REAL ESTATE APPRAISAL (3 LEC.)
Prerequisites: Real Estate 130, 131, 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.

REAL ESTATE (RE) 135  (3)
REAL ESTATE APRAISAL (3 LEC.)
Prerequisites: Real Estate 130, 131, and 133. This course focuses on principles and methods of appraising used in establishing the market value of real estate.

REAL ESTATE (RE) 136  (3)
REAL ESTATE LAW (3 LEC.)
Prerequisite: Real Estate 130 or the consent of the instructor. The complex parts of real estate law are examined. Topics include ownership, the use and transfer of real property, enforceability of contractual rights, and the impact of litigation.

REAL ESTATE (RE) 230  (3)
REAL ESTATE OFFICE MANAGEMENT (3 LEC.)
Prerequisites: Real Estate 130, 131, 133, and 136 or the consent of the instructor. Commercial and investment real estate is studied. Topics include syndication, "Joint Venture" or group ownership of real estate, selection, financing, and management.

REAL ESTATE (RE) 235  (3)
PROPERTY MANAGEMENT (3 LEC.)
Prerequisites: Real Estate 130, 131, 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.

REAL ESTATE (RE) 240  (1)
SPECIAL PROBLEMS IN REAL ESTATE (1 LEC.)
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.

REAL ESTATE (RE) 241  (3)
SPECIAL PROBLEMS IN REAL ESTATE (3 LEC.)
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.

REAL ESTATE (RE) 250  (4)
REAL ESTATE INTERNSHIP I (20 LAB.)
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.

REAL ESTATE (RE) 251 (4)
REAL ESTATE INTERNSHIP II (20 LAB.)
Prerequisite: 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.

REAL ESTATE (RE) 254 (2)
REAL ESTATE SEMINAR I (2 LEC.)
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.

REAL ESTATE (RE) 255 (2)
REAL ESTATE SEMINAR II (2 LEC.)
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. Learning and memory skills are also covered.

RELIGION (REL) 102 (3)
CONTEMPORARY RELIGIOUS PROBLEMS (3 LEC.)
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.

RELIGION (REL) 201 (3)
MAJOR WORLD RELIGIONS (3 LEC.)
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.

SOCIOLOGY (SOC) 101 (3)
INTRODUCTION TO SOCIOLOGY (3 LEC.)
This course is a study of the nature of society and the foundations of group life. Topics include institutions, social change, processes, and problems.

SOCIOLOGY (SOC) 102 (3)
SOCIAL PROBLEMS (3 LEC.)
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.

RELIGION (REL) 202 (3)
HUMAN SEXUALITY (3 LEC.)
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.

SOCIOLOGY (SOC) 203 (3)
SOCIAL PSYCHOLOGY (3 LEC.)
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.

SOCIOLOGY (SOC) 207 (3)
SELECTION TOPICS (3 LEC.)
Prerequisite: Sociology 101 or the consent of 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," "living with divorce." As the topics change, this course may be repeated once for credit.
This course is an introduction to Energy Science. Terms are defined, and solar radiation characteristics are described. The principles of temperature, heat transfer, and thermodynamics are included. Laboratory fee.

This course is a continuation of Solar Energy Technology 101. Topics include hydrostatics, hydrodynamics, and basic electrical considerations. Electromagnetic interactions, light, optics, and geography are also included. Laboratory fee.

Methods of collecting solar energy for heating and cooling are examined. Topics include collector types, collector parameters, and the chemical compatibility of different collector materials and fluids. Methods of storing solar energy, advantages and disadvantages of storage system construction, and exotic storage systems for use in electrical generation are also covered. Laboratory fee.

This course presents a general history and overview of past, present and promising future energy resources. Topics include fossil fuels, nuclear fuels, conversion processes and thermal processes. Emphasis is placed on solar energy applications appropriate for present and near future technology, energy conservation and solar energy conversion methods. Also, passive solar construction techniques will be explored. Solar collection and storage methods will be examined while acquiring a general solar vocabulary. Lab experiments are designed to examine working models which demonstrate basic principles of solar energy conversion. Laboratory fee.

A solar installation is examined as a complete system. Control systems for heating, cooling, and domestic hot water are studied. Using solar equipment with conventional systems and sizing system components to meet the required load are also included. Laboratory fee.

Diagnostic instruments and calculations are explored. Common
problems are examined, and malfunctioning components are isolated and repaired. Laboratory fee.

**SOLAR ENERGY TECHNOLOGY (ST) 206 (3)**
ECONOMICS, CODES, LEGALITIES AND CONSUMERISM (3 LEC)
The economics of solar energy systems is presented. Financing, customer relations, consumer protection and marketing aspects are explored. Regulating agencies, building codes and acceptable practices are studied along with energy conservation, energy audits, model contracts and warranties.

**SOLAR ENERGY TECHNOLOGY (ST) 208 (3)**
ENERGY CONSERVATION AND PASSIVE DESIGN CONCEPTS (3 LEC., 1 LAB.)
Conservation opportunities and decisions as related to building envelopes are studied. Conservation topics will include HVAC options, hot water systems, lighting systems, auxiliary equipment, economic and social impact along with potential solar applications. Also, passive solar design considerations and guidelines will be examined with emphasis on advantages and disadvantages of passive solar concepts. Laboratory fee.

**SOLAR ENERGY TECHNOLOGY (ST) 210 (3)**
NON-RESIDENTIAL AND PHOTOVOLTAIC APPLICATIONS (2 LEC., 3 LAB.)
This course covers the uses of solar technology for other than home heating and cooling. The course is open-ended, and materials are added as the technology changes. Laboratory fee.

**SPANISH (SPA) 101 (4)**
BEGINNING SPANISH (3 LEC., 2 LAB.)
The essentials of grammar and easy idiomatic prose are studied. Emphasis is on pronunciation, comprehension, and oral expression. Laboratory fee.

**SPANISH (SPA) 102 (4)**
BEGINNING SPANISH (3 LEC., 2 LAB.)
Prerequisite: Spanish 101 or the equivalent. This course is a continuation of Spanish 101. Emphasis is on idiomatic language and complicated syntax. Laboratory fee.

**SPANISH (SPA) 201 (3)**
INTERMEDIATE SPANISH (3 LEC.)
Prerequisite: Spanish 102 or the equivalent or the consent of the instructor. Reading, composition, and intense oral practice are covered. Grammar is reviewed.
SPANISH (SPA) 202 (3)
INTERMEDIATE SPANISH (3 LEC.)
Prerequisite: Spanish 201 or the equivalent. This course is a continuation of Spanish 201. Contemporary literature and composition are studied.

SPANISH (SPA) 203 (3)
INTRODUCTION TO SPANISH LITERATURE (3 LEC.)
Prerequisite: Spanish 202 or the equivalent or the consent of the instructor. This course is an introduction to Spanish literature. It includes readings in Spanish literature, history, culture, art, and civilization.

SPANISH (SPA) 204 (3)
INTRODUCTION TO SPANISH LITERATURE (3 LEC.)
Prerequisite: Spanish 202 or the equivalent or the consent of the instructor. This course is a continuation of Spanish 203. It includes readings in Spanish literature, history, culture, art, and civilization.

SPEECH (SPE) 100 (1)
SPEECH LABORATORY (3 LAB.)
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.

SPEECH (SPE) 105 (3)
FUNDAMENTALS OF PUBLIC SPEAKING (3 LEC.)
Public speaking is introduced. Topics include the principles of reasoning, audience analysis, collection of materials, and outlining. Emphasis is on giving well prepared speeches.

SPEECH (SPE) 109 (3)
VOICE AND ARTICULATION (3 LEC.)
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.

SPEECH (SPE) 201 (1)
FORENSIC WORKSHOP (2 LAB.)
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.

SPEECH (SPE) 205 (3)
DISCUSSION AND DEBATE (3 LEC.)
Public discussion and argumentation are studied. Both theories and techniques are covered. Emphasis is on evaluation, analysis, and logical thinking.

SPEECH (SPE) 206 (3)
ORAL INTERPRETATION (3 LEC.)
Techniques of analyzing various types of literature are examined. Practice is provided in preparing and presenting selections orally. Emphasis is on individual improvement.

SPEECH (SPE) 208 (3)
GROUP INTERPRETATION (3 LEC.)
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.

THEATRE (THE) 101 (3)
INTRODUCTION TO THE THEATRE (3 LEC.)
The various aspects of theatre are surveyed. Topics include plays, playwrights, directing, acting, theatres, artists, and technicians.

THEATRE (THE) 102 (3)
CONTEMPORARY THEATRE (3 LEC.)
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.

THEATRE (THE) 103 (3)
STAGECRAFT I (2 LEC., 3 LAB.)
The technical aspects of play production are studied. Topics include set design and construction, stage lighting, make-up, costuming, and related areas.

THEATRE (THE) 104 (3)
STAGECRAFT II (2 LEC., 3 LAB.)
Prerequisite: Theatre 103 or the consent of the instructor. This course is a continuation of theatre 103. Emphasis is on individual projects in set and lighting design and con-
struction. The technical aspects of play production are explored further.

THEATRE (THE) 105 (3)
MAKE-UP FOR THE STAGE (3 LEC.)
The craft of make-up is explored. Both theory and practice are included. Laboratory fee.

THEATRE (THE) 106 (3)
ACTING I (2 LEC., 3 LAB.)
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.

THEATRE (THE) 107 (3)
ACTING II (2 LEC., 3 LAB.)
Prerequisite: Theatre 106 or the consent of the instructor. This course is a continuation of Theatre 106. Emphasis is on complex characterization, ensemble acting, stylized acting, and acting in period plays.

THEATRE (THE) 108 (3)
MOVEMENT FOR THE STAGE (2 LEC., 3 LAB.)
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.

THEATRE (THE) 109 (3)
VOICE AND ARTICULATION (3 LEC.)
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.

THEATRE (THE) 110 (3)
HISTORY OF THEATRE I (3 LEC.)
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.

THEATRE (THE) 111 (3)
HISTORY OF THEATRE II (3 LEC.)
Theatre is surveyed from the 17th century through the 20th century. The theatre is studied in each as a part of the total culture of the period.

THEATRE (THE) 201 (3)
television production (2 LEC., 3 LAB.)
Station organization, studio operation, and the use of studio equipment are introduced. Topics include continuity, camera, sound, lights, and video-tape recording.
THEATRE (THE) 202 (3)
TELEVISION PRODUCTION II (2 LEC., 3 LAB.)
Prerequisite: Theatre 201. This course is a continuation of Theatre 201. Emphasis is on the concept and technique of production in practical situations.

THEATRE (THE) 203 (3)
BROADCASTING COMMUNICATIONS I (3 LEC., 2 LAB.)
The nature and practice of broadcasting are covered. Basic techniques of radio and television studio operations are introduced. NOT AT MVC, NLC, FLC.

THEATRE (THE) 204 (3)
BROADCASTING COMMUNICATIONS II (3 LEC., 2 LAB.)
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.

THEATRE (THE) 205 (3)
SCENE STUDY I (2 LEC., 3 LAB.)
Prerequisite: Theatre 106 and 107. This course is a continuation of Theatre 107. Emphasis is on developing dramatic action through detailed study of the script. Students deal with stylistic problems presented by the staging of period plays and the development of realism. Rehearsals are used to prepare for scene work.

THEATRE (THE) 207 (3)
SCENE STUDY II (2 LEC., 3 LAB.)
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.

THEATRE (THE) 208 (3)
INTRODUCTION TO TECHNICAL DRAWING (2 LEC., 3 LAB.)
Basic techniques of drafting are studied. Isometrics, orthographic projections, and other standard procedures are included. The emphasis is on theatrical drafting, including groundplans, vertical sections, construction elevations, and spider perspective.

THEATRE (THE) 209 (3)
LIGHTING DESIGN (2 LEC., 3 LAB.)
Prerequisite: Theatre 103 and 104. The design and techniques of lighting are covered. Practical experience in departmental productions is required for one semester.

THEATRE (THE) 235 (3)
COSTUME HISTORY (3 LEC.)
Fashion costume and social customs are examined. The Egyptian, Greek, Roman, Gothic, Elizabethan, Victorian, and Modern periods are included.
Technical/Occupational Programs
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:

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EFC Nondestructive
MVC Evaluation Technology S
ECC Physical Therapist Assistant NE
EFC Property Tax Appraisal NE
ECC Radio-TV Repair S
CVC
NLC *NE — Northeast Campus, NW — Northwest Campus, S — South Campus.

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

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<td>Dental Hygiene</td>
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EFC Nondestructive
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ECC Physical Therapist Assistant NE
EFC Property Tax Appraisal NE
ECC Radio-TV Repair S
CVC
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| Fire Protection Technology                     |     |     |     |     |     |     |     |
| Food Service                                   |     |     |     |     |     |     |     |
| Dietetic Assistant & Technician                |     |     |     |     |     |     |     |
| Food Service Operations                        |     |     |     |     |     |     |     |
| School Food Service                            |     |     |     |     |     |     |     |
| Hortology                                      |     |     |     |     |     |     |     |
| Graphic Arts/Communications                    |     |     |     |     |     |     |     |
| Hotel-Motel Operations                         |     |     |     |     |     |     |     |
| Interior Design                                |     |     |     |     |     |     |     |
| Legal Assistant                                |     |     |     |     |     |     |     |
| Machine Parts Inspection                       |     |     |     |     |     |     |     |
| Machine Shop                                   |     |     |     |     |     |     |     |
| Major Appliance Repair                         |     |     |     |     |     |     |     |
| Management Careers                            |     | X   |     |     |     |     |     |
| Administrative Management                      |     |     |     |     |     |     |     |
| Mid-Management                                 |     |     |     |     |     |     |     |
| Purchasing Management                          |     |     |     |     |     |     |     |
| Sales, Marketing & Retail Management           |     | X   |     |     |     |     |     |
| Small Business Management                      |     |     |     |     |     |     |     |
| Medical                                        |     |     |     |     |     |     |     |
| Associate Degree Nursing                       |     |     |     |     |     |     |     |
| Dental Assisting Technology                    |     |     |     |     |     |     |     |
| Medical Assisting Technology                   |     |     |     |     |     |     |     |
| Medical Laboratory Technology                  |     |     |     |     |     |     |     |
| Medical Transcription                          |     |     |     |     |     |     |     |
| Radiography Technology                         |     |     |     |     |     |     |     |
| Respiratory Therapy Technology                  |     |     |     |     |     |     |     |
| Surgical Technology                            |     |     |     |     |     |     |     |
| Vocational Nursing                             |     |     |     |     |     |     |     |
| Motorcycle Mechanics                           |     |     |     |     |     |     |     |
| Office Careers                                 |     |     |     |     |     |     |     |
| Administrative Assistant                      |     |     |     |     |     |     |     |
| General Office Certificate                     |     |     |     |     |     |     |     |
| Insurance Certificate                          |     |     |     |     |     |     |     |
| Legal Secretary                                |     |     |     |     |     |     |     |
| Professional Secretary                        |     |     |     |     |     |     |     |
| Records Management                             |     |     |     |     |     |     |     |
| Optical Technology                             |     |     |     |     |     |     |     |
| Ornamental Horticulture Technology              |     |     |     |     |     |     |     |
| Floral & Greenhouse Florist                    |     |     |     |     |     |     |     |
| Landscape Nursery & Gardener                   |     |     |     |     |     |     |     |
| Outboard Marine Engine Mechanics               |     |     |     |     |     |     |     |
| Pattern Design                                 |     |     |     |     |     |     | X   |
| Precision Optics Technology                    |     |     |     |     |     |     |     |
| Police Science Technology                      |     |     |     |     |     |     |     |
| Postal Service Administration                  |     |     |     |     |     |     |     |
| Real Estate                                    |     |     |     |     |     |     |     |
| Retail Distribution and Marketing              |     |     |     |     |     |     |     |
| Commercial Design & Advertising                |     |     |     |     |     |     |     |
| Fashion Marketing                              |     |     |     |     |     |     |     |
| Small Engine Mechanics                         |     |     |     |     |     |     |     |
| Social Work Associate                          |     |     |     |     |     |     |     |
| Solar Energy Technology                        |     |     |     |     |     |     |     |
| Training Paraprofessionals for the Dead        |     |     |     |     |     |     |     |
| Transportation Technology                      |     |     |     |     |     |     |     |
| Waiting Technology                             |     |     |     |     |     |     |     |

* Programs are offered at the designated colleges through El Centro College
** Second Year courses are offered at the designated colleges through El Centro College
### Accounting

**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.

<table>
<thead>
<tr>
<th>SEMESTER I</th>
<th>CREDIT HOURS</th>
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<tbody>
<tr>
<td>ACC 201</td>
<td>Principles of Accounting I</td>
</tr>
<tr>
<td>BUS 105</td>
<td>Introduction to Business</td>
</tr>
<tr>
<td>COM 131</td>
<td>Applied Composition and Speech or*</td>
</tr>
<tr>
<td>ENG 101</td>
<td>Composition and Expository Reading</td>
</tr>
<tr>
<td>MTH 130</td>
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<tr>
<td>MTH 111</td>
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<td>ACC 202</td>
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<td>Applied Composition and Speech or*</td>
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<td>ENG 102*</td>
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<tr>
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<td>ECO 201</td>
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<td>GVT 201</td>
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Minimum Hours Required: 63

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### RESIDENTIAL AIR CONDITIONING

(Certificate)

The student will develop skills in diagnosing, checking, servicing, repairing both electrical and mechanical components of residential cooling and heating systems; the student will also make load calculations, select equipment and design residential air distribution systems.

<table>
<thead>
<tr>
<th>SEMESTER I</th>
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<tbody>
<tr>
<td>AC 150</td>
<td>Basic Principles of Electricity</td>
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<tr>
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</tr>
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<td>MTH 195</td>
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<tr>
<td>AC 165</td>
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</tr>
<tr>
<td>AC 170</td>
<td>Pipefitting Procedures</td>
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<tr>
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<td>Air Distributing Systems</td>
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<td>AC 245</td>
<td>Residential Systems Service</td>
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<tr>
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Minimum Hours Required: 40

### COMMERCIAL REFRIGERATION AND INDUSTRIAL AIR CONDITIONING

(Certificate)

The student will develop skills in diagnosing, servicing, checking, installing and repairing both electrical and mechanical components of Commercial Refrigeration and Industrial Air Conditioning Systems.

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<table>
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<tr>
<td>AC 165</td>
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<td>AC 170</td>
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Commercial Refrigeration & Industrial Air Conditioning (Certificate), cont.

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<td>Hydronic Systems</td>
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Minimum Hours Required: 43

ASSOCIATE DEGREE PROGRAM

Students wishing to earn an Associate in Applied Arts and Sciences Degree with a major in Residential Air Conditioning or Commercial Refrigeration and Air Conditioning must complete all of the following courses:

RESIDENTIAL AIR CONDITIONING
(Associate Degree)

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<td></td>
<td>AC 165</td>
<td>Vapor Compression Systems</td>
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<tr>
<td></td>
<td>AC 170</td>
<td>Pipelining Procedures</td>
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<td>AC 185</td>
<td>Residential Heating Systems</td>
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<tr>
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<td>MAR 240</td>
<td>Professional Service Skills or</td>
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<td>PSY 131</td>
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<td>AC 704</td>
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### Residential Air Conditioning (Associate Degree), cont.

**ELECTIVES** — Must select from the following:

Three hours of electives are required for the Residential AC Certificate, Residential AC Associate in Applied Arts and Sciences Degree and the Commercial Refrigeration and Industrial AC Certificate.

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<td>COM 132</td>
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<td>MGT 136</td>
<td>Principles of Management</td>
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### COMMERCIAL REFRIGERATION AND INDUSTRIAL AIR CONDITIONING (Associate Degree)

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<td>AC 155</td>
<td>Advanced Electrical Circuits</td>
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<td>AC 165</td>
<td>Vapor Compression Systems</td>
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<td></td>
<td>AC 170</td>
<td>Pipefitting Procedures</td>
<td>3</td>
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<td></td>
<td>AC 190</td>
<td>Commercial Refrigeration Systems</td>
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<td>AC 260</td>
<td>Special Commercial Refrigeration Applications</td>
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<td>AC 265</td>
<td>Advanced Commercial Refrigeration Systems</td>
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<td>AC 285</td>
<td>Advanced Industrial Air Conditioning Systems</td>
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Minimum Hours Required: 63

### Residential Carpentry (Certificate), cont.

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<tbody>
<tr>
<td>SEMESTER III</td>
<td>CAR 201</td>
<td>Cabinet Building I</td>
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<td></td>
<td>CAR 205</td>
<td>Roof Framing II</td>
<td>3</td>
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<td></td>
<td>CAR 208</td>
<td>Interior Finish I</td>
<td>3</td>
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<td>SEMESTER IV</td>
<td>CAR 202</td>
<td>Cabinet Building II</td>
<td>3</td>
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<td>CAR 203</td>
<td>Stair Building</td>
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<td>Cooperative Work Experience or</td>
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<td>CAR 704</td>
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Minimum Hours Required: 42

### 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.

<table>
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<tr>
<th>Semester</th>
<th>Course</th>
<th>Title</th>
<th>Hours</th>
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</thead>
<tbody>
<tr>
<td>SEMESTER I</td>
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<td>Woodworking Tools and Materials</td>
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<td></td>
<td>CAR 102</td>
<td>Site Preparation</td>
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<td>CAR 103</td>
<td>Construction Safety</td>
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<td>BPR 177</td>
<td>Blueprint Reading</td>
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<td>MTH 195</td>
<td>Technical Mathematics</td>
<td>3</td>
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<td>CAR 107</td>
<td>Construction Cost Estimating</td>
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<td></td>
<td>CAR 108</td>
<td>Modern Construction Practices</td>
<td>3</td>
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<td></td>
<td>CAR 109</td>
<td>Concrete Slabs in Commercial Building</td>
<td>3</td>
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<tr>
<td></td>
<td>CAR 208</td>
<td>Interior Finish I</td>
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<td>12</td>
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<td>SEMESTER III</td>
<td>CAR 204</td>
<td>Commercial Wall Forms</td>
<td>3</td>
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<td></td>
<td>CAR 206</td>
<td>Vertical Piers and Columns</td>
<td>3</td>
</tr>
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<td></td>
<td>CAR 209</td>
<td>Interior Finish II-Commercial</td>
<td>3</td>
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<td></td>
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<td></td>
<td>9</td>
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<td>SEMESTER IV</td>
<td>CAR 203</td>
<td>Stair Building</td>
<td>3</td>
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<tr>
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<td>CAR 210</td>
<td>Horizontal Beam Form and Fire Encasement Forms</td>
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<tr>
<td></td>
<td>CAR 211</td>
<td>Properties of Concrete</td>
<td>1</td>
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<td>CAR 703</td>
<td>Cooperative Work Experience or</td>
<td>3</td>
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<td></td>
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<td>10/11</td>
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</table>

Minimum Hours Required: 43
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.

<table>
<thead>
<tr>
<th>SEMESTER I</th>
<th>CREDIT HOURS</th>
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<tbody>
<tr>
<td>CAR 101: Woodworking Tools and Materials</td>
<td>3</td>
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<td>CAR 102: Site Preparation</td>
<td>3</td>
</tr>
<tr>
<td>CAR 103: Construction Safety</td>
<td>1</td>
</tr>
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<td>BPR 177: Blueprint Reading</td>
<td>2</td>
</tr>
<tr>
<td>MTH 195: Technical Mathematics</td>
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<td><strong>Total</strong></td>
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<table>
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<th>SEMESTER II</th>
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<td>CAR 104: Residential Framing</td>
<td>3</td>
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<td>CAR 105: Roof Framing I</td>
<td>3</td>
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<td>CAR 106: Exterior Trim and Finish</td>
<td>3</td>
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<tr>
<td>CAR 107: Construction Cost Estimating</td>
<td>3</td>
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<td><strong>Total</strong></td>
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Minimum Hours Required: 60
### 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:

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<th>Course Title</th>
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<tr>
<td>I</td>
<td>CAR 101</td>
<td>Woodworking Tools and Materials</td>
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<td>CAR 102</td>
<td>Site Preparation</td>
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<td>CAR 103</td>
<td>Construction Safety</td>
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<td>BPR 177</td>
<td>Blueprint Reading</td>
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<td>COM 131</td>
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<td>CAR 108</td>
<td>Modern Construction Practices</td>
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<td>Concrete Slabs in Commercial Building</td>
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<td>CAR 210</td>
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**Minimum Hours Required:** 61

**Data Processing Programmer, cont.**

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<td>DP 138</td>
<td>Systems Analysis and Data Processing Logic</td>
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<td>Principles of Economics I or</td>
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<td>ECO 202</td>
<td>Principles of Economics II</td>
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<td>ACC 202</td>
<td>Principles of Accounting II</td>
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**Minimum Hours Required:** 62

† Electives — Must be selected from the following.

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

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</tbody>
</table>

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

** ACC 131 — Bookkeeping I, and ACC 132 — Bookkeeping II may be substituted for ACC 201 — Principles of Accounting

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

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>DP 133</td>
<td>Data Entry Concepts</td>
<td>4</td>
</tr>
<tr>
<td>DP 231</td>
<td>Applied Systems</td>
<td>4</td>
</tr>
<tr>
<td>DP 236</td>
<td>Advanced COBOL Techniques or</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>other 200 level DP or CS course</td>
<td>3-4</td>
</tr>
<tr>
<td></td>
<td>Any approved DP or CS course</td>
<td>3-4</td>
</tr>
<tr>
<td></td>
<td></td>
<td>14-16</td>
</tr>
</tbody>
</table>
Data Processing

**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 graduates with experience and continued learning may advance in career paths appropriate to their own particular interests and abilities.

<table>
<thead>
<tr>
<th>SEMESTER I</th>
<th>CREDIT HOURS</th>
</tr>
</thead>
<tbody>
<tr>
<td>CS 175</td>
<td>Introduction to Computer Science</td>
</tr>
<tr>
<td>BUS 105</td>
<td>Introduction to Business or MGT 136 Principles of Management</td>
</tr>
<tr>
<td>DP 137</td>
<td>Data Processing Mathematics or any business math*</td>
</tr>
<tr>
<td>COM 131</td>
<td>Applied Composition and Speech or any business math*</td>
</tr>
<tr>
<td>ENG 101</td>
<td>Composition and Expository Reading</td>
</tr>
<tr>
<td>ACC 201</td>
<td>Principles of Accounting II**</td>
</tr>
<tr>
<td></td>
<td><strong>Total</strong></td>
</tr>
</tbody>
</table>

---

Diesel Mechanics

**DEISEL MECHANICS**

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 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 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.

**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.

<table>
<thead>
<tr>
<th>SEMESTER I</th>
<th>CREDIT HOURS</th>
</tr>
</thead>
<tbody>
<tr>
<td>DME 101</td>
<td>Caterpillar Diesel Engine*</td>
</tr>
<tr>
<td>DME 102</td>
<td>Cummins Diesel Engine*</td>
</tr>
<tr>
<td>DME 103</td>
<td>Detroit Diesel Engine*</td>
</tr>
<tr>
<td>DME 127</td>
<td>Shop Practices</td>
</tr>
<tr>
<td>MTH 195</td>
<td>Technical Mathematics</td>
</tr>
<tr>
<td></td>
<td><strong>Total</strong></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>SEMESTER II</th>
<th>CREDIT HOURS</th>
</tr>
</thead>
<tbody>
<tr>
<td>DME 121</td>
<td>Standard Transmissions</td>
</tr>
<tr>
<td>DME 122</td>
<td>Heavy Duty Clutches and Torque Converters</td>
</tr>
<tr>
<td>DME 123</td>
<td>Air Brake Systems</td>
</tr>
<tr>
<td>DME 124</td>
<td>Differentials and Drive Lines</td>
</tr>
<tr>
<td></td>
<td><strong>Total</strong></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>SEMESTER III</th>
<th>CREDIT HOURS</th>
</tr>
</thead>
<tbody>
<tr>
<td>DME 141</td>
<td>Caterpillar Engine Tune-Up and Fuel Systems</td>
</tr>
<tr>
<td>DME 142</td>
<td>Cummins Engine Tune-Up and Fuel Systems</td>
</tr>
<tr>
<td>DME 143</td>
<td>Detroit Diesel Engine Tune-Up and Fuel Systems</td>
</tr>
<tr>
<td>DME 144</td>
<td>Diesel Engine Air Induction, Cooling and Lubrication Systems</td>
</tr>
<tr>
<td>DME 145</td>
<td>Electrical Theory and Basic Automotive Circuity</td>
</tr>
<tr>
<td>DME 146</td>
<td>Starting, Charging, Lighting, and Accessory Circuity</td>
</tr>
<tr>
<td>DME 703</td>
<td>Cooperative Work Experience</td>
</tr>
<tr>
<td></td>
<td><strong>Total</strong></td>
</tr>
</tbody>
</table>
### Diesel Mechanics (Certificate), cont.

<table>
<thead>
<tr>
<th>SEMESTER IV</th>
<th>Course</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>DME 101</td>
<td>Caterpillar Diesel Engine or</td>
<td>4</td>
</tr>
<tr>
<td>DME 102</td>
<td>Cummins Diesel Engine or</td>
<td>4</td>
</tr>
<tr>
<td>DME 103</td>
<td>Detroit Diesel Engine</td>
<td>4</td>
</tr>
<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>3</td>
</tr>
<tr>
<td>DME 137</td>
<td>Fundamentals of Oxygen/Acetylene and Arc Welding</td>
<td>3</td>
</tr>
</tbody>
</table>

Minimum Hours Required: 45

*Select two courses from DME 101, DME 102, DME 103

### DIESEL MECHANICS

(Associate 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.

<table>
<thead>
<tr>
<th>SEMESTER I</th>
<th>Course</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>DME 101</td>
<td>Caterpillar Diesel Engine*</td>
<td>4</td>
</tr>
<tr>
<td>DME 102</td>
<td>Cummins Diesel Engine*</td>
<td>4</td>
</tr>
<tr>
<td>DME 103</td>
<td>Detroit Diesel Engine*</td>
<td>4</td>
</tr>
<tr>
<td>DME 127</td>
<td>Shop Practices</td>
<td>2</td>
</tr>
<tr>
<td>BPR 177</td>
<td>Blueprint Reading or</td>
<td>2</td>
</tr>
<tr>
<td>BUS 105</td>
<td>Introduction to Business or</td>
<td>3</td>
</tr>
<tr>
<td>ACC 131</td>
<td>Bookkeeping I or</td>
<td>3</td>
</tr>
<tr>
<td>COM 132</td>
<td>Applied Composition and Speech</td>
<td>3</td>
</tr>
<tr>
<td>MTH 195</td>
<td>Technical Mathematics</td>
<td>3</td>
</tr>
</tbody>
</table>

Minumum Hours Required: 15

### Distribution Technology, cont.

<table>
<thead>
<tr>
<th>SEMESTER II</th>
<th>Course</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACC 201</td>
<td>Principles of Accounting I</td>
<td>3</td>
</tr>
<tr>
<td>BUS 234</td>
<td>Business Law</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>3</td>
</tr>
<tr>
<td>CS 175</td>
<td>Introduction to Computer Science</td>
<td>3</td>
</tr>
<tr>
<td>MGT 206</td>
<td>Principles of Marketing</td>
<td>3</td>
</tr>
</tbody>
</table>

Minumun Hours Required: 15

<table>
<thead>
<tr>
<th>SEMESTER III</th>
<th>Course</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>DT 133</td>
<td>Transportation Management</td>
<td>3</td>
</tr>
<tr>
<td>DT 134</td>
<td>Wholesale Marketing</td>
<td>3</td>
</tr>
<tr>
<td>ECO 201</td>
<td>Principles of Economics I</td>
<td>3</td>
</tr>
<tr>
<td>MGT 230</td>
<td>Salesmanship</td>
<td>3</td>
</tr>
<tr>
<td>Elective</td>
<td></td>
<td>3</td>
</tr>
</tbody>
</table>

### SEMESTER IV

<table>
<thead>
<tr>
<th>Course</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>DT 231 Purchasing, Pricing, and Inventory Management</td>
<td>3</td>
</tr>
<tr>
<td>DT 232 Warehouse Operations</td>
<td>3</td>
</tr>
<tr>
<td>BUS 237 Organizational Behavior</td>
<td>3</td>
</tr>
<tr>
<td>Elective</td>
<td>3</td>
</tr>
</tbody>
</table>

Minimum Hours Required: 15

**Electrical Technology**

### ELECTRICAL TECHNOLOGY (Certificate)

The Electrical Technology program is designed to assist students in acquiring entry-level skills in preparation for employment in a wide assortment of electrical construction and electrical related fields.

<table>
<thead>
<tr>
<th>SEMESTER I</th>
<th>Course</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>ELE 105</td>
<td>Introduction to Electrical Technology</td>
<td>2</td>
</tr>
<tr>
<td>ELE 106</td>
<td>Fundamentals of Electricity</td>
<td>4</td>
</tr>
<tr>
<td>ELE 107</td>
<td>Electrical Transformers</td>
<td>4</td>
</tr>
<tr>
<td>ELE 108</td>
<td>General Electrical Codes</td>
<td>2</td>
</tr>
<tr>
<td>MTH 195</td>
<td>Technical Mathematics</td>
<td>3</td>
</tr>
</tbody>
</table>

Minumum Hours Required: 15
### Distribution Technology

**DISTRIBUTION TECHNOLOGY**

*(Associate Degree)*

The Distribution Technology program is designed to prepare students for entry or advancement in the career field of wholesale distribution. This program focuses on the basic business techniques and understanding of the principles and techniques relating to distribution, warehousing, pricing, merchandising, operations, and management.

Successful completion of this program leads to the Associate in Applied Arts and Sciences Degree.

<table>
<thead>
<tr>
<th>SEMESTER I</th>
<th>CREDIT HOURS</th>
</tr>
</thead>
<tbody>
<tr>
<td>DT 130 Introduction to Distribution</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>MTH 136 Principles of Management</td>
<td>3</td>
</tr>
<tr>
<td>MTH 130 Business Mathematics or MTH 111 Mathematics for Business and Economics</td>
<td>3</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>SEMESTER II</th>
<th>CREDIT HOURS</th>
</tr>
</thead>
<tbody>
<tr>
<td>ELE 115 Low Voltage Circuits</td>
<td>3</td>
</tr>
<tr>
<td>ELE 116 General Electrical Wiring</td>
<td>3</td>
</tr>
<tr>
<td>ELE 117 General Electrical Planning</td>
<td>4</td>
</tr>
<tr>
<td>ELE 118 Commercial Codes</td>
<td>2</td>
</tr>
<tr>
<td>COM 131 Applied Composition and Speech</td>
<td>3</td>
</tr>
</tbody>
</table>

Minimum Hours Required: 63

*Select two courses from DME 101, DME 102, DME 103

† Electives — Must be selected from the following

- ACC 131 Bookkeeping I
- BPR 177 Blueprint Reading
- BUS 105 Introduction to Business
- COM 132 Applied Composition and Speech
- MGT 136 Principles of Management
- MGT 153 Small Business Management
- PSY 131 Human Relations

### Electrical Technology (Certificate), cont.

**ELECTRICAL TECHNOLOGY**

*(Associate Degree)*

The Electrical Technology program is designed to assist students in acquiring entry level and advanced skills in preparation for employment in a wide assortment of electrical construction and electrical related fields.

<table>
<thead>
<tr>
<th>SEMESTER I</th>
<th>CREDIT HOURS</th>
</tr>
</thead>
<tbody>
<tr>
<td>ELE 105 Introduction to Electrical Technology</td>
<td>2</td>
</tr>
<tr>
<td>ELE 106 Fundamentals of Electricity</td>
<td>4</td>
</tr>
<tr>
<td>ELE 107 Electrical Transformers</td>
<td>4</td>
</tr>
<tr>
<td>ELE 108 General Electrical Codes</td>
<td>2</td>
</tr>
<tr>
<td>MTH 195 Technical Mathematics</td>
<td>3</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>SEMESTER II</th>
<th>CREDIT HOURS</th>
</tr>
</thead>
<tbody>
<tr>
<td>ELE 115 Low Voltage Circuits</td>
<td>3</td>
</tr>
<tr>
<td>ELE 116 General Electrical Wiring</td>
<td>3</td>
</tr>
<tr>
<td>ELE 117 General Electrical Planning</td>
<td>4</td>
</tr>
<tr>
<td>ELE 118 Commercial Codes</td>
<td>2</td>
</tr>
<tr>
<td>COM 131 Applied Composition and Speech</td>
<td>3</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>SEMESTER III</th>
<th>CREDIT HOURS</th>
</tr>
</thead>
<tbody>
<tr>
<td>ELE 205 Commercial Wiring</td>
<td>3</td>
</tr>
<tr>
<td>ELE 206 Commercial Planning</td>
<td>4</td>
</tr>
<tr>
<td>ELE 207 Industrial Planning</td>
<td>2</td>
</tr>
<tr>
<td>ELE 208 Industrial Codes</td>
<td>2</td>
</tr>
<tr>
<td>ELE 703 Cooperative Work Experience</td>
<td>3</td>
</tr>
<tr>
<td>or ELE 704 Cooperative Work Experience</td>
<td>(4)</td>
</tr>
<tr>
<td>CS 176 Introduction to Computer Science</td>
<td>3</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>SEMESTER</th>
<th>CREDIT HOURS</th>
</tr>
</thead>
<tbody>
<tr>
<td>MINIMUM HOURS REQUIRED: 30</td>
<td>63</td>
</tr>
</tbody>
</table>

[End of Document]
### Electrical Technology (Associate Degree), cont.

#### SEMESTER IV
- ELE 215 Electrical Motor Fundamentals  3
- ELE 216 Motor Controls  3
- ELE 217 Solid State Controls  2
- ELE 218 Electrical Design  3
- PSY 131 Human Relations  3
- ELE 803 Cooperative Work Experience  (4)
or
- ELE 804 Cooperative Work Experience  (3)
- Elective  

**Minimum Hours Required**  
17-18

### Management Careers

**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.

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

**SEMESTER II**
- MGT 206 Principles of Marketing  3
- ACC 201 Principles of Accounting **  3
- COM 132 Applied Composition and Speech *  3
- CS 175 Introduction to Computer Science  3
- MTH 111 Mathematics for Business and Economics I or  3
- MTH 112 Mathematics for Business and Economics II or  3
- MTH 130 Business Mathematics  

**SEMESTER III**
- ACC 202 Principles of Accounting II  3
- BUS 234 Business Law  3
- ECO 201 Principles of Economics I  3
- PSY 131 Human Relations  3
- † Elective  3

**SEMESTER IV**
- MGT 250 Management Training  4
- MGT 254 Management Seminar: Organizational Development  2
- ACC 201 Principles of Accounting I **  3
- ECO 201 Principles of Economics I  3
- PSY 131 Human Relations  3

**Minimum Hours Required:**  
64

† Elective — May be selected from the following:
- MGT 137 Principles of Retailing  3
- MGT 153 Small Business Management  3
- MGT 212 Special Problems in Business  3
- MGT 230 Salesmanship  3
- MGT 233 Advertising and Sales Promotion  3
- OFC 160 Office Calculating Machines  3
- OFC 172 Beginning Typing  3

* Students may substitute ENG 101 for COM 131 and ENG 102 for COM 132 with permission of the Division Chair. Students must take Speech 105 as an elective when substituting ENG 101 and 102.

** 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.

### Office Occupations

**OFFICE CAREERS — ADMINISTRATIVE ASSISTANT OPTION**  
(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.

<table>
<thead>
<tr>
<th>SEMESTER I</th>
<th>CREDIT HOURS</th>
</tr>
</thead>
<tbody>
<tr>
<td>OFC 160 Office Calculating Machines *  3</td>
<td></td>
</tr>
<tr>
<td>† OFC 172 Beginning Typing ** or  3</td>
<td></td>
</tr>
<tr>
<td>† OFC 173 Intermediate Typing (3)</td>
<td></td>
</tr>
<tr>
<td>† COM 131 Applied Composition and Speech  3</td>
<td></td>
</tr>
<tr>
<td>MTH 130 Business Mathematics  3</td>
<td></td>
</tr>
<tr>
<td>BUS 105 Introduction to Business  3</td>
<td></td>
</tr>
<tr>
<td>† Elective  3</td>
<td></td>
</tr>
</tbody>
</table>

**Total:** 18
Administrative Management Option, cont.

SEMESTER IV
MGT 242 Personnel Administration 3
BUS 237 Organizational Behavior 3
ECO 202 Principles of Economics II 3
OFC 231 Business Communications 3
† Social Science elective or Humanities elective
‡ Elective 3

Minimum Hours Required: 63

† Electives — May be selected from the following.
MGT 137 Principles of Retailing 3
MGT 153 Small Business Management 3
MGT 212 Special Problems in Business 1
MGT 230 Salesmanship 3
MGT 233 Advertising and Sales Promotion 3
OFC 160 Office Calculating Machines 3
OFC 172 Beginning Typing 3

* Students may substitute ENG 101 for COM 131 and ENG 102 for COM 132 with permission of the Division Chair. Students must take Speech 105 as an elective when substituting ENG 101 and 102.
** Students may substitute ACC 131 and ACC 132 for ACC 201. Only three hours may be applied to the required number of hours for granting the degree.

MANAGEMENT CAREERS — 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.

<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>MGT 150 Management Training</td>
<td>4</td>
</tr>
<tr>
<td>MGT 154 Management Seminar, Role of Supervision</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*</td>
<td>3</td>
</tr>
<tr>
<td>**</td>
<td>**</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>SEMESTER II</th>
<th>CREDIT HOURS</th>
</tr>
</thead>
<tbody>
<tr>
<td>MGT 151 Management Training</td>
<td>4</td>
</tr>
<tr>
<td>MGT 155 Management Seminar Personnel Management</td>
<td>2</td>
</tr>
<tr>
<td>COM 132 Applied Composition and Speech*</td>
<td>3</td>
</tr>
<tr>
<td>CS 175 Introduction to Computer Science</td>
<td>3</td>
</tr>
<tr>
<td>HUM 101 Introduction to the Humanities</td>
<td>3</td>
</tr>
<tr>
<td>MTH 111 Mathematics for Business and Economics I or MTH 112 Mathematics for Business and Economics II or MTH 130 Business Mathematics</td>
<td>3</td>
</tr>
</tbody>
</table>

Administrative Assistant Option, cont.

SEMESTER II
‡ OFC 173 Intermediate Typing or
‡ OFC 273 Advanced Typing Applications
‡ OFC 162 Office Procedures
‡ OFC 165 Introduction to Word Processing
‡ CS 175 Introduction to Computer Science
‡ MGT 136 Principles of Management
‡ COM 132 Applied Composition and Speech 3

<table>
<thead>
<tr>
<th>SEMESTER III</th>
<th>CREDIT HOURS</th>
</tr>
</thead>
</table>
| ‡ OFC 273 Advanced Typing Applications or
| ‡ Elective
| OFC 231 Business Communications | 3 |
| ACC 131 Bookkeeping I or
| ACC 201 Principles of Accounting I | 3 |
| PSY 131 Human Relations or
| PSY 105 Introduction to Psychology | 3 |
| ‡ Electives | ** |

SEMESTER IV
‡ OFC 256 Office Management or
‡ BUS 237 Organizational Behavior
‡ HUM 101 Introduction to Humanities
‡ Electives
| ** | ** |

Minimum Hours Required.

†Electives — Must be taken from the following.

| OFC | Any OFC course may be selected |
| OFC 803/804 | Cooperative Work Experience 3-4 |
| ACC 132 | Bookkeeping II 3 |
| ACC 202 | Principles of Accounting II 3 |
| BUS 143 | Personal Finance 3 |
| BUS 234 | Business Law 3 |
| BUS 237 | Organizational Behavior 3 |
| MGT 136 | Principles of Management 3 |
| MGT 242 | Personnel Administration 3 |
| CS 250 | Contemporary Topics in Computer Science 3 |
| CS 251 | Special Topics in Computer Science 3 |
| 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.
‡ Students may substitute ENG 101 for COM 131 and ENG 102 for COM 132 with permission of the Division Chair. However, students must take SPE 105 as an elective when substituting ENG 101 and ENG 102.
* 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
# 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.

<table>
<thead>
<tr>
<th>SEMESTER I</th>
<th>CREDIT HOURS</th>
</tr>
</thead>
<tbody>
<tr>
<td>OFC 160 Office Calculating Machines*</td>
<td>3</td>
</tr>
<tr>
<td>† OFC 172 Beginning Typing**</td>
<td>3</td>
</tr>
<tr>
<td>COM 131 Applied Composition and Speech</td>
<td>3</td>
</tr>
<tr>
<td>MTH 130 Business Mathematics</td>
<td>3</td>
</tr>
<tr>
<td>† Electives</td>
<td>7</td>
</tr>
<tr>
<td>**</td>
<td>**</td>
</tr>
<tr>
<td>SEMESTER II</td>
<td>19</td>
</tr>
<tr>
<td>ACC 131 Bookkeeping I</td>
<td>3</td>
</tr>
<tr>
<td>BUS 105 Introduction to Business</td>
<td>3</td>
</tr>
<tr>
<td>CS 175 Introduction to Computer Science</td>
<td>3</td>
</tr>
<tr>
<td>† Electives</td>
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<td>**</td>
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<tr>
<td>Minimum Hours Required:</td>
<td>35</td>
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†Electives — Must be taken from the following:

- OFC 103 Speedwriting Theory
- OFC 104 Speedwriting Dictation
- OFC 159 Beginning Shorthand
- OFC 162 Office Procedures
- OFC 165 Introduction to Word Processing
- OFC 166 Intermediate Shorthand***
- OFC 174 Intermediate Typing
- OFC 231 Business Communications
- ACC 132 Bookkeeping II
- ACC 201 Principles of Accounting I
- COM 132 Applied Composition and Speech
- PSY 105 Introduction to Psychology or Human Relations
- MGT 136 Principles of Management
- BUS 234 Business Law
- CS 250 Contemporary Topics in Computer Science
- OFC 273 Advanced Typing Applications
- OFC 275 Secretarial Procedures
- OFC 603 Cooperative Work Experience or
- OFC 604 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.

*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 168

<table>
<thead>
<tr>
<th>SEMESTER I</th>
<th>CREDIT HOURS</th>
</tr>
</thead>
<tbody>
<tr>
<td>OFC 160 Office Calculating Machines*</td>
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</tr>
<tr>
<td>† OFC 162 Office Procedures</td>
<td>3</td>
</tr>
<tr>
<td>† OFC 172 Beginning Typing**</td>
<td>3</td>
</tr>
<tr>
<td>COM 131 Applied Composition and Speech</td>
<td>3</td>
</tr>
<tr>
<td>MTH 130 Business Mathematics</td>
<td>3</td>
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<tr>
<td>SEMESTER II</td>
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<td>OFC 165 Introduction to Word Processing</td>
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<tr>
<td>OFC 173 Intermediate Typing</td>
<td>3</td>
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<tr>
<td>OFC 231 Business Communications</td>
<td>3</td>
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<td>BUS 105 Introduction to Business</td>
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<td>CS 175 Introduction to Computer Science</td>
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†Electives — Must be taken from the following:

- OFC 103 Speedwriting Theory
- OFC 104 Speedwriting Dictation
- OFC 159 Beginning Shorthand
- OFC 166 Intermediate Shorthand***
- OFC 231 Business Communications
- ACC 132 Bookkeeping II
- ACC 201 Principles of Accounting I
- COM 132 Applied Composition and Speech
- PSY 105 Introduction to Psychology or Human Relations
- MGT 136 Principles of Management
- BUS 234 Business Law
- CS 250 Contemporary Topics in Computer Science
- OFC 273 Advanced Typing Applications
- OFC 275 Secretarial Procedures
- OFC 603 Cooperative Work Experience or
- OFC 604 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.

*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 168
# OFFICE CAREERS — GENERAL OFFICE
(Certificate — Accounting Emphasis)

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<td>OFC 150</td>
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<tr>
<td>† OFC 172</td>
<td>Beginning Typing**</td>
</tr>
<tr>
<td>ACC 131</td>
<td>Bookkeeping I or</td>
</tr>
<tr>
<td>ACC 201</td>
<td>Principles of Accounting I</td>
</tr>
<tr>
<td>COM 131</td>
<td>Applied Composition and Speech</td>
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<td>† Elective</td>
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<table>
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<tbody>
<tr>
<td>† ACC 132</td>
<td>Bookkeeping II or</td>
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<td>† Elective</td>
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<tr>
<td>BUS 105</td>
<td>Introduction to Business</td>
</tr>
<tr>
<td>CS 175</td>
<td>Introduction to Computer Science</td>
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<tr>
<td>† Electives</td>
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<td><strong>Total</strong></td>
<td>17</td>
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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 165 Introduction to Word Processing 3
- OFC 166 Intermediate Shorthand*** 4
- OFC 173 Intermediate Typing 3
- OFC 231 Business Communications 3
- ACC 132 Bookkeeping II 3
- ACC 201 Principles of Accounting I 3
- COM 132 Applied Composition and Speech 3
- PSY 105 Introduction to Psychology or Human Relations 3
- MGT 136 Principles of Management 3
- BUS 234 Business Law 3
- CS 250 Contemporary Topics in Computer Science 3
- OFC 277 Advanced Typing Applications 2
- OFC 275 Secretarial Procedures 3
- OFC 803 Cooperative Work Experience or 3
- OFC 804 Cooperative Work Experience 3

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

‡ Required if ACC 131 was taken previously.

---

# 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.

<table>
<thead>
<tr>
<th>SEMESTER I</th>
<th>CREDIT HOURS</th>
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</thead>
<tbody>
<tr>
<td>OFC 159</td>
<td>Beginning Shorthand or</td>
</tr>
<tr>
<td>† OFC 103</td>
<td>Speedwriting</td>
</tr>
<tr>
<td>OFC 160</td>
<td>Office Calculating Machines*</td>
</tr>
<tr>
<td>† OFC 172</td>
<td>Beginning Typing** or</td>
</tr>
<tr>
<td>OFC 173</td>
<td>Intermediate Typing (3)</td>
</tr>
<tr>
<td>† COM 131</td>
<td>Applied Composition and Speech</td>
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<tr>
<td>MTH 130</td>
<td>Business Mathematics</td>
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<td><strong>Total</strong></td>
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<th>CREDIT HOURS</th>
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<tr>
<td>OFC 166</td>
<td>Intermediate Shorthand*** or</td>
</tr>
<tr>
<td>† OFC 104</td>
<td>Speedwriting Dictation (3)</td>
</tr>
<tr>
<td>† OFC 173</td>
<td>Intermediate Typing or</td>
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<tr>
<td>† OFC 273</td>
<td>Advanced Typing Applications (2)</td>
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<tr>
<td>OFC 162</td>
<td>Office Procedures</td>
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</tr>
<tr>
<td>ACC 201</td>
<td>Principles of Accounting I</td>
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<tr>
<td>BUS 105</td>
<td>Introduction to Business</td>
</tr>
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<td>† COM 132</td>
<td>Applied Composition and Speech</td>
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<td><strong>Total</strong></td>
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<table>
<thead>
<tr>
<th>SEMESTER III</th>
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</thead>
<tbody>
<tr>
<td>OFC 165</td>
<td>Introduction to Word Processing</td>
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<tr>
<td>† OFC 167</td>
<td>Legal Terminology and Transcription</td>
</tr>
<tr>
<td>OFC 231</td>
<td>Business Correspondence</td>
</tr>
<tr>
<td># OFC 266</td>
<td>Advanced Shorthand (3)</td>
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<tr>
<td>† OFC 173</td>
<td>Advanced Typing Applications (3)</td>
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<tr>
<td>† Elective</td>
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</tr>
<tr>
<td>CS 175</td>
<td>Introduction to Computer Science</td>
</tr>
</tbody>
</table>

† Required if ACC 131 was taken previously.

*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 177, OFC 188 and OFC 189 taken cumulatively will be equivalent to OFC 166
Legal Secretary Option, cont.

<table>
<thead>
<tr>
<th>SEMESTER IV</th>
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<tbody>
<tr>
<td>OFC 265</td>
<td>Word Processing Practices and Procedures</td>
<td>3</td>
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</tr>
<tr>
<td>OFC 274</td>
<td>Legal Office Procedures</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>OFC 275</td>
<td>Secretarial Procedures or Cooperative Work Experience</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>OFC 803</td>
<td>Cooperative Work Experience</td>
<td>(4)</td>
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<tr>
<td>OFC 804</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>HUM 101</td>
<td>Introduction to Humanities</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>PSY 131</td>
<td>Human Relations or</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>PSY 105</td>
<td>Introduction to Psychology</td>
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Minimum Hours Required: 15-16

†Electives — Must be taken from the following

<table>
<thead>
<tr>
<th>Course</th>
<th>Course Title</th>
<th>Credit</th>
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</thead>
<tbody>
<tr>
<td>OFC 803</td>
<td>Cooperative Work Experience</td>
<td>3-4</td>
</tr>
<tr>
<td>OFC 202</td>
<td>Principles of Accounting II</td>
<td>3</td>
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<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>Accounting Principles</td>
<td>3</td>
</tr>
<tr>
<td>MGT 136</td>
<td>Principles of Management</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 &amp; Data Processing</td>
<td>3</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

‡ Students may substitute ENG 101 for COM 131 and ENG 102 for COM 132 with permission of the Division Chair. However, students must take SPE 105 as an elective when substituting ENG 101 and ENG 102

#If OFC 103 and OFC 104 are taken, an approved elective may be substituted

• 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

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.

<table>
<thead>
<tr>
<th>SEMESTER I</th>
<th>Course Title</th>
<th>Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>OFC 160</td>
<td>Office Calculating Machines*</td>
<td>3</td>
</tr>
<tr>
<td>OFC 159</td>
<td>Beginning Shorthand or Speedwriting</td>
<td>4</td>
</tr>
<tr>
<td>OFC 103</td>
<td>Speedwriting</td>
<td></td>
</tr>
<tr>
<td>†OFC 172</td>
<td>Beginning Typing** or</td>
<td>3</td>
</tr>
<tr>
<td>†OFC 173</td>
<td>Intermediate Typing</td>
<td>(3)</td>
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</table>

Minimum Hours Required: 43

Professional Secretary Option, cont.

† Students may substitute ENG 101 for COM 131 and ENG 102 for COM 132 with permission of the Division Chair. However, students must take SPE 105 as an elective when substituting ENG 101 and ENG 102

# If OFC 103 and OFC 104 are taken, an approved elective may be substituted

• 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

Optical Technology

OPTICAL TECHNOLOGY

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 towards an Associate in Applied Arts and Sciences Degree.

OPTICAL TECHNOLOGY

(Certificate)

<table>
<thead>
<tr>
<th>SEMESTER I</th>
<th>Course Title</th>
<th>Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>OPT 101</td>
<td>Ophthalmic Materials</td>
<td>3</td>
</tr>
<tr>
<td>OPT 102</td>
<td>Ophthalmic Grinding and Polishing</td>
<td>3</td>
</tr>
<tr>
<td>OPT 103</td>
<td>Optical Lens Design and Measurements</td>
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</tr>
<tr>
<td>OPT 104</td>
<td>Optical Lens and Frame Selection</td>
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<td>MTH 195</td>
<td>Technical Mathematics</td>
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<table>
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<tr>
<th>SEMESTER II</th>
<th>Course Title</th>
<th>Credit</th>
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<tbody>
<tr>
<td>OPT 205</td>
<td>Anatomy and Physiology of the Eye</td>
<td>3</td>
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<tr>
<td>OPT 206</td>
<td>Introduction to Contact Lenses</td>
<td>3</td>
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<tr>
<td>OPT 207</td>
<td>Bifocals and trifocals Lenses</td>
<td>3</td>
</tr>
<tr>
<td>PHY 131</td>
<td>Applied Physics</td>
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<table>
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<tr>
<th>SUMMER SEMESTERS I &amp; II (12 Weeks)</th>
<th>Course Title</th>
<th>Credit</th>
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</thead>
<tbody>
<tr>
<td>OPT 703</td>
<td>Cooperative Work Experience</td>
<td>3</td>
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<table>
<thead>
<tr>
<th>SEMESTER III</th>
<th>Course Title</th>
<th>Credit</th>
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<tbody>
<tr>
<td>OPT 208</td>
<td>Ophthalmic Laboratory Equipment</td>
<td>3</td>
</tr>
<tr>
<td>OPT 209</td>
<td>Ophthalmic Dispensing Ethics</td>
<td>3</td>
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<tr>
<td>OPT 211</td>
<td>Optic Principles</td>
<td>3</td>
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<tr>
<td>OPT 803, 813</td>
<td>Cooperative Work Experience</td>
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Minimum Hours Required: 43
### OPTICAL TECHNOLOGY

(Associate Degree)

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<tr>
<th>SEMESTER I</th>
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<tbody>
<tr>
<td>OPT 101</td>
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<td>OPT 102</td>
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<td>COM 131</td>
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<td>ENG 101</td>
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<td>OPT 103</td>
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<td>OPT 104</td>
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<td>BUS 105</td>
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<td>GVT 201</td>
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<td>HST 101</td>
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<table>
<thead>
<tr>
<th>SUMMER SEMESTERS I &amp; II (12 Weeks)</th>
<th>CREDIT HOURS</th>
</tr>
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<tbody>
<tr>
<td>OPT 703</td>
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<th>SEMESTER III</th>
<th>CREDIT HOURS</th>
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<tbody>
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<td>OPT 205</td>
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<td>OPT 209</td>
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<td>OPT 211</td>
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<td>Elective</td>
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<tr>
<td>OPT 813</td>
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</tr>
<tr>
<td></td>
<td>12</td>
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| Minimum Hours Required: | 61 |

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**Minimum Required Hours:** 66

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1Electives — Must be taken from the following:

- OFC
- OFC 803/804
- ACC 132
- ACC 292
- BUS 143
- BUS 234
- BUS 237
- MGT 136
- MGT 242
- CS 250
- CS 251
- ECO 201
- SPE 105

† Students may be placed in typing courses based on proficiency level determined by previous training, experience and/or placement tests.
Precision Optics

PRECISION OPTICS TECHNOLOGY

(Associate Degree)

- The Precision Optics Technology program is designed to prepare students for employment in the Precision Optics manufacturing field.

<table>
<thead>
<tr>
<th>SEMESTER I</th>
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<tbody>
<tr>
<td>POP 101 Introduction to Precision Optics Technology</td>
<td>3</td>
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<td>POP 104 Industrial Shop Safety</td>
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<td>BPR 177 Blueprint Reading</td>
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<td>COM 131 Applied Composition &amp; Speech</td>
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<td>MTH 195 Technical Mathematics</td>
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<tr>
<td>POP 102 Precision Optics Machining I</td>
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<td>POP 103 Precision Optics Machining II</td>
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<td>POP 107 Precision Optics Handling and Cleaning</td>
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<tr>
<td>MTH 196 Technical Mathematics</td>
<td>3</td>
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<tr>
<td>PHY 131 Applied Physics</td>
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<tr>
<td>POP 105 Precision Optics Machining III</td>
<td>3</td>
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<tr>
<td>POP 106 Thin Film Optical Coatings</td>
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<tr>
<td>POP 201 Basic Precision Optics Theory</td>
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<td>HST 102 History of the United States</td>
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<tr>
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<td>POP 205 Advanced Precision Optics Processes</td>
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<tr>
<td>POP 703 Cooperative Work Experience</td>
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<td>PSY 131 Human Relations</td>
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<tr>
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</table>

Minimum Hours Required: 60

Solar Energy Technology

SOLAR ENERGY TECHNOLOGY

(Associate Degree)

- The Solar Energy Technology program prepares students for entry-level employment in the solar energy industry. Graduates of the program should be proficient in installation of new and retrofitted hot water and space heating systems, and repair and maintenance of these systems. Both air and hydronic systems will be covered.

- Program graduates may choose an alternate career as a sales representative, a research assistant, or some other solar energy related position.

- Enrollment in the program requires no previous experience or course work in air conditioning and refrigeration. However, previous experience in this field may enable the student to test-out or substitute courses with instructor approval.

<table>
<thead>
<tr>
<th>SEMESTER I</th>
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<tbody>
<tr>
<td>ST 106 Introduction to Solar Energy</td>
<td>3</td>
</tr>
<tr>
<td>ST 107 Materials and Materials Handling</td>
<td>3</td>
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<tr>
<td>ST 108 Fluid Transport Systems</td>
<td>3</td>
</tr>
<tr>
<td>AC 150 Basic Principles of Electricity</td>
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<tr>
<td>MTH 195 Technical Mathematics</td>
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<tr>
<td>ST 101 Energy Science I</td>
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<td>ST 105 Collectors and Energy Storage</td>
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<tr>
<td>AC 155 Advanced Electrical Circuits</td>
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<td>DFT 182 Technical Drafting</td>
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<tr>
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<td>ST 201 Sizing Design and Retrofit</td>
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<tr>
<td>AC 185 Residential Heating Systems</td>
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<td>COM 131 Applied Composition and Speech</td>
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<td>MTH 107 Fundamentals of Computing</td>
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<tr>
<td>ST 205 Operational Diagnosis</td>
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<tr>
<td>ST 206 Economics, Codes, Legalities, and Consumerism</td>
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<tr>
<td>AC 180 Residential Cooling Systems</td>
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<tr>
<td>MGT 153 Small Business Management or</td>
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<tr>
<td>‡ Elective</td>
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<tr>
<td>PSY 131 Human Relations or</td>
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</table>

Minimum Hours Required: 64

Real Estate

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.
### CREDIT HOURS

#### SEMESTER I
- **RE 130**: Real Estate Principles
- **RE 131**: Real Estate Finance
- **COM 131**: Applied Composition and Speech or
- **ENG 101**: Composition and Expository Reading
- **BUS 105**: Introduction to Business
- **MTH 130**: Business Mathematics or
- **MTH 111**: Mathematics for Business & Economics I

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<tr>
<td>RE 130</td>
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<td>COM 131</td>
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<td>ENG 101</td>
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<tr>
<td>BUS 105</td>
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<tr>
<td>MTH 130</td>
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<tr>
<td>MTH 111</td>
<td>3</td>
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</table>

| Total | 15 |

#### SEMESTER II
- **RE 133**: Real Estate Marketing
- **RE 135**: Real Estate Appraisal
- **RE 136**: Real Estate Law
- **COM 132**: Applied Composition and Speech or
- **ENG 102**: Composition and Literature

<table>
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<tr>
<td>RE 133</td>
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<td>RE 135</td>
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<td>RE 136</td>
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<tr>
<td>COM 132</td>
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</tr>
<tr>
<td>ENG 102</td>
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| Total | 15 |

#### SEMESTER III
- **RE 230**: Real Estate Office Management
- **RE 250**: Real Estate Internship I
- **RE 254**: Real Estate Seminar I
- **ECO 201**: Principles of Economics I
- **Elective**

<table>
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<td>RE 230</td>
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| Total | 15 |

#### SEMESTER IV
- **GVT 201**: American Government
- **ACC 201**: Principles of Accounting I
- **Elective**

<table>
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<th>Course</th>
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<tbody>
<tr>
<td>GVT 201</td>
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</table>

| Total | 15 |

**Minimum Hours Required**: 60

*Preliminary interview by Real Estate Coordinator required

RE 250 and RE 254 must be taken concurrently

RE 251 and RE 255 must be taken concurrently

‡ Recommended Electives:

- **RE 233**: Commercial and Investment Real Estate
- **RE 235**: Property Management
- **RE 251**: Real Estate Internship
- **RE 255**: Real Estate Seminar
- **RE 240**: Special Problems in Real Estate
- **RE 241**: Special Problems in Real Estate
- **ACC 202**: Principles of Accounting II
- **ECO 202**: Principles of Economics II
- **SPE 105**: Fundamentals of Public Speaking

‡ Technical Electives — Must select from the following (with instructor approval)

- **ST 110**: Non-Residential and Photovoltaic Applications
- **ST 205**: Energy Conservation and Passive Design Concepts
- **ST 803, 813, 804, 814**: Cooperative Work Experience
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North Lake College
THE DALLAS COUNTY COMMUNITY COLLEGE DISTRICT
CREDIT PROGRAMS
APPLICATION FOR ADMISSION
5001 MacArthur Blvd., Irving, Tx. 75062
Admissions Office • 659-5222

PLEASE PRINT AND COMPLETE EACH QUESTION FULLY

1 SOCIAL SECURITY NUMBER ___________________________________

2 NAME

__________ Mr
__________ Ms
__________________________________________ Last
__________________________________________ First
__________________________________________ Middle

3 NAME, IF DIFFERENT FROM ABOVE APPEARING ON TRANSCRIPTS FROM OTHER INSTITUTIONS.

__________________________________________ __________________________________________

4 ADDRESS: ____________________________________________ __________________________________________

5 PHONE: ____________________________________________ __________________________________________

6 BIRTH DATE

__________________ ______________________ ____________________________
Day Month Year

COMPLETE REVERSE SIDE OF THIS FORM IF YOU LIVE OUT OF COUNTY BUT OWN PROPERTY (REAL ESTATE) IN
DALLAS COUNTY

7 ETHNIC BACKGROUND. (Optional) __________________________

White Non-Hispanic __________________________
Black Non-Hispanic __________________________
Hispanic __________________________
Asian or Pacific Islander __________________________
American Indian or Alaskan Native __________________________
Non-Resident Alien Foreign National __________________________

8 a) ARE YOU A VETERAN? ______Yes ______No

b) will you apply for VA educational benefits to attend school? ______Yes ______No

9 AGE ______18 or over ______under 18

*10. HIGH SCHOOL ATTENDED

*Complete reverse side of this form if high school attended was out of Texas

DID YOU GRADUATE FROM HIGH SCHOOL? ______Yes ______No

DATE OF GRADUATION OR LAST DATE ATTENDED

**13. LIST ALL COLLEGES ATTENDED, REGARDLESS OF CREDIT EARNED, INCLUDING THE COLLEGES OF THE
DALLAS COUNTY COMMUNITY COLLEGE DISTRICT

**Complete reverse side of this form if college attended was out of Texas

College City State Dates Attended Degree
________________________________________________________________________

College City State Dates Attended Degree
________________________________________________________________________

College City State Dates Attended Degree
________________________________________________________________________

14. IF YOU ARE NOT A CITIZEN OF THE US

Country of Citizenship ________________ Visa Type & Number ________________

15 RESIDENCY INFORMATION

Do you live in Dallas County? ______Yes ______No

Have you lived in Texas for past 12 months? ______Yes ______No

IF YOU ARE UNDER 18, COMPLETE THE FOLLOWING

Do your parents live in Dallas County? ______Yes ______No

Have your parents lived in Texas for the past twelve months? ______Yes ______No

Name of parent or guardian ________________ Address ________________

16 IF YOU HAVE EVER SERVED ON ACTIVE DUTY IN THE MILITARY, COMPLETE THE FOLLOWING

**Complete the reverse side of this form if Armed Service Discharge Paper (DD214) is out of Texas

Home of record at time of induction ________________

Date of induction into active duty ________________

Are you requesting an EARLY RELEASE from military service? ______Yes ______No

17 SEMESTER YOU PLAN TO ENTER ______ Fall Semester ______ Spring Semester

__________ 1st Summer Term ________ 2nd Summer Term

18 CHECK ONE ______ Day Student ______ Night Student ______ Combination Day Night

I will submit a transcript from the last educational institution attended. Documents submitted to meet admissions requirements become the property of North Lake College and will not be returned to the student.

I CERTIFY THAT THE INFORMATION GIVEN ON THIS APPLICATION IS ACCURATE AND COMPLETE

__________________________________________ DATE

__________________ ______________________ Please turn page and fill out second side.
SIGNATURE
RETURN TO: NORTH LAKE COLLEGE - ADMISSIONS OFFICE
5001 MACARTHUR BLVD. • IRVING, TEXAS 75062

RECORD OF IMMUNIZATION

In compliance with State law (Sec. 2.09, Education code), certain immunizations are required of all students admitted to North Lake College. Proof of freedom from Tuberculosis by skin test or X-ray within 1 year is required by the Dallas County Community College District. In the case of religious conflict, an affidavit to this effect must be filed with the college. If injurious to health, an affidavit which is signed by a physician to this effect must be filed with the college. Health Department immunization cards, military records, physicians immunization cards or the form below may be used.

NAME
SOC. SEC. #
ADDRESS

PHONE
home
work

Proof of freedom from Tuberculosis by either skin test or X-ray
Physician’s or North Lake College
Health Center Staff Signature

I, the undersigned, certify that the above information is true and correct.

Student’s Signature
The Tuberculosis skin test is provided free by North Lake College call 659-5208

IMMUNIZATIONS

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<th>Year</th>
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<td>Tetanus</td>
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<tr>
<td>Polio</td>
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NORTH LAKE COLLEGE
Residency Information

1. List previous addresses to show residence for the last 3 years.

<table>
<thead>
<tr>
<th>STREET</th>
<th>CITY</th>
<th>STATE</th>
<th>ZIP CODE</th>
<th>YEARS FROM TO</th>
</tr>
</thead>
</table>

2. List all full-time employment for the last 3 years including military service. List your present employer first.

<table>
<thead>
<tr>
<th>NAME OF EMPLOYER</th>
<th>CITY</th>
<th>STATE</th>
<th>YEARS FROM TO</th>
</tr>
</thead>
</table>

3. Ad Valorem Tax Waiver

- a. How long have you lived at your present address? (years)
- b. Do you own your home or other real estate in DALLAS COUNTY? (months)

IMPORTANT: If you have been employed in Texas for less than three years, documentary evidence (for tuition purposes) as indicated below must be attached to the application or submitted prior to registration.

DOCUMENTARY EVIDENCE OF THE FOLLOWING MUST BE PRESENTED BEFORE RESIDENCE CLAIM CAN BE VERIFIED:
- a. Verification of full-time employment of applicant or spouse for 12 months prior to registration (letter from employer on company letterhead)
- b. AND verification of at least one of the following:
  1) registration to vote
  2) documents which evidence banking or other business transactions
  3) registration of a motor vehicle
  4) Texas driver’s license
  5) documents which evidence ownership of real property

ADDITIONAL RESIDENCY RULES AND INFORMATION

1. If you claim Texas residency because you are "dependent upon or married to a Texas resident” you must provide the following information prior to registration: (a) letter from the employer (on company letterhead) verifying that he/she has been employed in Texas for 12 months prior to registration; AND (b) if married a photocopy of the marriage license. "Dependent" is defined as an individual who is claimed as a dependent for federal income tax purposes by the individuals, parent or guardian at the time of registration and for the tax year preceding the year in which the individual registers.

2. A person classified as a nonresident student upon his first enrollment in an institution of higher education is presumed to be a nonresident for the period during which he continues as a student. If such nonresident applicant withdraws from school and resides in the state which garnishes funds for a period of 12 months, then he is entitled to be reclassified as a resident for tuition purposes.

3. If any applicant who has been classified as a resident of Texas shall be found to have been erroneously so classified, he shall be reclassified as a nonresident and shall be required to pay the difference between the resident and nonresident fees for those semesters in which he or she was so erroneously classified.

I UNDERSTAND THE CONDITIONS UNDER WHICH I AM ENROLLING AS RELATED TO RESIDENCY AND I CERTIFY THAT THE INFORMATION GIVEN ON THIS FORM IS COMPLETE AND ACCurate.

Applicant’s Signature
Date

92
North Lake College
5001 MacArthur Blvd.
Irving, Texas 75062

Dallas County Community College District