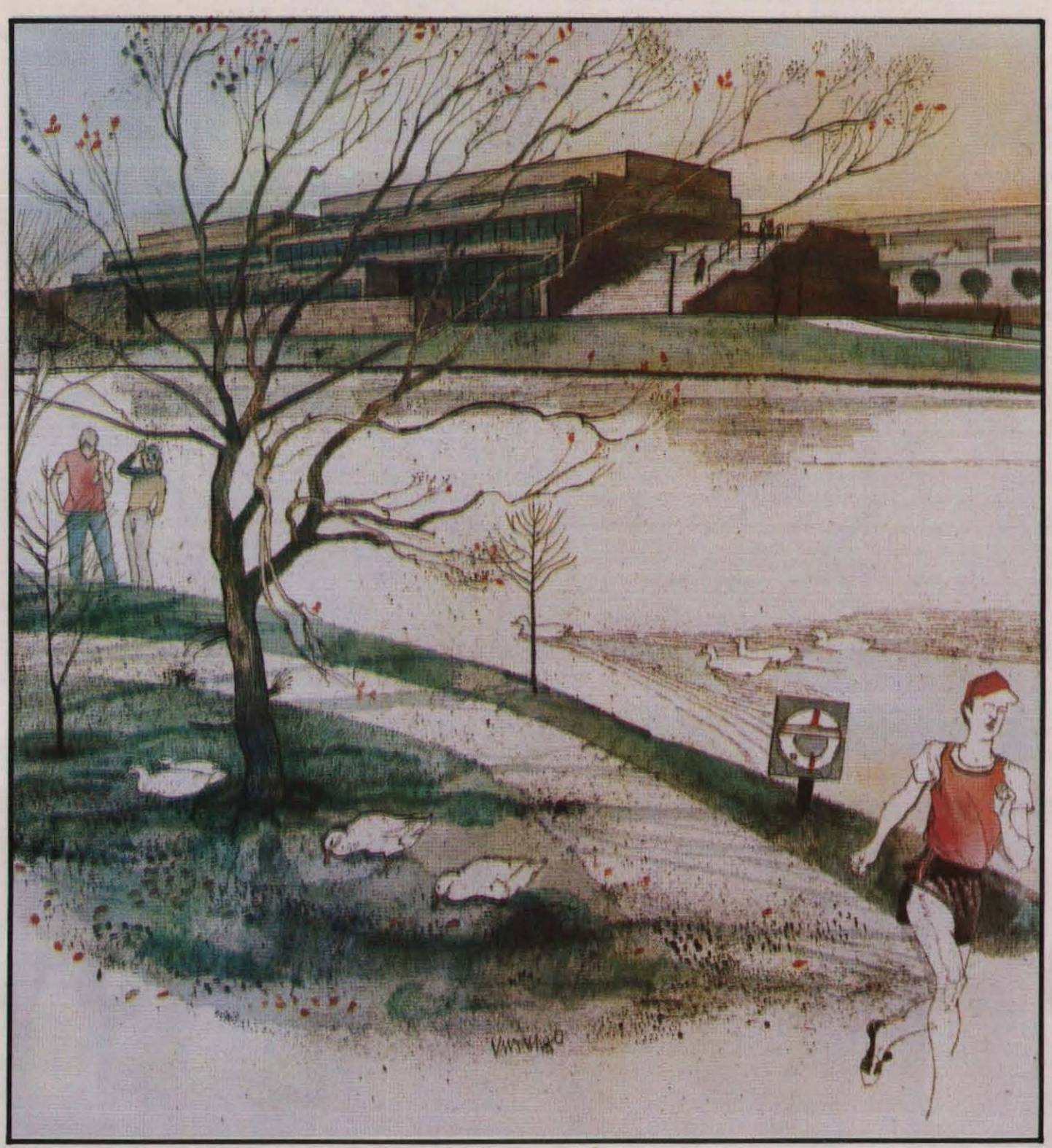

# North Lake College
# 1982-83 Catalog

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

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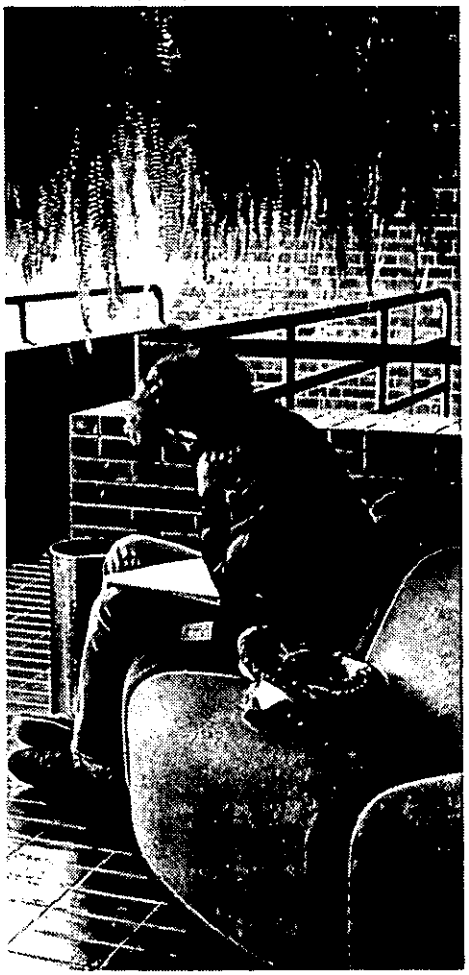
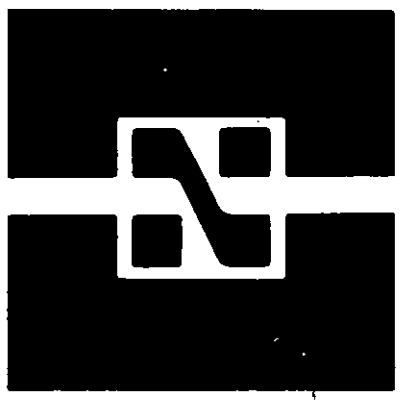
# North Lake College





**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

## SUMMER SESSIONS, 1982

**First Session**

| | |
|---|---|
| May 27 (R) | Registration |
| May 31 (M) | Memorial Day holiday |
| June 1 (T) | Classes begin |
| June 2 (W) | Last day for tuition refund |
| June 4 (F) | 4th class day |
| June 29 (T) | Last day to withdraw "W" |
| July 5 (M) | Independence Day holiday |
| July 1 (R) | Final examinations |
| July 1 (R) | Session closes |

**Second Session**

| | |
|---|---|
| July 8 (R) | Registration |
| July 12 (M) | Classes begin |
| July 13 (T) | Last day for tuition refund |
| July 15 (R) | 4th class day |
| Aug. 9 (M) | Last day to withdraw "W" |
| Aug. 13 (F) | Final examinations |
| Aug. 13 (F) | Session closes |

## FALL SEMESTER, 1982

| | |
|---|---|
| Aug. 18 (W) | Faculty reports |
| Aug. 19, 20, 23 (RFM) | Registration |
| Aug. 24 (T) | Faculty development |
| Aug. 25 (W) | Classes begin |
| Aug. 28 (S) | Saturday classes begin |
| Sept. 1 (W) | Last day for tuition refund |
| Sept. 6 (M) | Labor Day holiday |
| Sept. 8 (W) | 12th class day |
| Nov. 25 (R) | Thanksgiving holidays begin |
| Nov. 29 (M) | Classes resume |
| Nov. 30 (T) | Last day to withdraw "W" |
| Dec. 15 (W) | Last day of classes |
| Dec. 16-17, 20-21 (RFMT) | Final examinations |
| Dec. 18 (S) | Final exams, Sat. classes |
| Dec. 21 (T) | Semester closes |

## SPRING SEMESTER, 1983

| | |
|---|---|
| Jan. 10 (M) | Faculty reports |
| Jan. 1-13 (TWR) | Registration |
| Jan. 14 (F) | Faculty development |
| Jan. 15 (S) | Saturday classes begin |
| Jan. 17 (M) | Classes begin |
| Jan. 24 (M) | Last day for tuition refund |
| Jan. 28 (F) | 12th class day |
| Feb. 17 (R) | District Conference Day |
| Feb. 18 (F) | Faculty development |
| Mar. 14 (M) | Spring break begins |
| Mar. 18 (F) | Spring holiday for all employees |
| Mar. 21 (M) | Classes resume |
| Apr. 1 (F) | Easter Holidays begin |
| Apr. 4 (M) | Classes resume |
| May 6 (F) | Last day to withdraw "W" |
| May 13 (F) | Last day of classes |
| May 14 (S) | Final exams, Sat. classes |
| May 16-19 (MTWR) | Final examinations |
| May 19 (R) | Graduation |
| May 19 (R) | Semester closes |

## SUMMER SESSIONS, 1983

**First Session**

| | |
|---|---|
| May 27 (F) | Registration |
| May 30 (M) | Memorial day holiday |
| May 31 (T) | Classes begin |
| June 1 (W) | Last day for tuition refund |
| June 3 (F) | 4th class day |
| June 24 (F) | Last day to withdraw "W" |
| July 1 (F) | Final examinations |
| July 1 (F) | Semester closes |

**Second Session**

| | |
|---|---|
| July 5 (T) | Registration |
| July 7 (R) | Classes begin |
| July 11 (M) | Last day for tuition refund |
| July 12 (T) | 4th class day |
| Aug. 4 (R) | Last day to withdraw "W" |
| Aug. 10 (W) | Final examinations |
| Aug. 10 (W) | Semester closes |

## 1982

### AUGUST

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## 1983

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### MARCH

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### APRIL

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### MAY

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### JUNE

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### JULY

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### AUGUST

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# Table of Contents

# North Lake College

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.

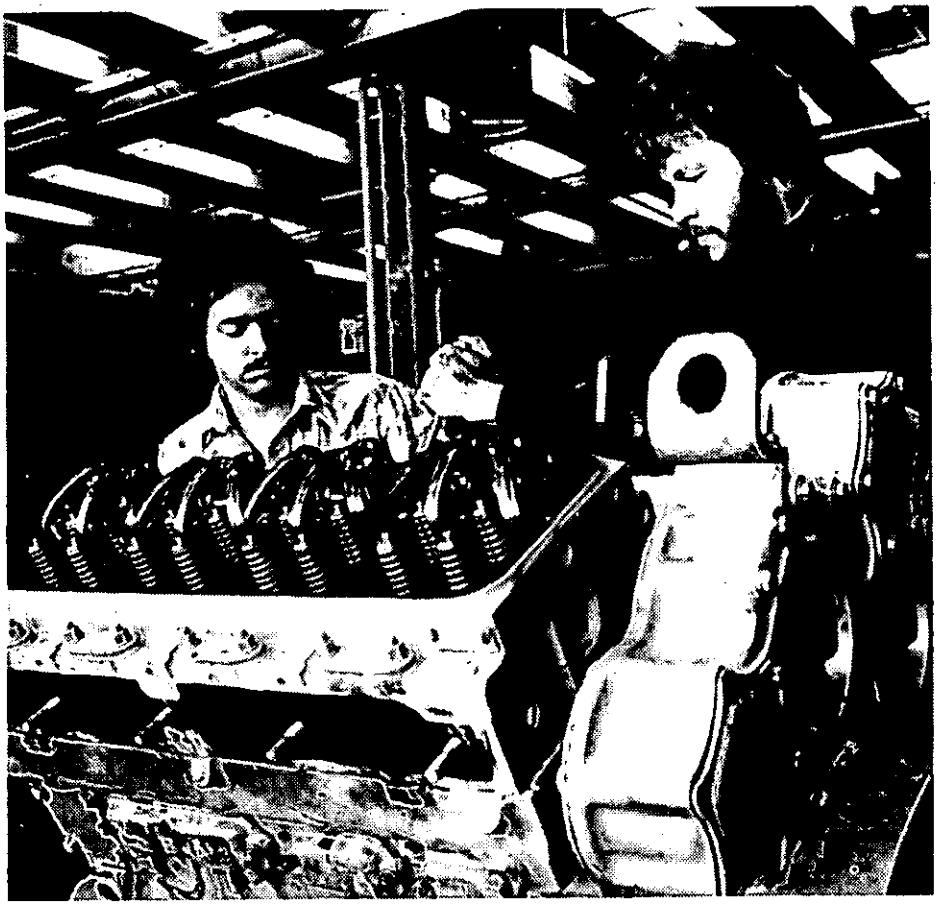
Jogging trails, athletic fields, tennis courts and a nine-acre lake provide the backdrop for the nine-building campus.

The excellent facilities of North Lake's $21 million campus include a 550-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 9,000 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 places where learning is important.

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.

# Associate in General Studies Degree

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.

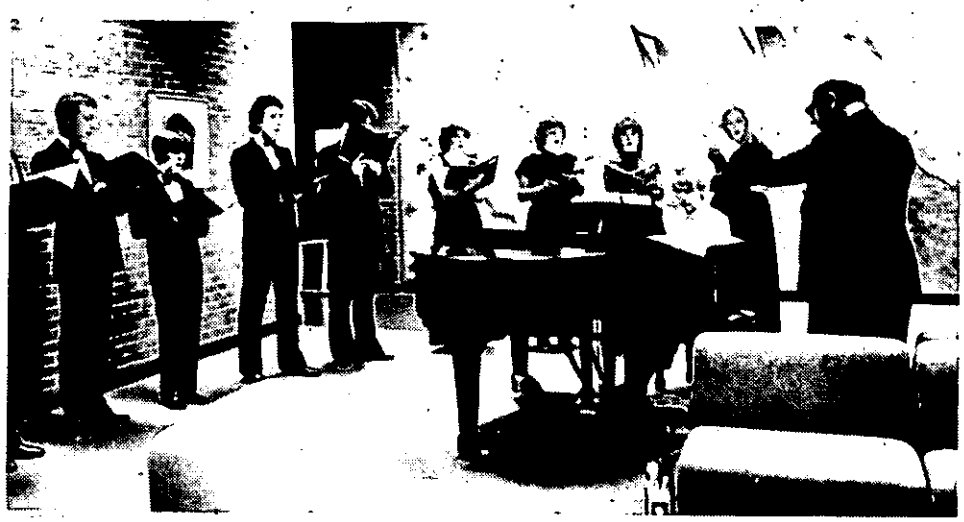
Cognitive Style Mapping is another option that helps students succeed. It is a method that helps a student discover how he or she prefers to learn. A student may prefer a large group or individual study. Reading may be preferred over listening. Visual demonstrations may be preferable to verbal presentations.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

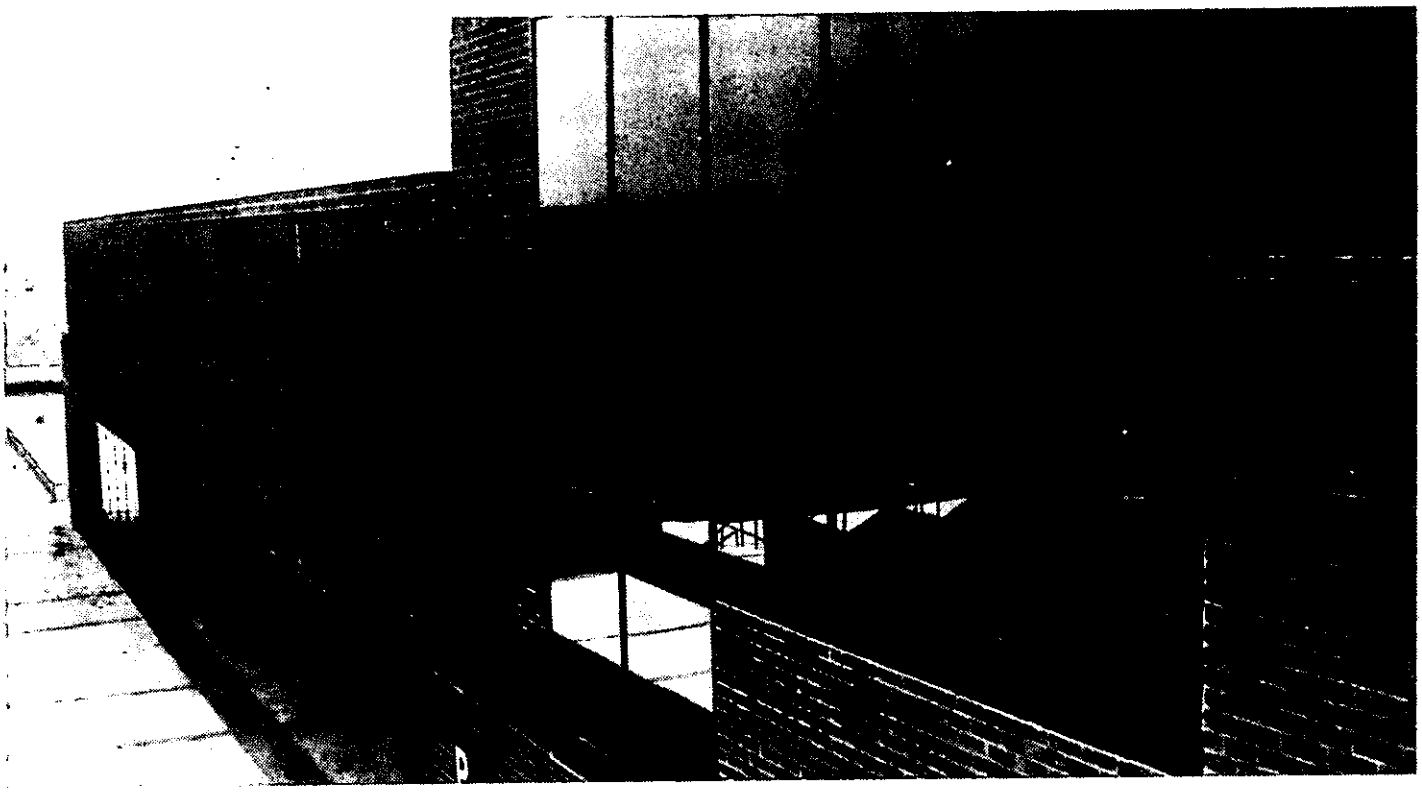


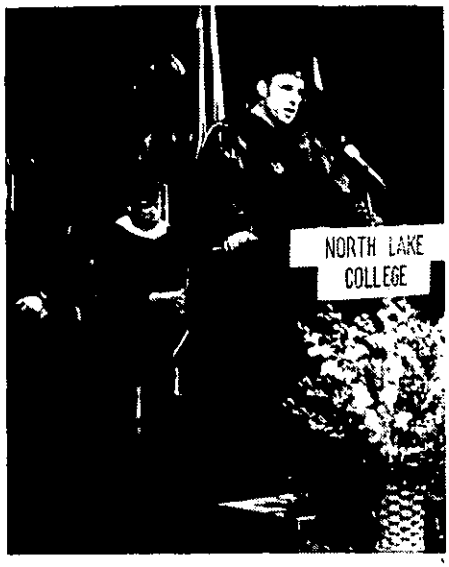
# The Future

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 | Donald L. Newport | 659-5229 |
| Vice President of Instruction | Glen I. Bounds | 659-5240 |
| Vice President of Student Services | Walter H. Bowie | 659-5242 |
| Vice President of Business Services | Mike Howard | 659-5235 |
| Asso. Dean, Technical/Occupational Programs | Clifton Weaver | 659-5237 |
| Asso. Dean of Continuing Education | Robert Bolin | 659-5204 |
| Asst. Director, Community Service | Nancy Kinsey | 659-5203 |
| Asso. Dean, Learning Resource Center | Jim Picquet | 659-5340 |
| Asst. Dean, Evening Programs | Joel Vela | 659-5206 |
| Director of Admissions and Registration | Stephen Twenge | 659-5220 |
| Director, Center for Independent Study | Bette Wise | 659-5275 |
| Director of Cooperative Education | Shirley Farrow | 659-5370 |
| Director of Financial Aid | Paul Chapman | 659-5226 |
| 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 Ciminelli | 659-5237 |

DIVISION CHAIRPERSONS

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

OTHER TELEPHONE NUMBERS

| | |
|---|---|
| Admissions and Registration | 659-5220 |
| Business Office | 659-5244 |
| Community Service Programs | 659-5200 |
| Data Processing Office | 659-5232 |
| Evening Administration | 659-5205 |
| Grand Prairie Center | 641-2467 |
| Health Center | 659-5208 |
| Library | 659-5347 |
| Physical Plant | 659-5310 |
| Placement Office | 659-5370 |
| Public Information | 659-5230 |
| Safety and Security | 659-5300 |
| Wallace Bookstore | 258-8250 |

# Faculty and Administration

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

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

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

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

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

Baen, John ..... Real Estate
Texas A&M Univ., B.S., M.S., Study

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

Beauchamp, Sharon ..... Director, Student Development
Brigham Young Univ., B.A.; North Texas State Univ., Study

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

Blankenship, Patsy ..... Office Careers
North Texas State Univ., B.B.A., M.B.E.

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

Bolin, Bill ..... Solar Energy Technology
East Texas State Univ., B.S., M.Ed.

Bolin, Robert R. ..... Associate Dean, Continuing Education
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Bounds, Glen I. ..... Vice President, Instruction
Northwestern State Univ. of Louisiana, B.S.; East Texas State Univ., M.S., Ed.D.

Bowie, Walter H. ..... Vice President, Student Services
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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 Univ., B.S.; Univ. of Oklahoma, M.A., Ph.D.

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

Brink, Lynn ..... Government
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Butler, Alice ..... Theatre
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Chamberlain, Enrique A. ..... Head Librarian
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Chapman, Paul ..... Director, Financial Aid
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Crowley, Lee B. ..... Instructional Development Consultant
Lamar Univ., B.S.; Texas A&M Univ., M.Ed., Ph.D.

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

Davis, Jeanne ..... Psychology
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Farrow, Shirley ..... Director, Cooperative Education
North Texas State Univ., B.A.; Stephen F. Austin Univ., M.Ed.

Faulkner, Bob ..... Diesel Mechanics
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Fleming, Richard ..... Computer Science/Data Processing/Mid-Management
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Ironside, Robert ..... Distribution Technology
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Kelemen, Paul ..... Counselor
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Univ. of Texas at Arlington, B.A., M.A.

Kirchhoff, Edwin E. ..... Economics
Univ. of Kansas, B.A., M.A.

Klundt, David ..... Director, North Lake College Police Academy
Univ. of Texas at Permian Basin, B.A.

Knowles, Jim ..... Physics
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Kubicek, Leonard ..... Geology/Environmental Science
Lamar Univ., B.S.; Southern Illinois Univ., M.S.; Univ. of Northern Colorado, Ed.D.

Lindsey, Paul ..... Air Conditioning/Refrigeration
Eastfield College, A.A.A.S.; U.S. Air Force Training Program, AC/R

Long, Linda ..... Speech
El Centro College, A.A.; Southern Methodist Univ., B.F.A.; North Texas State Univ., M.S.; East Texas State Univ., Ed.D.

Madewell, D'Ann ..... English
Kansas State College of Pittsburgh, B.A.; North Texas State Univ., M.A., Ph.D.

Magee, Paul ..... Sociology
Harding College, B.A., M.A.; Washington Univ., M.A., Ph.D.

McClung, Rachel ..... Art
Univ. of Dallas, B.A., M.A.

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

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

Newport, Donald L. ..... President
Henry Ford Community College, A.A.; Univ. of Michigan, B.A., M.A., Ph.D.

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

Osentowski, Francis ..... Music
Kearney State College, B.M.Ed.; North Texas State Univ., M.M.Ed., D.M.A.

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

Perdue, Beth ..... A.D. Nursing
West Texas State Univ., B.S.N., R.N.

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

Pickett, Marilyn ..... Vocational Nursing
St. Luke's Hospital School of Nursing, R.N.

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

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

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

Reding, Diana ..... A.D. Nursing
Hartwick College, R.N.; East Texas State Univ., M.S.

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

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

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

Sconce, Evelyn ..... Mid-Management
George Mason College of Univ. of Virginia, B.A.; Univ. of Missouri, M.A.; East Texas State Univ., Study

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

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

Smith, Laura ..... Vocational Nursing
Oak Park Hospital School of Nursing, R.N.; East Texas State Univ., B.S., M.S.

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

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

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

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

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

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

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

White, James ..... Mid-Management
Texas A&M Univ., B.B.A.; North Texas State Univ., M.B.A.; Southwestern Baptist Theological Seminary, M.R.E.

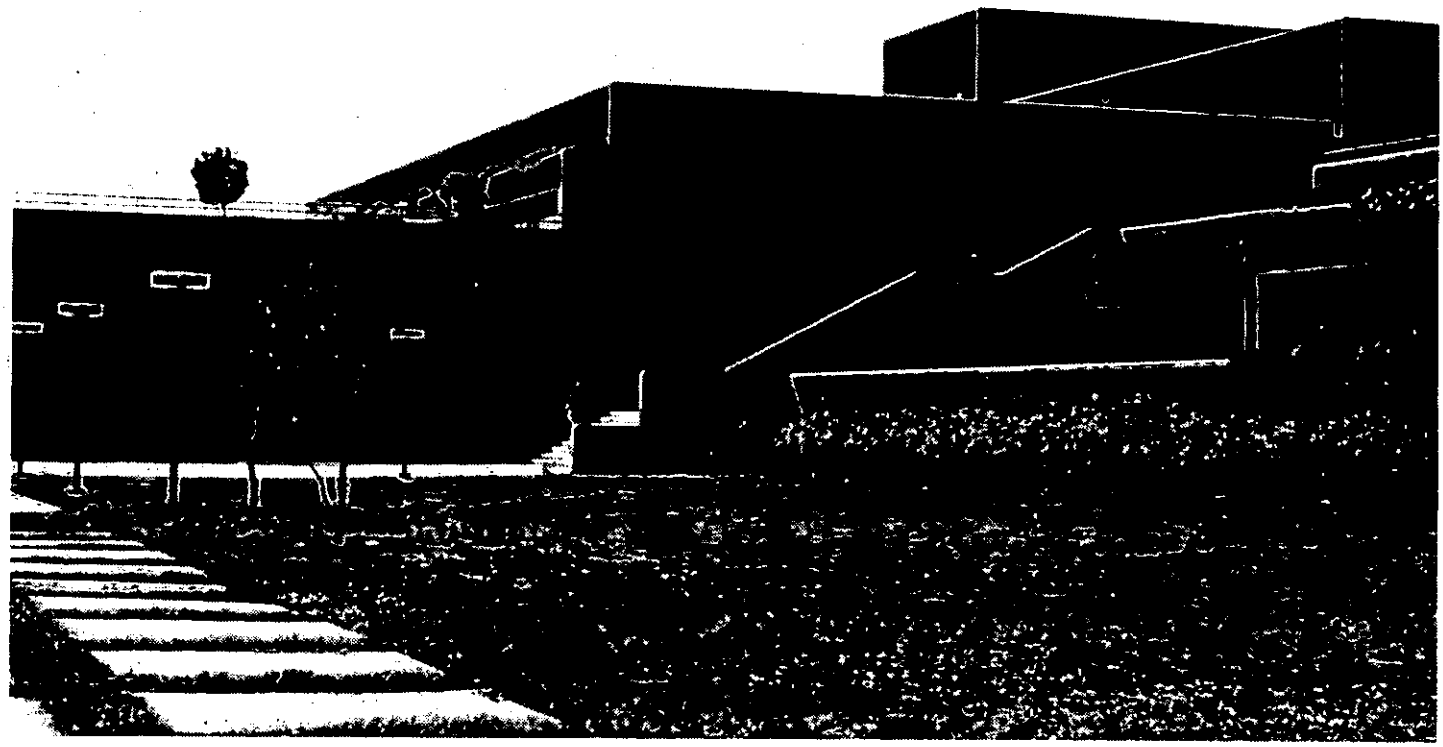
Wilson, Kay ..... Real Estate
Texas Woman's Univ., B.S., Study

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

Wise, Bette ..... Director, Center for Independent Study
Univ. of Wisconsin, B.S., M.S.Ed.

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

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



**DALLAS COUNTY COMMUNITY COLLEGE DISTRICT ADMINISTRATORS**

Chancellor . . . . . R. Jan LeCroy
Vice Chancellor of Business Affairs . . . . . Walter Pike
Associate Vice Chancellor of Business Affairs . . . . . Ted B. Hughes
Vice Chancellor of Educational Affairs . . . . . Terry O'Banion
Associate Vice Chancellor of Educational Affairs . . . . . Ruth Shaw
Assistant Chancellor of Planning . . . . . Bill Tucker
Assistant to the Chancellor . . . . . Jackie Caswell
Director of Development . . . . . Carole Shlipak
Legal Counsel . . . . . Robert Young
Special Assistant to the Chancellor . . . . . Lehman E. Marks
Director of Business Services . . . . . Robb Dean
Director, Center for Telecommunications . . . . . Rodger Pool
Director of Computer Services . . . . . Jim Hill
Director of Community & Student Programs . . . . . Richard McCrary
Director of Facilities Management . . . . . Edward Bogard
Director of Occupational Education . . . . . Linda Coffey
Director of Personnel . . . . . Quincy Ellis
Director of Planning, Marketing, Research . . . . . 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.

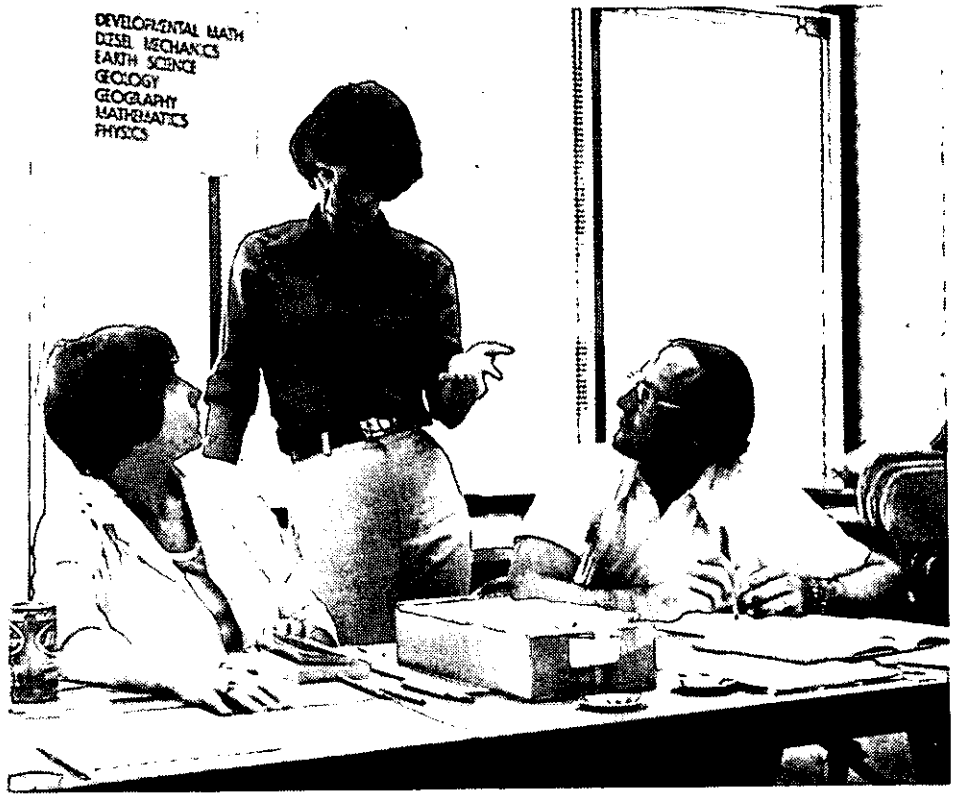
The growth of the District into an educational system with such impact was not by chance. In May, 1965, voters created the Dallas County Junior College District and approved a $41.5 million bond issue to finance it. The next year the District's first college, El Centro, began operation in downtown Dallas. 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.

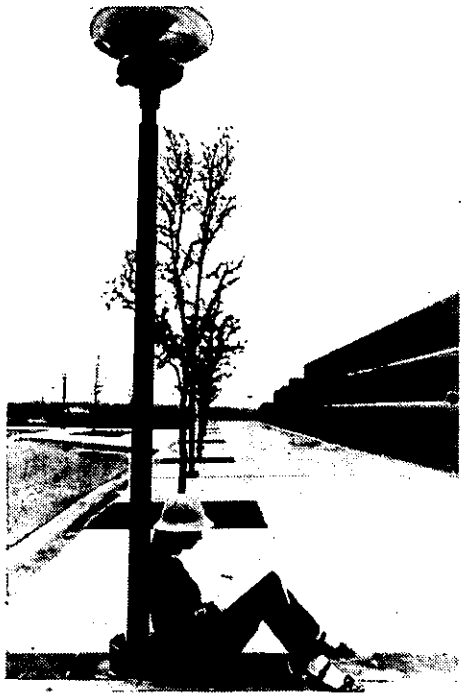
How do the colleges meet the educational needs of such a varied family? The answer is found in four categories of programs:

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 insure effective counseling and schedule planning. Earlier application is desirable because the student's place in registration is determined by the date an applicant's admission file is complete. A late place in registration may mean that the student cannot register for some courses because they are already filled.

Applicants must submit the following material to the Admissions Office to have a complete admissions file:

a. An official application, available from the Admissions Office.
b. 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 diptheria/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.

**ADDITIONAL FEES**

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

**SPECIAL FEES AND CHARGES**

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

*Physical Education Activity Fee:* $5 a semester.

*Bowling Class Fee:* Student pays cost of lane rental.

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

*Audit Fee:* The charge for auditing a course is the same as if the course were taken for credit, except that a student service fee is not charged.

*Credit by Examination:* A fee will be charged for each examination.**

* Available only to music majors enrolled for 12 hours or more.
**This fee can change without prior notice.

**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.

## REFUND POLICY

Student tuition and fees provide only a fraction of the cost of education. When students enroll in a class, they reserve places which cannot be made available to other students unless they officially drop the class during the first week of the semester. Also, the original enrollment of students represents a sizable cost to the District whether or not they continue in the class. Therefore, a refund is made only under the following conditions:

a. No 100% refund is granted unless College error is involved.
b. An 80% refund of tuition and fees may be obtained through the date noted in the college calendar. An 80% refund may be given through the first two class days of a six-week summer session or fast track semester. Refunds for Flexible Entry Courses are considered through completion of the second day of class from the date of enrollment.
c. No refund is given for advanced placement or College Level Examination Program (CLEP) tests.
d. A physician's statement must be submitted along with petitions when medical reasons account for withdrawal. Requests for refunds must be submitted before the end of the semester for which the refund is requested.
e. No refund of less than $4 for tuition and fees is made.

Refund Petition Forms are available in the Counseling Center and the Office of the Vice President of Student Services. Students who believe their refund requests are due to extenuating circumstances beyond the limits of the refund policy should state explicitly their circumstances on the Refund Petition Form. All requests for refunds are referred to the Refund Petition Committee. The Committee's recommendations are made to the Vice President of Student Services who notifies the student of the action taken. Refund checks normally require a minimum of one month from date of approval for processing.

## RETURNED CHECKS

Checks returned to the Business Office must be paid with cash or a cashier's check within the time limits prescribed by the notification letter. An additional fee is added for returned checks.

If a check for tuition is returned by a bank for any reason, including stop payment, the college business office may submit the check to the Justice of the Peace for appropriate legal action and collection. The Vice President of Student Services may also implement disciplinary procedures.

## 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

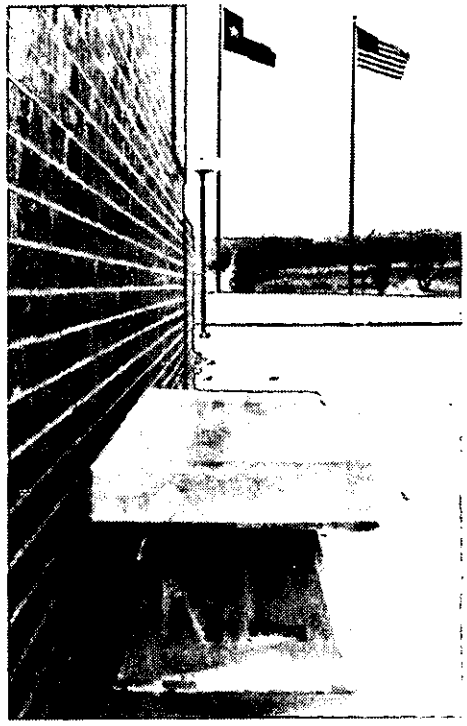
Students should be careful in registering to schedule courses only for the days and hours they can attend. Students requesting class changes should contact the Registrar's Office during the time specified in the class schedule. No change is complete until it has been processed by the Registrar's Office.

## 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.

Credits earned in military service schools or through the U.S. Armed Forces Institute are reviewed by the Registrar and credit granted if applicable.

## DROPPING A COURSE OR WITHDRAWING FROM COLLEGE

To drop a class or withdraw from the College, students must obtain a drop or withdrawal form and follow the prescribed procedure.

Should circumstances prevent a student from appearing in person to withdraw from the College, the student may withdraw by mail by writing to the Reigstrar. No drop or withdrawal requests are accepted by telephone. Students who drop a class or withdraw from the College before the semester deadline receive a "W" (Withdraw) in each class dropped. The deadline for receiving a "W" is indicated on the academic calendar. After that time students receive a performance grade in each course.

## ADDRESS CHANGES AND SOCIAL SECURITY NUMBER

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

Dallas County Community College District

# Tuition Schedule

## FALL AND SPRING SESSIONS

| Semester | Dallas County -1 | | | Out-of District -2 | | | Out-of-State, or Out-of-Country | | |
|---|---|---|---|---|---|---|---|---|---|
| Cr. Hours | Tuition | Fee | Total | Tuition | Fee | Total | Tuition | Fee | Total |
| 1 | $ 25 | $ 1 | $ 26 | $ 25 | $ 1 | $ 26 | $ 41 | $ 1 | $ 42 |
| 2 | 25 | 2 | 27 | 42 | 2 | 44 | 82 | 2 | 84 |
| 3 | 25 | 3 | 28 | 63 | 3 | 66 | 123 | 3 | 126 |
| 4 | 32 | 4 | 36 | 84 | 4 | 88 | 164 | 4 | 168 |
| 5 | 40 | 5 | 45 | 105 | 5 | 110 | 205 | 5 | 210 |
| 6 | 48 | 6 | 54 | 126 | 6 | 132 | 246 | 6 | 252 |
| 7 | 56 | 7 | 63 | 147 | 7 | 154 | 287 | 7 | 294 |
| 8 | 64 | 8 | 72 | 168 | 8 | 176 | 328 | 8 | 336 |
| 9 | 72 | 9 | 81 | 189 | 9 | 198 | 369 | 9 | 378 |
| 10 | 80 | 10 | 90 | 210 | 10 | 220 | 410 | 10 | 420 |
| 11 | 86 | 10 | 96 | 216 | 10 | 226 | 451 | 10 | 461 |
| 12 | 92 | 10 | 102 | 222 | 10 | 232 | 492 | 10 | 502 |
| 13 | 98 | 10 | 108 | 228 | 10 | 238 | 533 | 10 | 543 |
| 14 | 104 | 10 | 114 | 234 | 10 | 244 | 574 | 10 | 584 |
| 15 | 110 | 10 | 120 | 240 | 10 | 250 | 615 | 10 | 625 |
| 16 | 116 | 10 | 126 | 246 | 10 | 256 | 656 | 10 | 666 |
| 17 | 122 | 10 | 132 | 252 | 10 | 262 | 697 | 10 | 707 |
| 18 | 128 | 10 | 138 | 258 | 10 | 268 | 738 | 10 | 748 |
| 19 | 134 | 10 | 144 | 264 | 10 | 274 | 779 | 10 | 789 |
| 20 | 140 | 10 | 150 | 270 | 10 | 280 | 820 | 10 | 830 |

## SUMMER SESSIONS

| Semester Cr. Hours | Dallas County #1 | Out-of-District #2 | Out-of-State #3 or Out-of-Country #4 |
|---|---|---|---|
| 1 | 25 | 30 | 45 |
| 2 | 25 | 60 | 90 |
| 3 | 30 | 90 | 135 |
| 4 | 40 | 120 | 180 |
| 5 | 50 | 150 | 225 |
| 6 | 60 | 180 | 270 |
| 7 | 64 | 184 | 310 |
| 8 | 68 | 188 | 350 |
| 9 | 72 | 192 | 390 |

## 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.

# III Academic Information

## 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 Theater 199 may not be counted toward the 60 hour minimum.

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

## ASSOCIATE IN APPLIED ARTS AND SCIENCES DEGREE AND CERTIFICATE CAREER PROGRAMS

Students must have a minimum of 60 credit hours and a grade point average of at least "C" (2.0) to receive the Associate in Applied Arts and Sciences Degree. For some programs, more than 60 credit hours are required. All prescribed requirements for the specific Technical/Occupational Program in which the student is enrolled must be completed. These programs may also have other criteria in addition to degree requirements.

See the Technical/Occupational Programs section of this catalog for a more detailed explanation.

The requirements for certificates are detailed under specific programs listed in the Technical/Occupational Programs section of this catalog. A "C" (2.0) grade point average is required. A maximum of 4 physical education activity hours may be counted as credit toward graduation. Courses numbered 99 and below may not be included to meet degree or certificate requirements. Music 199, Art 199, and Theatre 199 may not be counted toward the 60-hour minimum.

## PROCEDURE FOR FILING DEGREE AND CERTIFICATE PLANS AND FOR GRADUATION

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

An annual graduation ceremony is held at the conclusion of the spring semester. Participation is ceremonial only and confers on a student no rights to a degree. 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 notice 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.

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

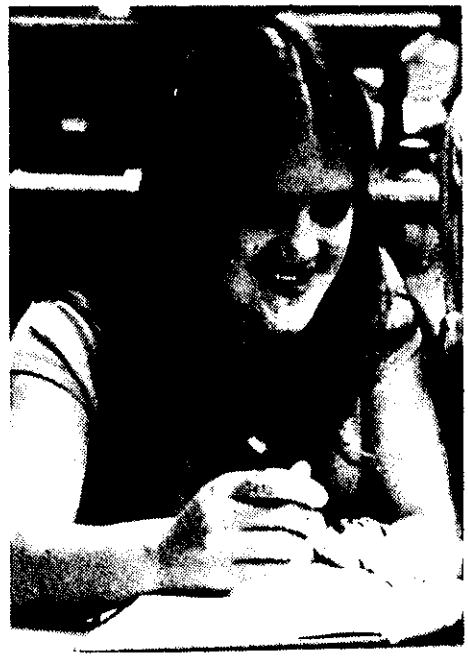
Grade points earned for each course are determined by multiplying the number of points for each grade by the number of credit hours the course carries. For example, a student who takes a three hour course and earns an "A" accumulates 12 grade points for that course. A student's *grade point average*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

| Credit Hours | Grade | Grade Points |
|---|---|---|
| 2-hour course | A | 8 |
| 3-hour course | B | 9 |
| 4-hour course | B | 12 |
| 3-hour course | C | 6 |
| Total Credit Hours: | | Total Grade Points: |
| 12 | | 35 |

$35 \div 12 = 2.93$

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

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



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

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

Students who do not complete course requirements may receive a "WX" grade when the instructor determines that reasonable progress has been made and when the student can re-enroll for course completion prior to the certification date in the next regular semester. If the student re-enrolls and completes the course requirements, the "WX" remains for the first enrollment; a performance grade is given for the second enrollment. If the student does not re-enroll, the "WX" is converted to a performance grade.

## ACCEPTABLE SCHOLASTIC PERFORMANCE

College work is measured in terms of credit hours. The number of credit hours offered for each course is given with the course description. Acceptable scholastic performance is the maintenance of a grade point average of 2.0 (on a 4.0 scale) or better. Students may not be graduated from any degree or certificate program unless they have a cumulative grade point average of 2.0 or better. Grade points and hours earned in courses numbered 99 and below are included in computing a student's scholastic standing, but they cannot be used to meet graduation requirements.

## HONORS

Full-time students who complete at least 12 hours of credit and earn a grade point average of 3.00-3.49 are listed on the College's Honor Roll. Full-time students who complete at least 12 hours of credit and average 3.50-4.00 are placed on the Vice President's Honor List. Part-time students who take 6-11 credit hours and maintain a 3.5 or higher grade point average are placed on the Academic Recognition List.

## SCHOLASTIC PROBATION AND SCHOLASTIC SUSPENSION

Full-time and part-time students who have completed a total of 12 credit hours are placed on probation if they fail to maintain a 2.0 cumulative grade point average. Students may be removed from probation when they earn a 2.0 cumulative grade point average. Students on scholastic probation who achieve either a cumulative grade point average of 1.5 or above or a previous semester grade point average of 2.0 or above are continued on scholastic probation. Students on probation who do not meet the requirements for continued probation are placed on scholastic suspension. Students on suspension for the first time may not register for the immediately following semester or summer 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 audio-visual 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 instutition. 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 telecourses varies each semester and may include courses in anthropology, astronomy, business, earth science, ecology, biology, English, economics, government, history, humanities, psychology, religion, and sociology. Content and credit for these courses are the same as for similar courses taken on campus.

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

## EVENING AND WEEKEND COLLEGE

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

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

## SERVICEMEN'S OPPORTUNITY COLLEGE

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

## 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 needing 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 insure 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 (CEU'S)

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 often are 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 couseling 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 courses.
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 indepth 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 adminsiters 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

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

# 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 4-6 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. Student must apply each year for the TPE-SSIG.

### HINSON-HAZLEWOOD COLLEGE STUDENT LOAN PROGRAM

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

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

Repayment may extend up to 10 years, but a minimum payment of $30 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 phase out 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 2C44
Dallas, Texas 75202

**VOCATIONAL REHABILITATION**

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

**VETERANS' BENEFITS PROGRAM**

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

When testing indicates that a veteran should enroll in developmental courses such as reading, writing, or math, the student may pursue these courses with no charge to his or her benefits. Tutoring services are also available to the veteran who is having learning difficulties in one or more subjects. The veteran student should be aware of some of the Veterans Administration guidelines. Violation of these guidelines causes complications in receiving monthly benefits or loss of those benefits.

1. Class attendance is mandatory. Failure to attend class results in suspension from class.
2. A veteran student who plans to enroll in developmental courses must be tested and show a need in basic skills before enrolling in these courses.
3. A veteran student enrolled in television courses must be pursuing more on-campus credit hours than hours taken by television.
4. A veteran student who has successfully completed credit hours at another college or university must submit a transcript from that college or university before applying for V.A. benefits. The transcript is evaluated and credit granted when applicable.
5. A veteran student must enroll in courses required for a degree program. Information on degree requirements may be obtained from the Registrar's Office.
6. A veteran student who withdraws or who is dropped from all courses attempted during a semester is considered as making unsatisfactory progress by the V.A. and may lose future benefits. A veteran student must also maintain a satisfactory grade point average as outlined in the catalog.

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

**HAZLEWOOD ACT**

Under the Hazlewood Act certain veterans who have exhausted remaining educational benefits from the Veterans Administration can attend Texas state-supported institutions and have some fees waived. To be eligible, students must have been residents of Texas at the time they enetered the service, have an honorable discharge and must now be residents of Texas. To apply, students must submit a Hazlewood Act application and a copy of their discharge papers 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 entering 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.

**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.

# VII Student Codes and Expectations

**SYNOPSIS:**



## 1. General Provisions

### a. Preamble

The primary goal of the District and its Colleges is to help students of all ages achieve effective living and responsible citizenship in a fast changing region, state, nation and world. The District's primary concern is the student. Each college attempts to provide an environment which views students in a wholistic manner encouraging and inviting them to learn and grow independently, stressing the process and the acquisition of skills. Such an environment presupposes both rights and responsibilites. Free inquiry and expression are essential parts of this freedom to learn and of room for growth and development. However, this environment also demands appropriate opportunities and conditions in the classroom, on the campus and, indeed, in the larger community. Students must exercise these freedoms with responsibility.

The responsibility to secure and to respect general conditions conducive to the freedom to learn and to grow is shared by all members of the college community. Dallas County Community College District has a duty to develop policies and procedures which provide and safeguard this liberty and this environment. The purpose of this statement is to enumerate the essential provisions for student freedom to learn and grow and the responsibilities which go with these liberties as established by the Dallas County Community College District Board of Trustees.

### b. Scope

(1) This code applies to individual students and states the function of student, faculty, and administrative staff members of the college in disciplinary proceedings.

(2) The college has jurisdiction for disciplinary purposes over a person who was a student at the time he allegedly violated a Board policy, college regulation, or administrative rule.

### c. Definitions:

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

(1) "Class day" means a day on which classes before semester or summer session final examinations are regularly scheduled or on which semester or summer session final examinations are given;

(2) "Vice President of Student Services" means the Vice President of Student Services, his delegate(s) or his representative(s);

(3) "Director of Student Development" means the Director of Student Development, his delegate(s) or his representative(s);

(4) "Director of Campus Security" means the Director of Campus Security, his delegate(s) or his representative(s);

(5) "President" means the president of a college of the Dallas County Community College District;

(6) "Student" means a person enrolled in a college of the Dallas County Community College District, or a person accepted for admission to the college;

(7) All vice presidents, deans, associate deans, assistant deans, directors, and division chairmen of the college for the purposes of this code shall be called "administrators";

(8) "Complaint" is a written summary of the essential facts constituting a violation of a Board policy, college regulation or administrative rule;

(9) "Board" means the Board of Trustees, Dallas County Community College District;

(10) "Chancellor" means the Chancellor of the Dallas County Community College District;

(11) "Major violation" means one which can result in suspension or expulsion from the college or denial of degree;

(12) "Minor violation" means one which can result in any disciplinary action other than suspension or expulsion from the college or denial of degree.

## 2. Acquaintance with Policies, Rules, Regulations

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

## 3. Campus Regulations

### a. Basic Standard:

The basic standard of behavior requires a student

(1) Not to violate any municipal, state, or federal laws, and

(2) Not to interfere with or disrupt the orderly educational processes of any college of the Dallas County Community College District.

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

### b. Enumerated Standards:

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

(1) **Student Identification:**

a. **Issuance and Use:** I.D. cards will be distributed during the first week of school and will be required for the following events and sevices; library usage, concerts, lectures, campus movies, use of student center facilities, voting in campus elections, and tickets for campus and community events. All I.D. cards are the property of the college and must be shown on request of a representative of the college. Students are required to be in possession of their I.D. cards at all times and are prohibited from loaning their I.D. cards to any other person for any reason. Likewise, it is prohibited to use any other card except the one issued by the college.

b. **Replacement Cards:** If lost, duplicate I.D. cards may be obtained in the business office by pament of a $4.00 charge.

(2) **Use of District Facilites:** Each college of the Dallas County Community College District is a public facility entrusted to the Board of Trustees and college officials for the purpose of conducting the process of education. Activities which appear to be compatible with this purpose are approved through a procedure maintained in the Student Development Office.

Activities which appear to be incompatible or in opposition to the purposes of education are normally disapproved. It is imperative that decision be made prior to an event in order to fulfill the trust of the public. No public facility could be turned over to the indiscriminate use of anyone for a platform or forum to promote random causes. These reasonable controls are exercised by college officials for the use of facilities to ensure the maximum use of the college for the purpose for which it was intended.

Therefore, anyone planning an activity at one of the colleges of the Dallas County Community College District which requires space to handle two or more persons to conduct an activity must have prior approval. Application forms to reserve space must be acquired through the Student Development Office. This office also maintains a statement on procedures for reserving space.

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

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

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

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

(4) **Disruptive Activities:** Any activity which interrupts the scheduled activities or processes of education may be classified as disruptive; thus, anyone who initiates in any way any gathering leading to disruptive activity will be violating college regulations andor state law.

The following conditions shall normally be sufficient to classify behavior as disruptive:

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

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

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

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

Furthermore, the Vice President of Student Services shall enforce the provisions of the Texas Education Code, Section 4.30 (following page).

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**Education Code Section 4.30 provides:**

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

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

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

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

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

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

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

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

(d) A person who violates any provisions of this section is guilty of a misdemeanor and upon conviction is punishable by a fine not to exceed $200 or by confinement in jail for not less than 10 days nor more than 6 months, or both.

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

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

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

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

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

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

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

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

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

The institutional policy is one discouraging all activities incompatible with the dignity of the college student and exercising disciplinary correction over such of activities as escape from reasonable control, regulation, and decency. 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.

(9) **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, stealing, transporting or soliciting in whole or part the contents of an unadministered test.

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

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

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

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

(10) **Financial Transactions with the College**

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

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

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

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

(11) **Other Offenses**

(a) The Vice President of Student 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 public service functions, or with other authorized activities on college premises;

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

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

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

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

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

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

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

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

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

4. **Disciplinary Proceedings**

a. **Administrative Disposition**

(1) **Investigation, Conference and Complaint**

(a) When the Vice President of Student 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; or

(iii) Prepare a complaint based on the allegation for use in disciplinary hearings along with a list of witnesses and documentary evidence supporting the allegation.

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

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

(2) **Summons**

(a) A student may be summoned to appear in connection with an alleged violation by sending him a letter by certified mail, return receipt requested, addressed to the student at his address appearing in the registrar's office records. It is the student's responsibility to immediately notify the registrar's office of any change of address.

(b) The letter shall direct the student to appear at a specified time and place not less than three class days after the date of the letter. The letter shall also describe briefly the alleged violation and shall state the Vice President of Student 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 may refuse administrative disposition of the alleged violation and, on refusal, is entitled to a hearing. If a student accepts administrative disposition, he shall sign a statement that he understands the nature of the charges, his right to a hearing 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 on **Penalties** (from 1-8, i.e. Admonition through Suspension of eligibility).

(ii) For major violations, any action authorized by this code in the section on **Penalties** (from 1-11, i.e. Admonition through Expulsion).

b. **Student Discipline Committee**

(1) **Composition; Organization**

(a) When a student refuses administrative

disposition of either a major or a minor violation, he is entitled to a hearing before the Student Discipline Committee. This request must be made in writing on or before the sixth working day following administrative disposition. The Committee shall be composed of **equal numbers of students, administrators and faculty** of the college. The committee shall be appointed by the President for each hearing on a rotating basis or on a basis of availability.

(b) The Student Discipline Committee shall elect a Chairman from the appointed members. The Chairman of the committee shall rule on the admissibility of evidence, motions, and objections to procedure, but a majority of the committee members may override the Chairman's ruling. All members of the Committee are eligible to vote in the hearing.

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

(d) The Vice President of Student Services shall represent the college before the Student Discipline Committee and present evidence to support any allegations of violations of Board policy, college regulation, or administrative rules. The Vice President of Student Services may be assisted by legal counsel when in the opinion of the Vice President of Student Services the best interests of the student or the college would be served by such assistance.

(2) **Notice**

(a) The Committee Chairman shall by letter notify the student concerned of the date, time and place for the hearing. The letter shall specify a hearing date not less than three (3) nor more than ten (10) class days after the date of the letter. If the student is under 18 years of age, a copy of the letter shall be sent to the parents or guardian.

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

(c) The Student Discipline Committee may hold a hearing at any time if the student has actual notice of the date, time, and place of the hearing, and consents in writing thereto, and the President, or his designated representative in his absence, states in writing to the committee that, because of extraordinary circumstances the requirements are inappropriate.

(d) The notice shall specify whether the charge or charges are considered minor violations or major violations; shall direct the student to appear before the committee on the date and at the time and place specified, and shall advise the student of the following rights:

(i) To a private hearing;

(ii) To appear alone or with legal counsel (if charges have been evaluated as a major violation or if the college is represented by legal counsel);

(iii) To have his parents or legal guardian present at the hearing;

(iv) To know the identity of each witness who will testify against him;

(v) To cause the committee to summon witnesses, require the production of documentary and other evidence possessed by the college, and to offer evidence and argue in his own behalf;

(vi) To cross-examine each witness who testifies against him;

(vii) To have a stenographer present at the hearing to make a stenographic transcript of the hearing, at the student's expense, but the student is not permitted to record the hearing by electronic means;

(viii) To appeal to the Faculty-Student Board of Review, subject to the limitations established by the **Faculty-Student Board of Review** section.

(e) The Vice President of Student Services may suspend a student who fails witout good cause to comply with a letter sent under this section, or, at his discretion, the Vice President of Student Services may proceed with the hearing in the student's absence.

(3) **Preliminary Matters**

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

(b) At least three (3) class days before the hearing date, the student concerned shall furnish the Committee Chairman with:

(i) The name of each witness he wants summoned and a description of all documentary and other evidence possessed by the college which he wants produced;

(ii) An objection, that, if sustained by the Chairman, of the Student Discipline Committee, would prevent the hearing;

(iii) The name of legal counsel, if any, who appear with him;

(iv) A request for a separate hearing, if any, and the grounds for such a request.

(c) When the hearing is set under waiver of notice or for other good cause determined by the Committee Chairman, the student concerned is entitled to furnish the information described in paragraph (b) hereof at any time before the hearing begins.

(4) **Procedure**

(a) The hearing shall be informal and the Chairman shall provide reasonable opportunities for witnesses to be heard. The college may be represented by staff members of the Vice President of Student Services' office, legal counsel and other persons designated by the President. The hearing shall be open to the public so long as space is available, but may include the following persons on the invitation of the student:

(i) Representatives of the College Council;

(ii) A staff member of the College newspaper;

(iii) Representatives of the Faculty Association;

(iv) Student's legal counsel, and

(v) Members of the student's immediate family.

(b) The Committee shall proceed generally as follows during the hearing:

(i) The Vice President of Student Services shall read the complaint;

(ii) The Vice President of Student Services shall inform the student of his rights, as stated in the notice of hearing;

(iii) The Vice President of Student Services shall present the College's case;

(iv) The student may present his defense;

(v) The Vice President of Student Services and the student may present rebuttal evidence and argument;

(vi) The Committee will vote the issue of whether or not there has been a violation of Board policy, college regulation or administrative rule; if the Committee finds the student has violated a Board policy, college regulation or administrative rule, the Committee will determine an appropriate penalty.

(vii) The Committee shall inform the student of the decision and penalty, if any;

(viii) The Committee shall state in writing each finding of a violation of Board policy, college regulation or administrative rule, and the penalty determined. Each committee member concurring in the finding and penalty shall sign the statement. The Committee may include in the statement its reasons for the finding and penalty.

(5) **Evidence**

(a) Legal rules of evidence shall not apply to hearings before the Student Discipline Committee, and the Committee may admit and give probative effect to evidence that possesses probative value and is commonly accepted by reasonable men in the conduct of their affairs. The Committee shall exclude irrelevant, immaterial and unduly repetitious evidence. The Committee shall recognize as privileged communications between a student and a member of the professional staff of the Health Center, Counseling and Guidance Center, or the Office of the Vice President of Student Services where such communications were made in the course of performance of official duties and when the matters discussed were understood by the staff member and the student to be confidential. Committee members may freely question witnesses.

(b) The Committee shall presume a student innocent of the alleged violation until it is convinced by clear and convincing evidence that the student violated a Board policy, college regulation or administrative rule.

(c) All evidence shall be offered to the Committee during the hearing and made a part of the hearing record. Documentary evidence may be admitted in the form of copies of extracts, or by incorporation by reference. Real evidence may be photographed or described.

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

(6) **Record**

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

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

b. **Faculty-Student Board of Review**

(1) **Right to Appeal**

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

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

(2) **Board Composition**

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

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

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

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

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

(3) **Consideration of Appeal**

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

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

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

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

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

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

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

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

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

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

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

(4) **Petition for Administrative Review**

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

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

shall file his petition with the President on or before the third class day after the day the Board of Review announces its action on the appeal. If the President rejects the petition, and the student appellant wishes to petition the Chancellor, he shall file the petition with the Chancellor on or before the third class day after the President rejects the petition in writing.

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

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

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

(2) "Warning probation" indicates that further violations may result in suspension. Disciplinary probation may be imposed for any length of time up to one calendar year and the student shall be automatically removed from probation when the imposed period expires.

(3) "Disciplinary probation" indicates that further violations may result in suspension. Disciplinary probation may be imposed for any length of time up to one calendar year and the student shall be automatically removed from probation when the imposed period expires. Students will be placed on disciplinary probation for engagin in activities such as the following: being intoxicated, misuse of I.D. card, creating a disturbance in or on campus facilities, and gambling.

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

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

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

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

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

(b) "Suspension of eligibility for official athletic and non-athletic extracurricular activities" prohibits, during the period of suspension, the student on whom it is imposed, from joining a registered student organization; taking part in a registered student organization's activities, or attending its meetings or functions; and from participating in an official athletic or non-athletic extracurricular activity. Such suspension may be imposed for any length of time up to one calendar year. Students will be placed on disciplinary suspension for engaging in activities such as the following: having intoxicating beverages in any college facility; destroying state property or student's personal property; giving false information in response to requests from the college; instigating a disturbance or riot; stealing; possession, use, sale or purchase of illegal drugs on or off campus; any attempt at bodily harm, which includes taking an overdose of pills or any other act where emergency medical attention is required; and conviction of any act which is classified as a misdemeanor or felony under state or federal law.

(8) "Denial of Degree" may be imposed on a student found guilty of scholastic dishonesty and may be imposed for any length of time up to and including permanent denial.

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

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

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

6. **Parking and Traffic**

(a) Reserved Parking Areas
These reserved areas ae designated by signs; all other parking areas are open and are non-reserved.
(1) Handicapped persons, College visitors
(2) Motorcycles

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

(c) General Information
(1) College parking areas are regulated by state, municipal and campus statutes. College campus officers are commissioned to cite violators.

(2) All vehicles which park on the campus of the College must bear a parking decal emblem. The parking decal may be secured from the College Security Division or during fall and spring registration periods. No fee is charged for the decal.

(3) Placement of decal emblem:
(a) Cars: Lower left corner of rear bumper.
(b) Motorcycles, Motor Bikes, etc., Gas tank

(4) Campus Speed Limits*
(a) 10 M.P.H. in parking areas
(b) 20 M.P.H. elsewhere on campus.
*Unless otherwise posted

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

(d) Campus Parking and Driving Regulations

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

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

(3) The College campus officers have the authority to issue the traffic tickets and summons of type now used by the Texas Highway Patrol. It is the general policy to issue these tickets for violations by visitors and persons holding no College permit. These tickets are returnable to the Justice of Peace Court in which the college is located. Furthermore the campus officers are authorized to issue campus citations which are returnable to the Department of Safety and Security at the Business Office.

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

(5) Each student shall file an application for a parking permit with the Security Office upon forms prescribed by the College.

(6) These traffic regulations apply not only to automobiles but to motor bikes, motorcycles and ordinary bicycles.

(e) Procedures

(1) All motor vehicles must be parked in the parking lots between the parking lines. Parking in all other areas, such as campus drives, curb areas, courtyards, and loading zones, will be cited.

(2) Citations may be issued for:
(a) Speeding (the campus speed limit is 20 M.P.H. except where posted)
(b) Reckless driving
(c) Double parking
(d) Driving wrong way in one-way lane
(e) Parking in "No Parking" lane
(f) Improper parking (parts of car outside the limits of a parking space).
(g) Parking in wrong area (for exmple, handicapped or "No Parking" areas)
(h) Parking trailers or boats on campus
(i) Parking or driving on campus in areas other than those designated for vehicular traffic
(j) Violations of all state statues regulating vehicular traffic.
(k) Failure to display parking permit
(l) Collision with another vehicle or any sign or immovable object

(3) A citation is notice that a student's parking permit has been suspended. The service charge to reinstate the parking and driving permit must be paid at the Business Office. Failure to pay the service charge will result in the impoundment of a vehicle that is parked on campus and whose decal has been suspended.

(4) A person who receives a campus citation shall have the right within ten days to appeal in writing to the Vice President of Business, accompanied by whatever reason the person feels that the citation should not have been issued.

(5) If it becomes necessary to remove an improperly parked vehicle, an independent wrecker operator may be called. The owner of the vehicle will be charged the wrecker fee in addition to the service charge for reinstatement of driving and parking privileges.

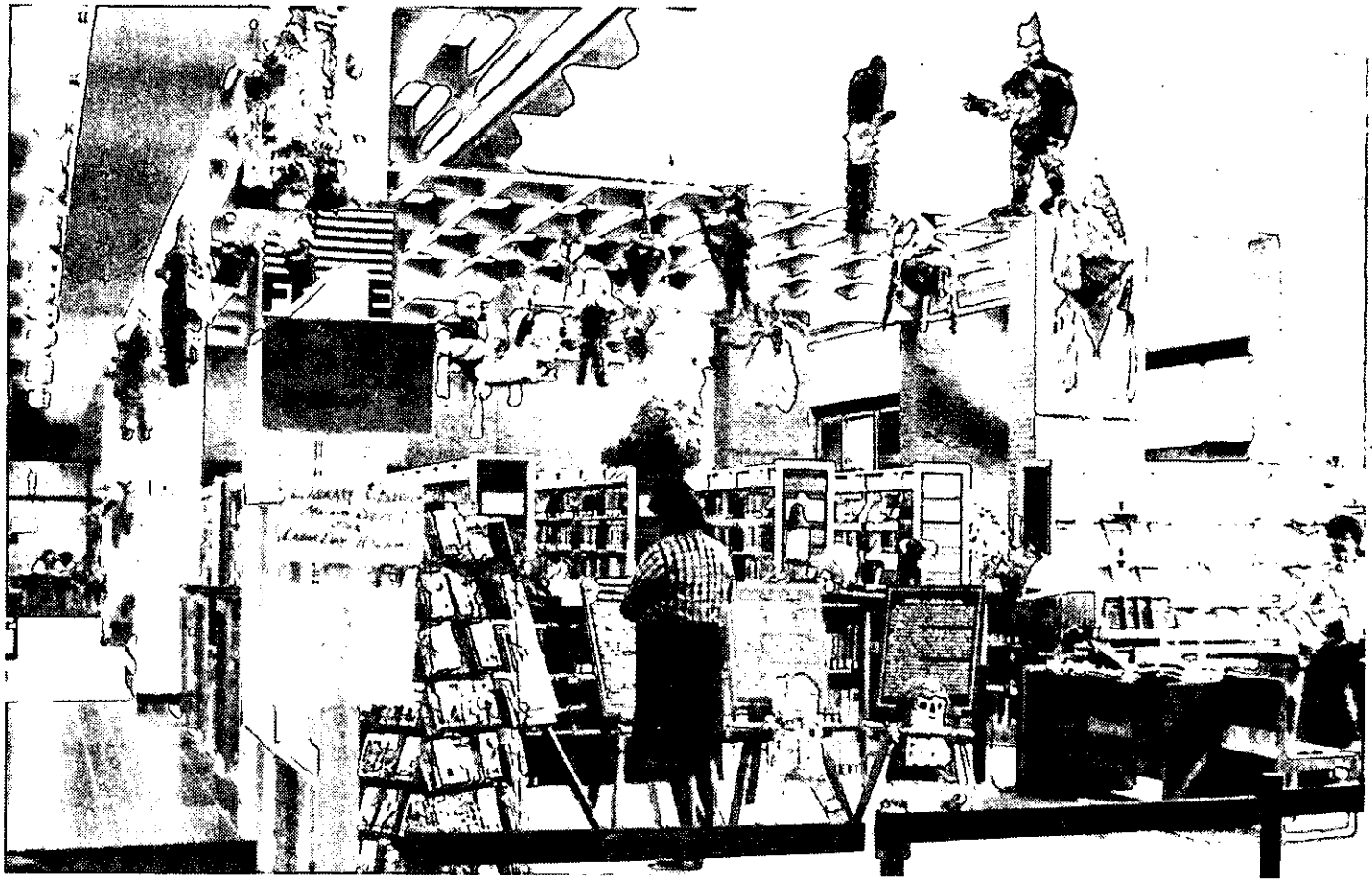
(6) Visitors to campus are also required to follow College regulations.

(7) The service charge for reinstatement of the parking and driving permit will be $5.00 per citation.

(8) Four citations per car during an academic year will result in permanent suspension of parking and driving permit for the balance of that academic year. A new total commences on August 1 of each year.

(9) The College is not responsible for the theft of vehicles on campus or their contents.

# Course Descriptions



## 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.) chology, 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.


**All courses in this catalog may not be offered during the current academic year.**

**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 evaluation, credit losses, the operating cycle, and the preparation of financial statements.

**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 budget controls. Financial reports are analyzed for use by creditors, investors, and management.

**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

analysis, standard costs, and joint and by-products costing are also included.

**ACCOUNTING (ACC) 239 (3)**
INCOME TAX ACCOUNTING (3 LEC.)

Prerequisite: Accounting 202 or the consent of the instructor. This course examines basic income tax laws which apply to individuals and sole proprietorships. Topics include personal exemptions, gross income business expenses, non-business deductions, capital gains, and losses. Emphasis is on common problems.

**ACCOUNTING (ACC)**
(See Cooperative Work Experience)
703, 713, 803, 813 (3)
704, 714, 804, 814 (4)

**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 diagonsis 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 service 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 PHYSICS AND 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 psychrometic 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)

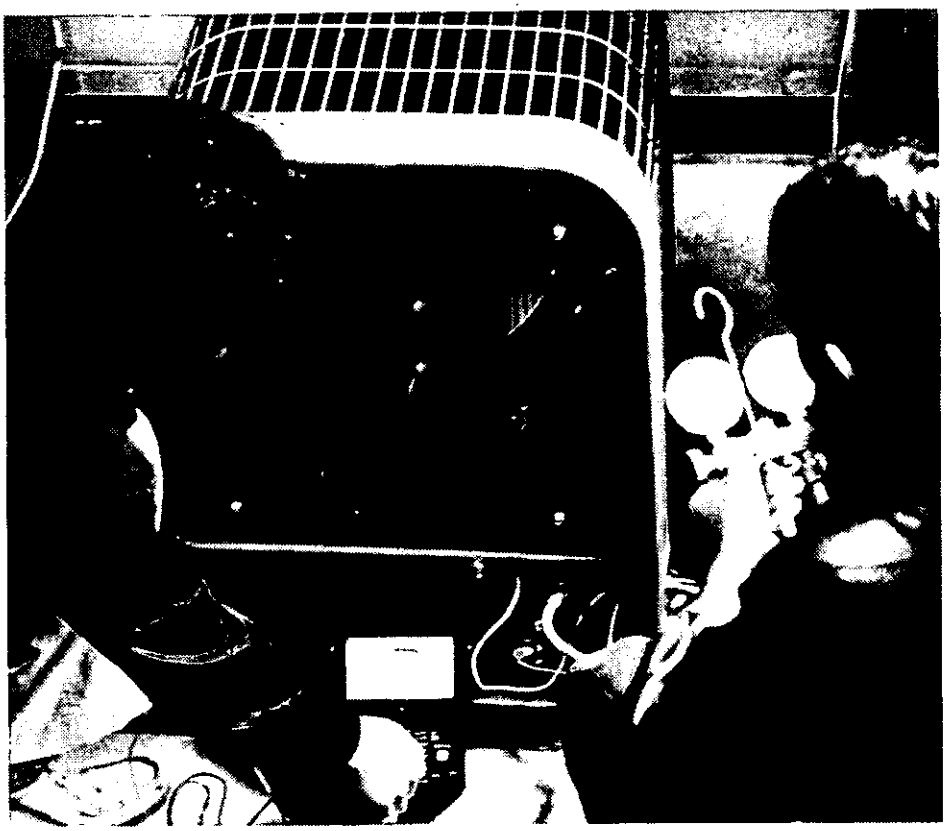
The components of the electrical system for residential cooling are presented. Topics include electrical control devices, protective devices and AC motors. Laboratory fee.

**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 furnance. 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 (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 in any of the inclusive courses. This course is a study of commerical 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 commerical 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.

**AIR CONDITIONING/ REFRIGERATION (AC)195 (3)**
COMMERCIAL REFRIGERATION
SYSTEMS SERVICE (90 CONTACT HOURS)

This is a comprehensive course that includes Air Conditioning/Refrigeration 196, 197, and 198. Students may

register in the comprehensive course or in the inclusive courses. This course presents the service of commerical 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 CALACULATIONS (60 CONTACT HOURS)

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

**AIR CONDITIONING/ REFRIGERATION (AC) 252 (1)**
PROCESS EQUIPMENT SELECTION (30 CONTACT HOURS)

This course focuses on the selection of residential air conditioning equipment to meet the calculated loads. Included is selection of the condensing unit, evaporator coil, and warm-air furnace (or heat pump). Emphasis is on energy conservation. Laboratory fee.

**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 by-pass 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 RECIPROCATION 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 indentification 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 by-pass factors, evaporator coil dew point, total system load are included. Multi-zone systems, air distribution systems, and air balancing are covered. Laboratory fee.

**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 by-pass dampers 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) 105 (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.

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

This course covers the history of art from the Baroque period through the present. It explores the cultural, geophysical and personal influences on art styles.

**ART (ART) 110 (3)**
DESIGN I (2 LEC., 4 LAB.)

Basic concepts of design with two-dimensional materials are explored. The use of line, color, illusion of space or mass, texture, value, shape and size in composition is considered.

**ART (ART) 111 (3)**
DESIGN II (2 LEC., 4 LAB.)

Basic concepts of design with three-dimensional materials are explored. The use of mass, space, movement

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 expressive and conceptual aspects of drawing, including advanced compositional arrangements, a range of wet and dry media, and the development of an individual approach to theme and content.

**ART (ART) 116 (3)**
INTRODUCTION TO JEWELRY I (2 LEC., 4 LAB.)

Prerequisites: Art 110, 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) 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.)

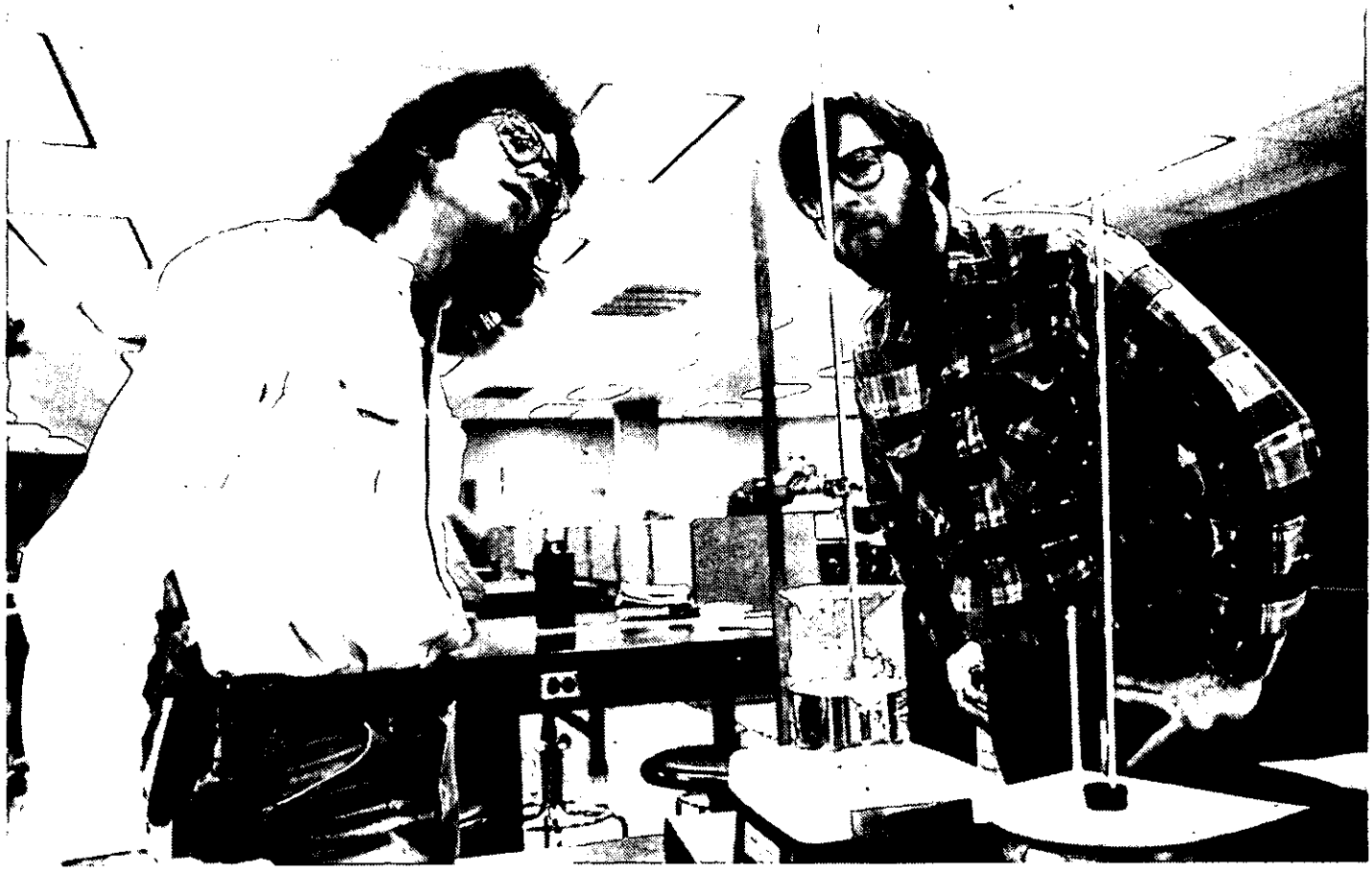
Prerequisite: Art 220. This course is a continuation of Printmaking I. Laboratory fee.

**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 obervations 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 cell concept and basic chemistry as it relates to biology. An introduction to genetics, evolution, cellular processes, such as mitosis, meiosis, respiration, and photosynthesis, and plant and animal reproduction is also covered. Laboratory fee. (This course is offered on campus and may be offered via television.)

**BIOLOGY (BIO) 116 (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., 3 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.)

Prerequisite: Biology 102 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-

niques. Emphasis is upon classification, identification, and collection of specimens in the field. This course may be repeated for credit.

**BIOLOGY (BIO) 221 (4)**
ANATOMY AND PHYSIOLOGY I (3 LEC., 3 LAB.)

Prerequisite: Biology 102 or the consent of the instructor. This course examines cell structure and function, tissues, and the skeletal, muscular, and nervous systems. Emphasis is on structure, function, and the interrelationships of the human systems. Laboratory fee.

**BIOLOGY (BIO) 222 (4)**
ANATOMY AND PHYSIOLOGY II (3 LEC., 3 LAB.)

Prerequisite: Biology 221 or the consent of the instructor. Second course of a two course sequence. Structure and function as related to the human circulatory, respiratory, urinary, digestive, reproductive, and endocrine systems. Emphasis is placed on the interrelationships of these systems. Laboratory fee.

**BIOLOGY (BIO) 224 (4)**
ENVIRONMENTAL BIOLOGY (3 LEC., 3 LAB.)

Prerequisite: 6 hours of biology. The principles of aquatic and terrestial communities are presented. Emphasis is on the relationship of these principles to the problems facing people in a modern technological society. Laboratory fee.

**BIOLOGY (BIO) 226 (4)**
GENETICS (3 LEC., 3 LAB.)

This course focuses on genetics. Topics include Mendelian inheritance, recombination genetics, the biochemical theory of genetic material, and mutation theory. Plant and animal materials are used to study population genetics, linkage, gene structure and function, and other concepts of heredity. Laboratory fee.

**BIOLOGY (BIO) 235 (4)**
COMPARATIVE ANATOMY OF THE VERTEBRATES (3 LEC., 4 LAB.)

Prerequisites: Biology 101 and 102. For science majors and pre-medical and pre-dental students. Major groups of vertebrate class is studied. Emphasis is on morphology and evolutionary relationships. Laboratory fee.

**BLUEPRINT READING (BPR) 177 (2)**
BLUEPRINT READING (I LEC., 3 LAB.)

Engineering drawings are described and explained. Topics include multiview projection, sections, auxiliaries, bill of materials, symbols, notes, conventions, and standards. The skills of visualization, dimensioning,and sketching of machine parts are covered.

**BUSINESS (BUS) 105 (3)**
INTRODUCTION TO BUSINESS (3 LEC.)

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 presented. Included are laying out and constructing foundations for domestic buildings, constructing and placing piers, erecting concrete foundation forms, and pouring concrete foundations. Laboratory fee.

**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 are 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)**
VERTICLE 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.

**CARPENTRY (CAR) 209 (3)**
INTERIOR FINISH
II-COMMERCIAL (90 CONTACT HOURS)

This course covers interior finish of commercial buildings. Included are store fronts, metal frame walls and floor systems, moveable partitions, and dropped and suspended ceiling systems. Layout and erection of systems are practiced. Laboratory fee.

**CARPENTRY (CAR) 210 (3)**
HORIZONTAL BEAM FORM AND FIRE
ENCASEMENT FORMS (90 CONTACT HOURS)

The design of horizontal beams and fireproof encasement forms is studied. Different types of materials and commercial systems are included. Emphasis is on safety. Laboratory fee.

**CARPENTRY (CAR) 211 (1)**
PROPERTIES OF CONCRETE
(30 CONTACT HOURS)

The nature of concrete is explored. Emphasis is on the manufacturing of concrete, the selection and design of concrete, and methods used in placing and finishing concrete. Laboratory fee.

**CARPENTRY**
**(CAR) 703, 713, 803, 813 (3)**
(See Cooperative Work Experience)

**CARPENTRY**
**(CAR) 704, 714, 804, 814 (4)**
(See Cooperative Work Experience)

**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 prinicples 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) 115 (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)116 (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

included. The reactions of aliphatic and aromatic compounds are discussed in terms of modern electronic theory. Emphasis is on reaction mechanisms, stereo-chemistry, transition state theory, and organic synthesis. Laboratory fee.

**CHEMISTRY (CHM) 202 (4)**
ORGANIC CHEMISTRY II (3 LEC., 4 LAB.)

Prerequisite: Chemistry 201. This course is for science and science-related majors. It is a continuation of Chemistry 201. Topics include aliphatic and aromatic systems, polyfunctional compounds, amino acids, proteins, carbohydrates, sugars, and heterocyclic and related compounds. Instrumental techniques are used to identify compounds. Laboratory fee.

**CHEMISTRY (CHM) 203 (4)**
QUANTITATIVE ANALYSIS (2 LEC., 6 LAB.)

Prerequisite: Chemistry 102, Mathematics 101 or Mathematics 104 or the equivalent. Principles for quantitative determinations are presented. Topics include gravimetry, oxidation-reduction, indicators, and acid-base theory. Gravimetric and volumetric analysis is emphasized. Colorimetry is introduced. Laboratory fee.

**COLLEGE LEARNING SKILLS (CLS) 100 (1)**
COLLEGE LEARNING SKILLS (1 LEC.)

This course is for students who wish to extend their learning skills for academic or career programs. Individualized study and practice are provided in reading, study skills and composition. This course may be repeated for a maximum of three credits.

**COMMUNICATIONS (COM) 131 (3)**
APPLIED COMPOSITION AND SPEECH (3 LEC.)

Communication skills are studied as a means of preparing for one's vocation. Practice in writing letters, applications, resumes, and short reports is included.

**COMMUNICATIONS (COM) 132 (3)**
APPLIED COMPOSITION AND SPEECH (3 LEC.)

Prerequisite: Communications 131 or consent of instructor. The study of communication processes is continued. Emphasis is on written persuasion directly related to work. Expository techniques in business letters and documented reports are covered. Practice in oral communication is provided.

**COMPUTING SCIENCE (CS) 174 (3)**
FUNDAMENTALS OF COMPUTING (3 LEC.)

Prerequisite: Two years high school algebra or Developmental Mathematics 093. This course is an introductory course designed primarily for students desiring credit towards a minor or major in computor science or other scientific field. It includes a study of algorithms and an introduction to a procedure-oriented language with general applications.

**COMPUTING SCIENCE (CS) 175 (3)**
INTRODUCTION TO COMPUTOR 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.

**COMPUTING SCIENCE (CS) 181 (3)**
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 equivilent experience. This course is an introduction to computing techniques using the FORTRAN language. Emphasis is on applications used to solve numeric problems in engineering, physical science, and mathematics. Laboratory fee.

**COMPUTING SCIENCE (CS) 182 (3)**
INTRODUCTION TO BASIC PROGRAMMING (2 LEC., 2 LAB.)

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

**COMPUTING SCIENCE (CS) 183 (3)**
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 equivilent experience. Study of PL/1 language with numeric and non-numeric applications. Computing techniques will be developed in such areas as program design, basic aspects of string processing, recursion, internal search/sort methods. and simple data structures. Laboratory fee.

**COMPUTING SCIENCE (CS) 184 (3)**
INTRODUCTION TO COBOL PROGRAMMING (2 LEC., 2 LAB.)

Prerequisites: Computing Science 174 or Computing Science 175 or the consent of the instructor based on equivilent experience. An introduction to the COBOL programming language. Topics will include algorithmic processes. problem solving methods, programming style, flow charts, and various files processing techniques. Emphasis is on the language, its flexibility and power rather than on applications. Laboratory fee.

**COMPUTING SCIENCE (CS) 185 (3)**
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 equivilent 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.

**COMPUTING SCIENCE (CS) 186 (3)**
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.

**COMPUTING SCIENCE (CS) 250 (3)**
CONTEMPORARY TOPICS IN COMPUTER SCIENCE (3 LEC.)

Prerequisite: Will vary based on topics covered and will be annotated in each semester's class schedule. Recent developments and topics of current interest are studied. Topics may include introduction to micro/mini computer systems, programming languages, or other advanced data processing concepts such as CICS. May be repeated when topics vary.

**COMPUTING SCIENCE (CS) 251 (4)**
SPECIAL TOPICS IN COMPUTER SCIENCE (3 LEC., 3 LAB.)
Prerequisite: Will vary based on topics covered and will be annotated in each semester's class schedule. Current developments in the rapidly changing field of computer science and data processing are studied. Such topics may include advanced programming language concepts in BASIC, RPG II and RPG III, and PASCAL, or advanced data entry concepts. May be repeated when topics vary. Laboratory fee.

**COOPERATIVE WORK EXPERIENCE**
**701, 711, 801, 811 (1)**
**702, 712, 802, 812 (2)**
**703, 713, 803, 813 (3)**
**704, 714, 804, 814 (4)**

Prerequisite: Completion of two courses in the student's major or instructor or coordinator approval. These courses consist of seminars and on-the-job experience. Theory and instruction received in the courses of the students' major curricula are applied to the job. Students are placed in work-study positions in their technical occupational fields. Their skills and abilities to function successfully in their respective occupations are tested. These work internship courses are guided by learning objectives composed at the beginning of each semester by the students, their instructors or coordinators, and their supervisors at work. The instructors determine if the learning objectives are valid and give approval for credit.

**DANCE (DAN) 116 (1)**
REHEARSAL AND PREFORMANCE (4 LAB.)
This course supplements beginning dance techniques classes. Basic concepts of approaching work on the concert stage - stage directions, stage areas, and the craft involved in rehearsing and performing are emphasized. This course may be repeated for credit.

**DANCE (DAN) 150 (3)**
BEGINNING BALLET I (1 LEC., 3 LAB.)
This course explores basic ballet techniques. Included are posture, balance, coordination, rhythm, and flow of physical energy through the art form. Theory, terminology, ballet history, and current attitudes and events in ballet are also studied. Barre excercises and centre floor combinations are given. Laboratory fee.

**DANCE (DAN) 151 (3)**
BEGINNING BALLET II (1 LEC., 3 LAB.)
Prerequisite: Dance 150. This course is a continuation of Dance 150. Emphasis is on expansion of combinations at the barre. Connecting steps learned at centre are added. Jumps and pirouettes are introduced. Laboratory fee.

**DANCE (DAN) 155 (1)**
JAZZ I (3 LAB.)
The basic skills of jazz dance are introduced. Emphasis is on technique and development, rhythm awareness, jazz styles, and rhythmic combinations of movement. Laboratory fee.

**DANCE (DAN) 156 (1)**
JAZZ II (3 LAB.)
Prerequisite: Dance 155 or the consent of the instructor. Work on skills and style in jazz dance is continued. Technical skills, combinations of steps and skills into dance patterns, and exploration of composition in jazz form are emphasized. Laboratory fee.

**DANCE (DAN) 200 (1)**
REHEARSAL AND PERFORMANCE (4 LAB.)
Prerequisite: Dance 116 or the consent of the instructor. This course supplements intermediate dance technique classes. It is a continuation of Dance 116 with emphasis on more advanced concepts as they apply to actual rehearsals and performances. This course may be repeated for credit.

**DATA PROCESSING (DP) 129 (4)**
DATA ENTRY CONCEPTS (2 LEC., 5 LAB.)
Prerequsite: Office Careers 172 or one year of typing in high school or equivilent. This course provides skills using buffered display equipment. Emphasis is on speed and accuracy. Topics include performing the basic functions record formatting with protected and varible fields, and using a variety of source documents. Program control, multiple programs, and program chaining are also covered. Laboratory fee.

**DATA PROCESSING (DP) 133 (4)**
BEGINNING PROGRAMMING (3 LEC., 4 LAB.)
Prerequisites: Computing Science 175 or the consent of the instructor. Concurrent enrollment in Data Processing 138 is advised. This course introduces programming skills using the COBOL language. Skills in problem analysis, flowcharting, coding, testing, and documentation are developed. Laboratory fee.

**DATA PROCESSING (DP) 136 (4)**
INTERMEDIATE PROGRAMMING (3 LEC., 4 LAB.)
Prerequisites: Data Processing 133 and Data Processing 138 or the consent of the instructor. Study of COBOL language continues. Included are levels of totals, group printing concepts, table build and search techniques, ISAM disk concepts, matching record, and file maintenance concepts using disk. 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 computation. Topics include the number system, fundamental processes, number bases, and the application of mathematics to typical business problems and procedures.

**DATA PROCESSING (DP) 138 (3)**
SYSTEMS ANALYSIS AND DATA PROCESSING LOGIC (3 LEC.)
Prerequisite: Computing Science 175 or the consent of the instructor. Concurrent enrollment in Data Processing 133 is advised. This course presents basic logic needed for problem solving with the computer. Topics include flowcharting standards, techniques for basic logic operations, table search and build techniques, types of report printing, conditional tests, multiple record types, and sequential file maintenance. System flowcharting is introduced.

**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 interrelationships among computer systems, hardware, software, and personnel are covered. The role of personnel in computer operations, data entry, scheduling, data control, and librarian functions is included. Other topics include the importance of job documentations, 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 language techniques and not on operation and functioning of the equipent. Programming problems emphasize card images and disk processing, and will include basic listings with levels of totals, multicard records, exception reporting, look ahead feature, and multifile processing. Laboratory fee.

**DATA PROCESSING (DP) 230 (4)**
ADVANCED ASSEMBLY LANGUAGE CODING (3 LEC., 3 LAB.)
Prerequisite: Data Processing 231 or the consent of the instructor. The development of programming skills using the assembly language instruction set set of the system/360 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) 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 on a case study involving all facets of 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 an operating system, JCL, and utilities are presented. The internal functions of an operating system are analyzed. Training is given in the use of JCL and utilities. The emphasis of the operating system depends on the computer system used. Laboratory fee.

**DATA PROCESSING (DP) 236 (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 138 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) 242 (4)**
COMPUTER HARDWARE AND DATA BASE SYSTEMS (3 LEC., 4 LAB.)
Prerequisites: Computing Science 175, one year of a high level language. Data Processing 138 or the consent of the instructor. The organization and architecture of large, medium, small, mini, and micro computers are compared. Topics include digital number systems, machine language and assemblers, on-line and off-line data base systems, and data management. Currently used data bases (IMS, TOTAL, ADABAS, etc.) and graphic systems are emphasized. 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.

**DEVELOPMENTAL MATHEMATICS**

Developmental Mathematics Courses offer a review of mathematics skills. Developmental Mathematics 093 satisfies prerequisites for Mathematics 101, 104, 111, and 115. Developmental Mathematics 091 satisfies prerequisites for Mathematics 130, 139, and 195.

**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.

**DEVELOPMENTAL MATHEMATICS**
**(DM) 064 (1)**
NURSING (1 LEC.)

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) 071 (1)**
ELEMENTARY ALGEBRA II (1 LEC.)

Prerequisite: Developmental Mathematics 070 or equivalent. This course includes selected topics such as rational numbers, algebraic polynomials, factoring, and algebraic fractions.

**DEVELOPMENTAL MATHEMATICS**
**(DM) 072 (1)**
ELEMENTARY ALGEBRA III (1 LEC.)

Prerequisite: Developmental Mathematics 071 or equivalent. This course includes selected topics such as fractional and quadratic equations, quadratic equations with irrational solutions, and systems of equations involving two variables.

**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.)

Prerequisites: 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) 090 (3)**
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) 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 (3 LEC.)

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)**
WRITING LAB (3 LAB.)

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) 121 (3)**
STANDARD TRANSMISSIONS (90 CONTACT HOURS)

Prerequisite: Credit or concurrent enrollment in Physics 131 or the consent of the instructor. Standard transmissions are examined. Included are the removal, disassembly, inspection, assembly, and installation of 5-speed and 10-speed standard transmissions. Laboratory fee.

**DIESEL MECHANICS (DME) 122 (2)**
HEAVY DUTY CLUTCHES AND TORQUE CONVERTORS (60 CONTACT HOURS)

This course covers clutches and torque convertors. The removal, repair, and installation of heavy duty clutches are included. The theory of operation, removal, repair, and installation of torque convertors 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.

**DIESEL MECHANICS (DME) 127 (2)**
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.

**DIESEL MECHANICS (DME) 141 (2)**
CATERPILLAR DIESEL ENGINE TUNE-UP AND FUEL SYSTEMS (60 CONTACT HOURS)

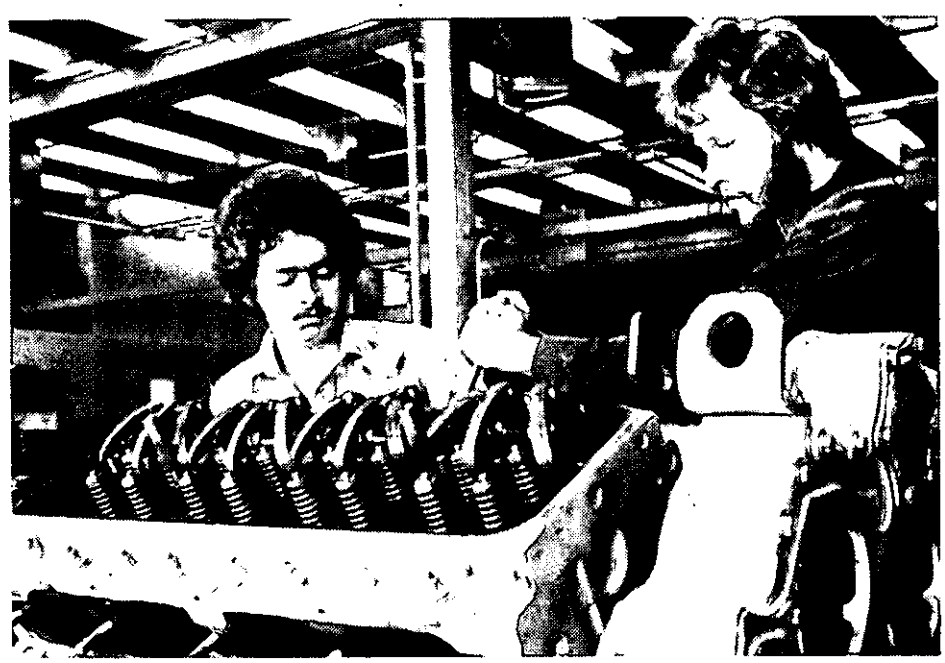
This course focuses on diagnosing, locating, and correcting troubles in Caterpillar Diesel Engines. Included are the removal, inspection, testing, adjustment and installation of fuel system components, such as pumps, injectors, filters, lines, and governors. Laboratory fee.

**DIESEL MECHANICS (DME) 142 (2)**
CUMMINS DIESEL ENGINE TUNE-UP AND FUEL SYSTEM (60 CONTACT HOURS)

This course focuses on diagnosing, locating, and correcting troubles in Cummins Diesel Engines. Included are the removal, inspection, testing, calibrating,adjustment, and installation of fuel system components, such as pumps, injectors, filters, lines, and governors. Laboratory fee.

**DIESEL MECHANICS (DME) 143 (2)**
DETROIT DIESEL ENGINE TUNE-UP AND FUEL SYSTEM (60 CONTACT HOURS)

This course focuses on diagnosing,



locating and correcting troubles in Detroit Diesel Engines. Included are the removal, inspection, testing, repair, adjustment, and installation of fuel system components, such as injectors, filters, lines and governors. Laboratory fee.

**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 CIRCUITRY (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.)

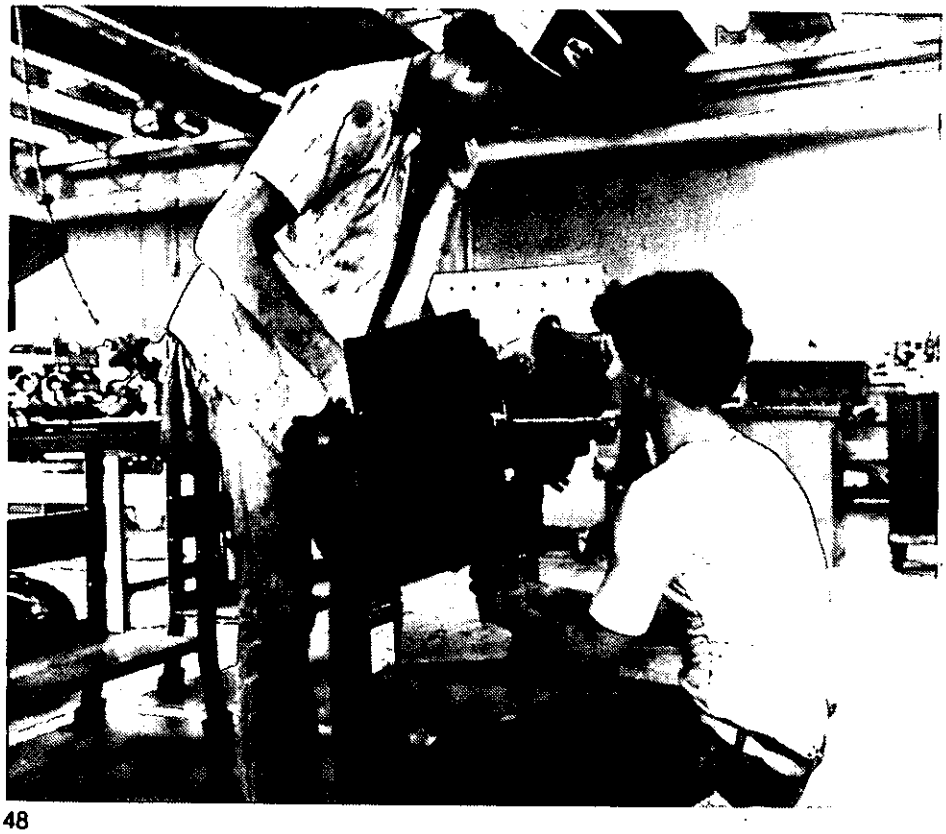
This course studies the place of wholesale distribution among producers, institutional and industrial customers, and ultimate consumers. The role of the wholesale distributor in the channels of distribution is examined, and wholesaling functions are surveyed. This course is also appropriate for existing 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) 230 (3)**
MATERIALS HANDLING AND PHYSICAL DISTRIBUTION (3 LEC.)

The operation and management of handling and distributing materials in a warehouse are examined. Planning, organizing, staffing, equipment operating, and maintaining a warehouse are covered. Included are field trips to physical distribution facilities.

**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 II (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)**
PRINCIPLES OF ECONOMICS II (3 LEC.)

Prerequisite: 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) 100 (1)**
ELECTRICAL ORIENTATION (30 CONTACT HOURS)

This course introduces the electrical industry and technical program in electricity. Included are the tools and materials used in the trade.

**ELECTRICITY (ELE) 101 (1)**
DC CIRCUITS AND MEASUREMENTS (30 CONTACT HOURS)

Voltage, current, and resistance are calculated and measured in series, parallel, and combination circuits. The operation and use of test instruments are covered. Laboratory fee.

**ELECTRICITY (ELE) 111 (1)**
RESIDENTIAL CODES (30 CONTACT HOURS)

Codes for residential wiring are presented. Both the National Electric Code and local ordinances are included. Laboratory fee.

**ELECTRICITY (ELE) 112 (4)**
GENERAL WIRING PRACTICES (120 CONTACT HOURS)

Prerequisite: Credit or concurrent enrollment in Blueprint Reading 177. This course focuses on wiring practices for residences. Topics include selection, splicing, switches, receptacles, and lighting circuits. Laboratory fee.

**ELECTRICITY (ELE) 113 (3)**
APPLIANCE CIRCUITS (90 CONTACT HOURS)

This course focuses on wiring practices for appliance circuits, electric heating, central air conditioning, grounding practices, and service entrances. Laboratory fee.

**ELECTRICITY (ELE) 114 (3)**
LOW VOLTAGE CIRCUITS (30 CONTACT HOURS)

This course focuses on low voltage circuits for residences. Bells, chimes, and alarms included. Laboratory fee.

**ELECTRICITY (ELE) 121 (1)**
COMMERCIAL CODES (30 CONTACT HOURS)

Codes for commerical wiring are presented. Both the National Electric Code and local ordinances are included. Laboratory fee.

**ELECTRICITY (ELE) 122 (4)**
COMMERCIAL WIRING (120 CONTACT HOURS)

Prerequisite: Credit or concurrent enrollment in Blueprint Reading 177. Commercial wiring practices are studied. Included are materials, conduit work, wire pulling, and circuit layouts. Laboratory fee.

**ELECTRICITY (ELE) 123 (3)**
POWER CIRCUITS (90 CONTACT HOURS)

The study of commercial wiring entrance, breaker panels, commercial appliances, and problems encountered in electrical construction work. Laboratory fee.

**ELECTRICITY (ELE) 202 (2)**
BASIC AC CIRCUITS (60 CONTACT HOURS)

Prerequisite: Credit or concurrent enrollment in Mathematics 195. AC circuits are studied. Calculations and measurements are made for reactance, impedance, phase angle, voltage, current, and power. Laboratory fee.

**ELECTRICITY (ELE) 203 (1)**
THREE-PHASE CIRCUITS (30 CONTACT HOURS)

Three-phase wye and delta circuits are covered. Calculations and measurements are made. Laboratory fee.

**ELECTRICITY (ELE) 231 (1)**
MOTOR CODES (30 CONTACT HOURS)

Motor codes are studied. Both the National Electric Code and local ordinances are included. Laboratory fee.

**ELECTRICITY (ELE) 232 (1)**
DC AND SINGLE-PHASE MACHINES (30 CONTACT HOURS)

This course focuses on DC motors, generators, and single-phase motors. Included are the characteristics, connection, and testing of these machines. Laboratory fee.

**ELECTRICITY (ELE) 233 (1)**
THREE-PHASE MOTORS (30 CONTACT HOURS)

This course focuses on three-phase motors. Included are the characteristics, connection, and testing of these motors. Laboratory fee.

**ELECTRICITY (ELE) 241 (1)**
CONTROL CIRCUIT DIAGRAMS (30 CONTACT HOURS)

Control circuit diagrams are presented. Topics include in terminology, symbols, and development of these diagrams. Laboratory fee.

**ELECTRICITY (ELE) 242 (1)**
MAGNETIC STARTING AND OVERLOAD PROTECTION (30 CONTACT HOURS)

This course covers start-stop stations with overload protection. Both individual and multiple types are included. Laboratory fee.

**ELECTRICITY (ELE) 243 (1)**
JOGGING, REVERSING, AND SEQUENCING (30 CONTACT HOURS)

Connecting, testing, jogging, and reversing motor controls are studied. Sequencing circuits is also included. Laboratory fee.

**ELECTRICITY (ELE) 244 (1)**
SOLID STATE CONTROLS (30 CONTACT HOURS)

Transistor relay and SCR motor controllers are studied. Both connecting and testing are included. Laboratory fee.

**ELECTRICITY (ELE) 251 (1)**
TRANSFORMER TYPES AND TESTING (30 CONTACT HOURS)

This course focuses on transformers. Fundamentals, types, and testing procedures are all included. Laboratory fee.

**ELECTRICITY (ELE) 252 (2)**
DISTRIBUTION TRANSFORMERS (60 CONTACT HOURS)

This course focuses on single-phase and three-phase distribution transformer. Selection, connection, and testing are all included. Laboratory fee.

**ELECTRICITY (ELE) 261 (2)**
RESIDENTIAL PLANNING (60 CONTACT HOURS)

Planning the wiring job for residences is studied. Topics include the placing of receptacles, switches, lights and appliance. Service entrance, material estimating, and pricing are also covered. Laboratory fee.

**ELECTRICITY (ELE) 262 (2)**
COMMERCIAL PLANNING (60 CONTACT HOURS)

Planning the wiring job for a church, school, or other commercial building is studied. Blueprints and specification books are used to make plans. Laboratory fee.

**ELECTRICITY (ELE) 703, 713, 803, 813 (3)**
(See Cooperative Work Experience)

**ELECTRICITY**
**(ELE) 704, 714, 804, 814 (4)**
(See Cooperative Work Experience)

**ENGINEERING (EGR) 101 (2)**
ENGINEERING ANALYSIS (2 LEC.)

Prerequisite: Two years of high school algebra or Developmental Mathematics 093 or the consent of the instructor. This course surveys the field of engineering. Topics include the role of the engineer in society and branches and specialties in engineering. Engineering analysis and computer programming are introduced. Practice is provided in analyzing and solving engineering problems. Computational methods and devices with an introduction to computer programming are also covered.

**ENGINEERING (EGR) 105 (3)**
ENGINEERING DESIGN GRAPHICS (2 LEC., 4 LAB.)

Graphic fundamentals are presented for engineering communications and engineering design. Topics include standard engineering graphical techniques, auxiliaries, sections, graphical analysis, and pictorial and working drawings. Laboratory fee.

**ENGINEERING (EGR) 106 (3)**
DESCRIPTIVE GEOMETRY (2 LEC., 4 LAB.)

Prerequisite: Drafting 183 or Engineering 105. This course provides training in the visualization of three-dimensional structures. Emphasis is on accurately representing these structures in drawings by analyzing the true relationship between points, lines, and planes. Included are the generation and classification of lines, surfaces, intersections, developments, auxiliaries, and revolutions. Laboratory fee.

**ENGINEERING (EGR) 107 (3)**
ENGINEERING MECHANICS I (3 LEC.)

Prerequisite: Credit or concurrent enrollment in mathematics 124. This course is a study of the statics of particles and rigid bodies with vector mathematics in three dimensional space. Topics include the equilibrium of forces and force systems, resultants, free body diagrams, friction, centroids and moments of inertia, virtual works, and potential energy. Distributed forces, centers of gravity, and analysis of structures, beams, and cables are also presented.

**ENGINEERING (EGR) 108 (3)**
COMPUTER METHODS IN ENGINEERING (3 LEC.)

Prerequisite: Credit or concurrent enrollment in Mathematics 126. Fundamental methods of numerical analysis with applications by computer programming are presented. Topics include computer programming, recursion formulas, successive approximations, error analysis, non-linear equations, and systems of linear equations and matrix methods. Probabilistic models, interpolation, determination of parameters, numerical integration, and solution of ordinary differential equations are also covered.

**ENGLISH**

(Also see Developmental Reading and Developmental Writing.) Additional instruction in writing and reading is available through the Learning Skills Center.

**ENGLISH IN THE SOPHOMORE YEAR**

English 201, 202, 203, 204, 205, 206, 215 and 216 are independent units of three credit hours each, from which any combination of two will be selected to satisfy degree requirements in sophomore English. Student should consult catalog of the senior college he expects to attend for requirements in his major before choosing English courses.

**ENGLISH (ENG) 101 (3)**
COMPOSITION AND EXPOSITORY READING (3 LEC.)

The development of skills is the focus of this course. Skills in writing and in the critical analysis of prose are included. (This course is offered on campus and may be offered via television.)

**ENGLISH (ENG) 102 (3)**
COMPOSITION AND LITERATURE (3 LEC.)

Prerequisite: English 101. This course continues the development of skills in writing. Emphasis is on analysis of literary readings, expository writing, and investigative methods of research. (This course is offered on campus and may be offered via television.)

**ENGLISH (ENG) 201 (3)**
BRITISH LITERATURE (3 LEC.)

Prerequisite: English 102. Significant works of British literature are studied. The Old English Period through the 18th century is covered.

**ENGLISH (ENG) 202 (3)**
BRITISH LITERATURE (3 LEC.)

Prerequisite: English 102. Significant works of British literature are studied. The Romantic Period to the present is covered.

**ENGLISH (ENG) 203 (3)**
WORLD LITERATURE (3 LEC.)

Prerequisite: English 102. Significant works of continental Europe are studied. The Greek Classical Period through the Renaissance is covered.

**ENGLISH (ENG) 204 (3)**
WORLD LITERATURE (3 LEC.)

Prerequisite: English 102. Significant works of continental Europe, England, and America are studied. The time period since the Renaissance is covered.

**ENGLISH (ENG) 205 (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) 206 (3)**
AMERICAN LITERATURE (3 LEC.)

Prerequisite: English 102. Signigicant 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 102 or Communications 131 and 132. The technical style of writing is introduced. Emphasis is on the writing of technical papers, reports, proposals, progress reports, and descriptions.

**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 grammer 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.

**GEOGRAPHY (GPY) 101 (3)**
PHYSICAL GEOGRAPHY (3 LEC.)

The physical composition of the earth is surveyed. Topics include weather, climate, topography, plant and animal life, land, and the sea. Emphasis is on the earth in space, use of maps and charts, and place geography.

**GEOGRAPHY (GPY) 102 (3)**
ECONOMIC GEOGRAPHY (3 LEC.)

The relation of humans to their environment is studied. Included is the use of natural resources. Problems of production, manufacturing, and distributing goods are explored. Primitive subsistence and commercialism are considered.

**GEOGRAPHY (GPY) 103 (3)**
CULTURAL GEOGRAPHY (3 LEC.)

This course focuses on the development of regional variations of culture. Topics include the distribution of races, religions, and languages. Aspects of material culture are also included. Emphasis is on origins and diffusion.

**GEOLOGY (GEO) 101 (4)**
PHYSICAL GEOLOGY (3 LEC., 3 LAB.)

This course is for science and non-science majors. It is a study of earth materials and processes. Included is an introduction to geochemistry, geophysics, the earth's interior, and magnetism. The earth's setting in space, minerals, rocks, structures, and geologic processes are also included. Laboratory fee.

**GEOLOGY (GEO) 102 (4)**
HISTORICAL GEOLOGY (3 LEC., 3 LAB.)

This course is for science and non-science majors. It is a study of earth materials and processes within a developmental time perspective. Fossils, geologic maps, and field studies are used to interpret geologic history. Laboratory fee.

**GEOLOGY (GEO) 202 (3)**
INTRODUCTION TO ROCK AND MINERAL IDENTIFICATION (1 LEC., 3 LAB.)

Prerequisites: Geology 101 and Geology 102. This course introduces crystallography, geochemistry, descriptive mineralogy, petrology, and phase equilibria. Crystal models and hand specimens are studied as an aid to rock and mineral identification. Laboratory fee.

**GEOLOGY (GEO) 205 (4)**
FIELD GEOLOGY (3 LEC., 3 LAB.)

Prerequisite: Geology 101 and/or Geology 102 or concurrent enrollment in Geology 101 or 102. Geological features, landforms, rocks, minerals, and fossils are surveyed. Map reading and interpretation are also included. Emphasis is on the identification, classification, and collection of specimens in the field. This course may be repeated for credit.

**GERMAN (GER) 101 (4)**
BEGINNING GERMAN (3 LEC., 2 LAB.)

The essentials of grammar and easy idiomatic prose are studied. Emphasis is on pronunciation, comprehension, and oral expression. Laboratory fee.

**GERMAN (GER) 102 (4)**
BEGINNING GERMAN (3 LEC., 2 LAB.)

Prerequisite: German 101 or the equivalent. This course is a continuation of German 101. Emphasis is on idiomatic language and complicated syntax. Laboratory fee.

**GERMAN (GER) 201 (3)**
INTERMEDIATE GERMAN (3 LEC.)

Prerequisite: German 102 or the equivalent or the consent of the instructor. Reading, composition, and intense oral practice are covered. Grammar is reviewed.

**GERMAN (GER) 202 (3)**
INTERMEDIATE GERMAN (3 LEC.)

Prerequisite: German 201 or the equivalent. This course is a continuation of German 201. Contemporary literature and composition are studied.

**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 constitional 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 repeatred 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 non-verbal behavior, listening, and conflict resolution.

**HUMAN DEVELOPMENT (HD) 106 (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 (JN) 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 (JN)102 (3)**
NEWS GATHERING AND WRITING (2 LEC., 3 LAB)

Prerequisite: Typing ability. This course teaches what is news, news gathering techniques, and how to write the straight news story. Students write for the campus newspaper as part of the class. This is the basic course usually required for all future study in newspaper and magazine writing, advertising, broadcast journalism and public relations.

**JOURNALISM (JN) 103 (3)**
NEWS GATHERING AND WRITING (2 LEC., 3 LAB.)

Prerequisite: Journalism 102. This is a continuation of Journalism 102 and is designed to sharpen the skills learned in that course. Students study more complex types of stories, such as features, profiles, follow-up stories, and sidebars. All students write for the campus newspaper as part of the class.

**JOURNALISM (JN) 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 (JN) 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 (JN) 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 (JN) 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 approved Mid-Managemat Program. This course provides for supervised employment in the student's chosen field. It gives practical experience to students preparing for careers in business management.

**MANAGEMENT (MGT) 151 (4)**
MANAGEMENT TRAINING (20 LAB.)

Prerequisite: Concurrent enrollment in approved Mid-Management Program. This course is a continuation of Mid-Management 150. It provides for supervised employment in the student's chosen field.

**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 SUPERVISION (2 LEC.)

Prerequisite: Concurrent enrollment in Mid-Management 150 and preliminary interview by Mid-Management faculty. This course is for students majoring in Mid-Management. Emphasis is on the development of management skills, goal-setting, planning, leadership, communication, and motivation as applied to the student's work experiences.

**MANAGEMENT (MGT) 155 (2)**
MANAGEMENT SEMINAR: PERSONNEL MANAGEMENT (2 LEC.)

Prerequisities: Mid-Management 150 and 154 and concurrent enrollment in Mid-Management 151. The principles, policies, and practices of the per-

sonnel function as applied to the student's work experiences are studied.

**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.)

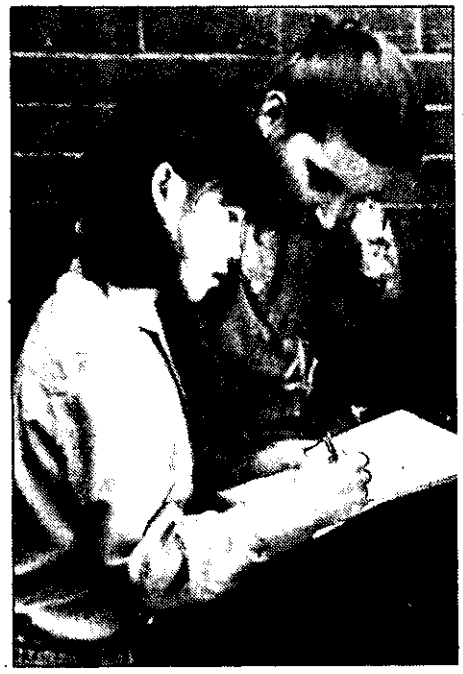
The selling of goods and ideas is the focus of this course. Buying motives, sales psychology, customer approach, and sales techniques are studied.

**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 (2)**
MANAGEMENT TRAINING (20 LAB.)

Prerequisite: Mid-Management 150 and Mid-Manangement 151, concurrent enrollment in Mid-Management 254. This course consists of supervised employment in the student's chosen field. It is intended to provide increased supervisory responsibility for students preparing for careers in business management.

**MANAGEMENT (MGT) 251 (4)**
MANAGEMENT TRAINING (20 LAB.)

Prerequisites: Mid-Management 150 and 151; Concurrent enrollment in Mid-Management 255. This course continues Mid-Management 250. It is intended to provide supervised employment in the student's chosen field.

**MANAGEMENT (MGT) 254 (4)**
MANAGEMENT SEMINAR: ORGANIZATIONAL DEVELOPMENT (2 LEC.)

Prerequisites: Mid-Management 151 and Mid-Management 155; concurrent enrollment in Mid-Management 250. Organizational objectives and management of human resources are studied. The various approaches to organizational theory are applied to the student's work experiences.

**MANAGEMENT (MGT) 255 (2)**
MANAGEMENT SEMINAR: BUSINESS STRATEGY, THE DECISION PROCESS AND PROBLEM SOLVING (2 LEC.)

Prerequisite: Mid-Management 250 and Mid-Management 254; concurrent enrollment in Mid-Management 251. Business strategy and the decision-making process are applied to the first-line supervisor and middle-management positions. Emphasis is on applying the student's course knowledge to work experiences.

**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 COORDINATE GEOMETRY III (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 I (3 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: One year of high school algebra and one year of high school geometry or two years of high school algebra or Developmental Mathematics 093. Designed for liberal arts students, this course includes the study of algebra, linear programming, permutations, combinations, probability and geometry. Historical aspects of selected topics are emphasized.

**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 trancendental 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 fo 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)**
CALCULUS III (3 LEC.)

Prerequisite: Mathematics 225 or the equivalent. This course is a study of topics in vector calculus, functions of several variables, and multiple integrals, with applications.

**MATHEMATICS (MTH) 230 (3)**
DIFFERENTIAL EQUATIONS (3 LEC.)

Prerequisite: Mathematics 225 or the consent of the instructor. This course is a study of ordinary differential equations, including linear equations, systems of equations, equations with variable coefficients, existence and uniqueness of solutions, series solutions, singular points, transform methods, boundary value problems, and applications.

**MUSIC (MUS) 101 (4)**
FRESHMAN THEORY (3 LEC., 3 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., 3 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 (3 LAB.)

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 civiliazation, particularly from the Baroque Period to

the present. Cultural influences on the music of each era are observed.

**MUSIC (MUS) 113 (3)**
FOUNDATIONS OF MUSIC I (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 music 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 one-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 deportment, 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 repeatd 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 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) 185 (1)**
STAGE BAND (3 LAB.)

Prerequisite: The consent of the instructor. In the Stage Band students study and perform a wide variety of music. Emphasis is on the jazz-oriented, big-band styles of the 1960's. This may be repeated for credit.

**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 (2)**
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, including harmonization, sightreading, accompanying styles, improvisation, and technical exercises. It is designed for the music major preparing for the piano proficiency exam, but is also open to any interested student. It is recommended that music majors also study privately.

**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: Credit or concurrent enrollment in Office Careers 172 or one year of typing in high school. The principles of Gregg Shorthand are introduced. Included is the development of the ability to read, write, and transcribe shorthand outlines. Knowledge of the mechanics of English is also developed. Laboratory fee.

**OFFICE CAREERS (OFC) 160 (3)**
OFFICE MACHINES (3 LEC.)

This course focuses on the development of skills in using office machines. Adding machines, printing calculators, electronic display calculators, and electronic printing calculators are included. Emphasis is on developing the touch system for both speed and accuracy.

**OFFICE CAREERS (OFC) 162 (3)**
OFFICE PROCEDURES (3 LEC.)

Prerequisite: Office Careers 172 or one year of typing in high school. The duties, responsibilities, and personal qualifications of the office worker are emphasized. Topics include filing, reprographics, mail, telephone, financial transactions, and job applications.

**OFFICE CAREERS (OFC) 165 (3)**
INTRODUCTION TO WORD PROCESSING (3 LEC.)

Prerequisite: Office Careers 174 or concurrent enrollment in Office Careers 174. This course introduces word processing and describes its effect on traditional office operations. Word processing terminology and concepts for organizing word processing centers are studied. Training in the transcription and distribution of business communications is provided. English skills and mechanics are reinforced.

**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, speedbuilding, and grammar. Laboratory fee.

**OFFICE CAREERS (OFC) 167 (3)**
LEGAL TERMINOLOGY AND TRANSCRIPTION (3 LEC.)

Prerequisities: 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) 174 (2)**
INTERMEDIATE TYPEWRITING (1 LEC., 2 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 is 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) 266 (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 (1 LEC., 2 LAB.)

Prerequisite: Office Careers 174 or two years of typing in high school. Decision-making and production of all types of business materials under time conditions are emphasized.

**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 refractionist's prescription. Topics include spectacle frame measurements and sizes, methods used to prepare lenses prior to edging, neutralization and duplication of lenses by use of the lensometer/vertometer, and optical standards and tolerances.

**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/lensometer. Spectacle frames and patterns are identified. Proper tools and lens blanks are selected. Hand edging, and fitting spherical lenses into plastic and metal frames are also covered. Laboratory fee.

**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 neutralizating lenses and giasses 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, interpretating and analyzing shop 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)**
OPTHALMIC 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)**
OPHTHALMIC FITTING (3 LEC.)

The psychology of dispensing eyewear is discussed. Style and fashion eyewear are included. Visual problems of the aphakic patient are explored. Consideration is given to the effects of illumination, size of type, and working distance on visual performance.

**OPTICAL TECHNOLOGY (OPT) 211 (3)**
OPTIC PRINCIPLES (3 LEC.)

This course examines optic principles. Topics include vibrations, properties of waves, wave motion, geometric and physical optics, Hugen's principle, Young's double-slit experiment, and optical instruments.

**OPTICAL TECHNOLOGY (OPT) 212 (3)**
OPHTHALMIC MEASUREMENT (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) 213 (3)**
DISPENSING OCCUPATIONAL EYEWEAR (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) 703, 713 (3)**
(See Cooperative Work Experience)

**OPTICAL TECHNOLOGY (OPT) 803, 813 (3)**
(See Cooperative Work Experience)

**PHILOSOPHY (PHI) 102 (3)**
INTRODUCTION TO PHILOSOPHY (3 LEC.)

The fundamental problems in philosophy are surveyed. Methods to deal with the problems are discussed. Ancient and modern views are examined as possible solutions.

**PHILOSOPHY (PHI) 105 (3)**
LOGIC (3 LEC.)

The principles of logical thinking are analyzed. The methods and tools of logic are applied to real-life situations. Fallacies, definitions, analogies, syllogisms, Venn diagrams, and other topics are discussed.

**PHILOSOPHY (PHI) 202 (3)**
INTRODUCTION TO SOCIAL AND POLITICAL PHILOSOPHY (3 LEC.)

The relationships of philosophical ideas to the community are presented. Emphasis is on concepts of natural rights, justice, education, freedom, and responsibility.

**PHILOSOPHY (PHI) 203 (3)**
ETHICS (3 LEC.)

The classical and modern theories of the moral nature of the human are surveyed. Alternative views of responsibilities to self and society are posed. Ethical issues and their metaphysical and epistemological bases are vivified. Emphasis is on applying ethical principles in life.

**PHILOSOPHY (PHI) 210 (3)**
STUDIES IN PHILOSOPHY (3 LEC.)

Prerequisite: 3 hours of philosophy and the consent of the instructor. A philosophical problem, movement, or special topic is studied. The course topic changes each semester. This course may be repeated for credit.

**PHOTOGRAPHY (PHO) 110 (3)**
INTRODUCTION TO PHOTOGRAPHY AND PHOTO-JOURNALISM (2 LEC., 4 LAB.)

Photography and photo-jouranlism 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) 111 (3)**
ADVANCED 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 I (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-

graphy, and convention photography. The use of natural, stationary, flash, and strobe artificial lights is covered. Laboratory fee.

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

This course is a continuation of Photography 120. Publicity photography, architectual 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.)

Beginning golf is taught and played. 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) 126 (1)**
AEROBIC DANCE (3 LAB.)

This is a dance class which rhythmically combines dance movement with walking, jogging, and jumping to cause sustained vigorous combination of steps, geared to raise the heart rate to a proper target zone for conditioning purposes. Each routine can be "danced" at different intensities, depending on the physical condition of each participant. A uniform is required. 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) 134 (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 I (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) 218 (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 swim certificate or deep water swimmer. This course advances the swimmer's skills. Stroke analysis, refinement, and endurance are emphasized. A uniform is required. Laboratory fee.

**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 aperature. 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

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. Class-room 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 pell 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 Optical Machining I & II advancing into the theory involved in each fabrication operation. The course also covers the methods and tooling required for the different lens types. Laboratory fee.

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

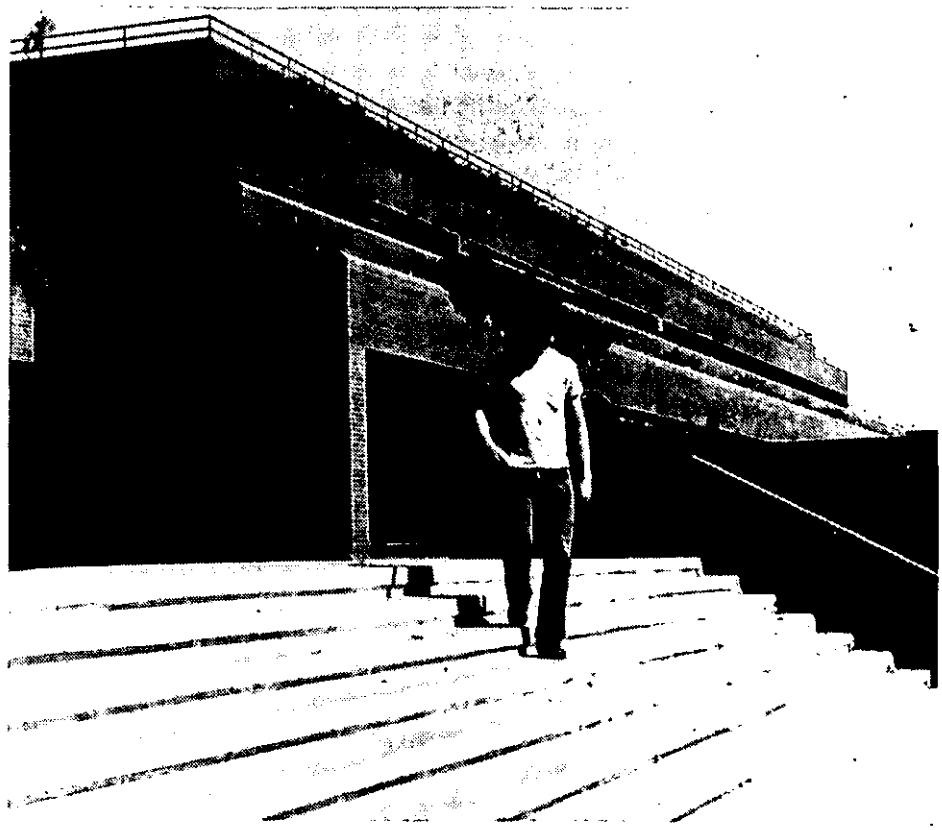
This course includes principles and applications of thin film coatings emphasizing fundamental concepts, notation, machine operation, and clean room requirements. Laboratory fee.

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

**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.

**PRECISION 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 recieve 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, conveyancing, 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.)

Prerequisite: Credit or concurrent enrollment in Real Estate 130. Procedures in financing real estate sales and obtaining funds are covered. Legal aspects of mortagages and related instruments are included. Problems and case studies are also included.

**REAL ESTATE (RE) 133 (3)**
REAL ESTATE MARKETING (3 LEC.)

Prerequisites: Real Estate 130, 131, and 136. The principles and techniques of marketing real estate are studied. Emphasis is on professional procedures and the satisfaction of all parties. Topics include the relationship between the agent and principal, product knowledge, prospective markets, and customer prospective markets, and customer prospecting. Planning the sales presentation, meeting the prospect, having the interview, overcoming sales resistance, closing the sale, and building goodwill are also included. Listing and sales contracts are prepared, and case studies are analyzed.

**REAL ESTATE (RE) 135 (3)**
REAL ESTATE APPRAISAL (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, 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) 233 (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) 235 (3)**
PROPERTY MANAGEMENT (3 LEC.)

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) 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) 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 existance 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.

**SOCIOLOGY (SOC) 103 (3)**
HUMAN SEXUALITY (3 LEC.)

Students may register for either Psychology 103 or Sociology 103 but recieve credit for only one of the two. Topics include physiological, psychological, and sociological aspects of human sexuality.

**SOCIOLOGY (SOC) 203 (3)**
MARRIAGE AND FAMILY (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)**
SOCIAL PSYCHOLOGY (3 LEC.)

Students may register for either Psychology 207 or Sociology 207 but may receive credit for one. Theories of individual behavior in the social environment are surveyed. Topics include the socio-psychological process, attitude formation and change,interpersonal relations, and group processes.

**SOCIOLOGY (SOC) 209 (3)**
SELECTED 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," or "living with divorce." As the topics change, this course may be repeated once for credit.

**SOLAR ENERGY TECHNOLOGY (ST) 101 (4)**
ENERGY SCIENCE I (3 LEC., 3 LAB.)

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.

**SOLAR ENERGY TECHNOLOGY (ST) 104 (4)**
ENERGY SCIENCE II (3 LEC., 3 LAB.)

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.

**SOLAR ENERGY TECHNOLOGY (ST) 105 (4)**
COLLECTORS AND ENERGY STORAGE (3 LEC., 3 LAB.)

Methods of collecting solar energy for heating and cooling are examined. Topics include collector types, collector parameters, and the chemical compatability 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.

**SOLAR ENERGY TECHNOLOGY (ST) 106 (3)**
INTRODUCTION TO SOLAR ENERGY (3 LEC., 1 LAB.)

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.

**SOLAR ENERGY TECHNOLOGY (ST) 107 (3)**
MATERIALS AND MATERIALS HANDLING (2 LEC., 3 LAB.)

This course presents the properties and handling of materials in a solar system. Topics include plumbing, sheet metal, carpentry, roofing, glazing, concrete, soldering, and welding. Problems and compatibility of different construction materials are explored. Laboratory fee.

**SOLAR ENERGY TECHNOLOGY (ST) 108 (3)**
FLUID TRANSPORT SYSTEMS (2 LEC., 2 LAB.)

This course presents piping, conduit and duct system practices. Topics include the identification and selection of appropriate pipe and duct sizes with the required fittings. System designs using series, parallel, direct return and reverse return fluid flow patterns are a major emphasis of this course. Solar liquid and air transport components, along with HVAC air distribution components and piping requirements are studied as an integral part of the design process. Laboratory fee.

**SOLAR ENERGY TECHNOLOGY (ST) 201 (4)**
SIZING DESIGN AND RETROFIT (3 LEC., 3 LAB.)

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.

**SOLAR ENERGY TECHNOLOGY (ST) 205 (4)**
OPERATIONAL DIAGNOSIS (3 LEC., 3 LAB.)

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.

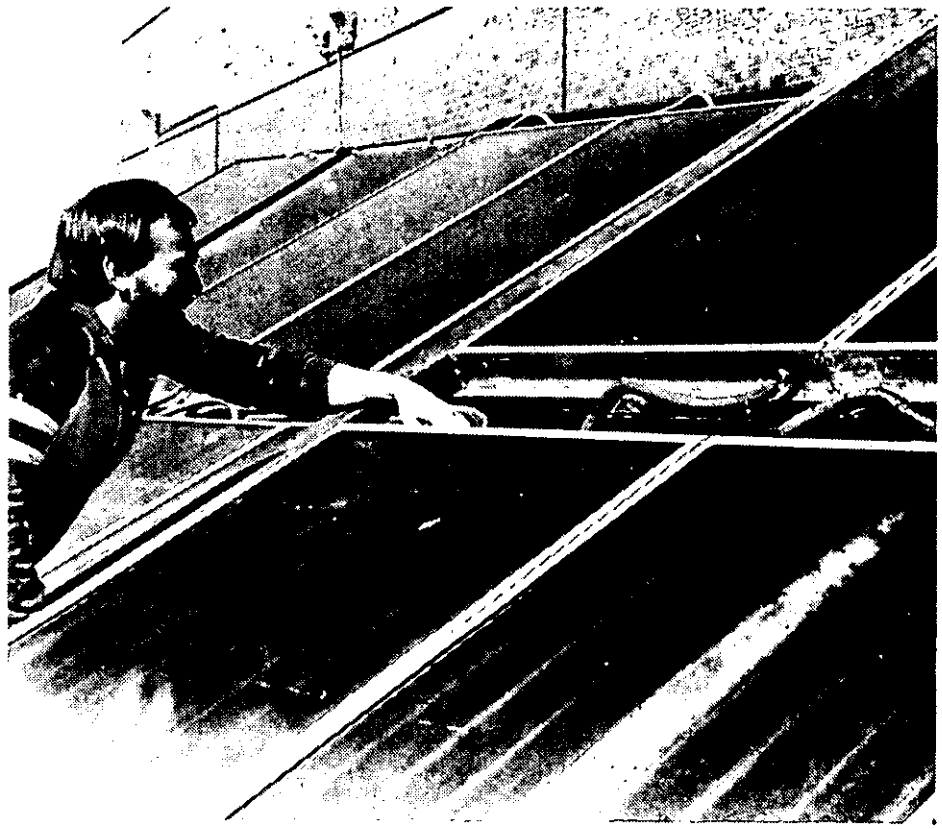
**SOLAR ENERGY TECHNOLOGY (ST) 210 (3)**
NON-RESIDENTIAL AND PHOTOVOLTAIC APPLICATIONS (2 LEC., 3 LAB.)
This course covers the uses of solar technology for other than home heating and cooling. The course is open-ended, and materials are added as the technology changes. Laboratory fee.

**SOLAR ENERGY TECHNOLOGY (ST) 803, 813 (3)**
(See Cooperative Work Experience)

**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) 110 (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) 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) 100 (1)**
REHEARSAL AND PERFORMANCE (4 LAB.)

Prerequisite: To enroll in this course, a student must be accepted as a member of the cast or crew of a major production. Participation in the class will include the rehearsal and performance of the current theatrical presentation of the division. This course may be repeated for credit.

**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)**
COMTEMPORARY 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 I (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
COMMUNCIATIONS I (3 LEC., 2 LAB.)

The nature and practice of broadcasting are covered. Basic techniques of radio and television studio operations are introduced.
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**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 developent 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.)

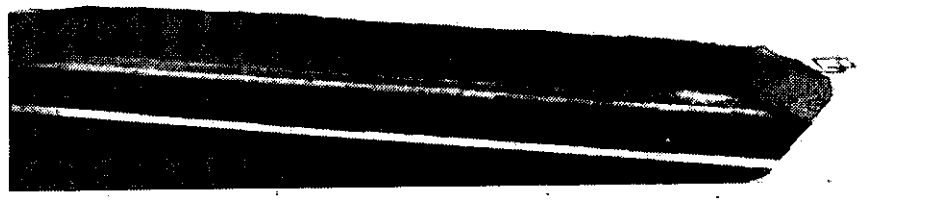
Basic techniques of drafting are studied. Isometrics, orthographic projections, and other standard procedures are included. The emphasis is on theatrical drafting, including groundplans, vertical sections, construction elevations, and spider perspective.

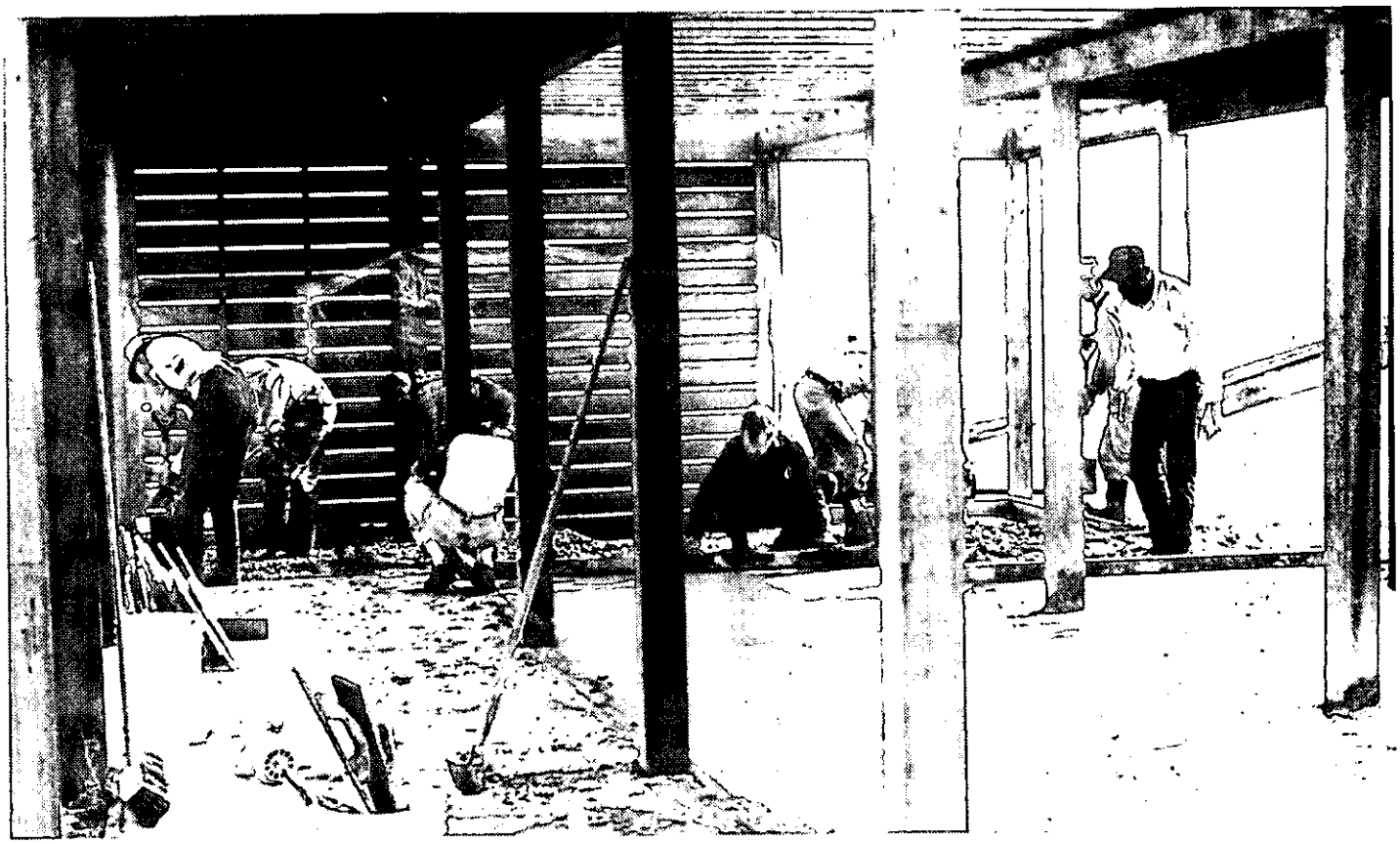
**THEATRE (THE) 209 (3)**
LIGHTING DESIGN (2 LEC., 3 LAB.)

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:

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

### TCJC PROGRAMS

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

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

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

# DCCCD OCCUPATIONAL EDUCATION PROGRAMS

*DALLAS COUNTY COMMUNITY COLLEGE DISTRICT*

| Career Education Programs | BHC | CVC | EFC | ECC | MVC | NLC | RLC |
|---|---|---|---|---|---|---|---|
| Accounting Associate | x | x | x | x | x | x | x |
| Advertising Art | x | | | | | | |
| Air Conditioning & Refrigeration | | x | x | | | x | |
| Animal Medical Technology | | x | | | | | |
| Apparel Design | | | | x | | | |
| Architechtural Technology | | | | x | | | |
| Architectural Drafting | | | | x | | | |
| Auto Body Technology | x | | x | | | | |
| Automotive Parts, Sales & Service | x | | | | | | |
| Automotive Technology Apprenticeship | | x | | | | | |
| Automotive Technology | x | x | x | | | | |
| Aviation Maintenance Technology | | | | | x | | |
| Aviation Technology | | | | | x | | |
| Air Cargo Transport | | | | | x | | |
| Aircraft Dispatcher | | | | | x | | |
| Airline Marketing | | | | | x | | |
| Air Traffic Control | | | | | x | | |
| Career Pilot | | | | | x | | |
| Fixed Base Operations/Airport Management | | | | | x | | |
| Banking and Finance | | | | | | | x |
| Banking | | | | | | | x |
| Credit & Financial Management | | | | | | | x |
| Credit Union | | | | | | | x |
| Savings & Loan | | | | | | | x |
| Building Trades | | | | | | x | |
| Carpentry—Residential & Commercial | | | | | | x | |
| Electrical | | | | | | x | |
| Child Development Associate | x | | x | | | | |
| CDA Training Certificate | x | | x | | | | |
| Special Child | x | | x | | | | |
| Administrative | x | | x | | | | |
| Infant-Toddler | x | | x | | | | |
| Commercial Music | | x | | | | | |
| Arranger/Composer/Copyist | | x | | | | | |
| Music Retailing | | x | | | | | |
| Recording Technology | | x | | | | | |
| Construction Management & Technology | | | | | | | x |
| Data Processing | | | | | | | |
| Information Systems | | | | x | | | |
| Key Entry/Data Control | | | | x | | | |
| Operator | | | | x | | | |
| Programmer | x | x | x | x | x | x | x |
| Small Computer Systems Information Specialist | | | | x | | | |
| Diesel Mechanics | | | | | | x | |
| Distribution Technology | | | | | | x | |
| Drafting & Design Technology | | | x | x | x | | |
| Electronics Design Option | | | x | | | | |
| Educational Paraprofessional/Assistant | | | | | | | x |
| Electronics Technology | | | x | | x | | |
| Avionics | | | | | x | | |
| Digital Electronics | | | x | | | | |
| Engineering Technology | | | | | | | x |
| Electric Power | | | | | | | x |
| Electro-Mechanical | | | | | | | x |
| Fluid Power | | | | | | | x |
| Manufacturing Engineering | | | | | | | x |
| Quality Control | | | | | | | x |

| Career Education Programs | BHC | CVC | EFC | ECC | MVC | NLC | RLC |
|---|---|---|---|---|---|---|---|
| Fire Protection Technology | | | | x | | | |
| Food Service | | | | x | | | |
| Dietetic Assistant & Technician | | | | x | | | |
| Food Service Operations | | | | x | | | |
| School Food Service | | | | x | | | |
| Graphic Arts/Communications | | | x | | | | |
| Horology | | x | | | | | |
| Hotel-Motel Operations | | | | x | | | |
| Interior Design | | | | x | | | |
| Legal Assistant | | | | x | | | |
| Machine Parts Inspection | | | | | x | | |
| Machine Shop | | | | | x | | |
| Major Appliance Repair | | x | | | | | |
| Management Careers | x | x | x | x | x | x | x |
| Administrative Management | x | x | x | x | x | x | x |
| Mid-Management | x | x | x | x | x | x | x |
| Purchasing Management | | | x | | | x | |
| Sales, Marketing & Retail Management | x | x | | | | | |
| Small Business Management | | x | | x | x | x | x |
| Medical | | | | x | | | |
| Associate Degree Nursing | x* | | x** | x | | x** | x** |
| Dental Assisting Technology | | | | x | | | |
| Medical Assisting Technology | | | | x | | | |
| Medical Laboratory Technology | | | | x | | | |
| Medical Transcription | | | | x | | | |
| Radiography Technology | | | | x | | | |
| Respiratory Therapy Technology | | | | x | | | |
| Surgical Technology | | | | x | | | |
| Vocational Nursing | | | x* | x | | x* | |
| Motorcycle Mechanics | | x | | | | | |
| Office Careers | x | x | x | x | x | x | x |
| Administrative Assistant | x | x | x | x | x | x | x |
| General Office Certificate | x | x | x | x | x | x | x |
| Insurance Certificate | | | | | | | x |
| Legal Secretary | x | x | x | x | x | x | x |
| Professional Secretary | x | x | x | x | x | x | x |
| Records Management | x | x | | x | | | |
| Optical Technology | | | | | | x | |
| Ornamental Horticulture Technology | | | | | | | x |
| Florist & Greenhouse Florist | | | | | | | x |
| Landscape Nursery & Gardener | | | | | | | x |
| Outboard Marine Engine Mechanics | | x | | | | | |
| Pattern Design | | | | x | | | |
| Precision Optics Technology | | | | | | x | |
| Police Science Technology | | | | x | | | |
| Postal Service Administration | | | | | x | | |
| Real Estate | | | | | | x | x |
| Retail Distribution and Marketing | x | x | | | | | |
| Commercial Design & Advertising | | x | | | | | |
| Fashion Marketing | x | x | | | | | |
| Small Engine Mechanics | | x | | | | | |
| Social Work Associate | | | x | | | | |
| Solar Energy Technology | | | | | | x | |
| Training Paraprofessionals for the Deaf | | | x | | | | |
| Transportation Technology | | | x | | | | |
| Welding Technology | | | x | | x | | |

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

* 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.

| | | CREDIT HOURS |
|---|---|---|
| SEMESTER I | | |
| ACC 201 | Principles of Accounting I | 3 |
| BUS 105 | Introduction to Business | 3 |
| COM 131 | Applied Composition and Speech or* | 3 |
| ENG 101 | Composition and Expository Reading | |
| MTH 130 | Business Mathematics or | 3 |
| MTH 111 | Mathematics for Business and Economics | |
| OFC 160 | Office Machines | 3 |
| | | 15 |
| SEMESTER II | | |
| ACC 202 | Principles of Accounting II | 3 |
| COM 132 | Applied Composition and Speech or* | 3 |
| ENG 102 | Composition and Literature | |
| CS 175 | Introduction to Computer Science | 3 |
| MGT 136 | Principles of Management | 3 |
| ‡ OFC 172 | Beginning Typing | 3 |
| | | 15 |
| SEMESTER III | | |
| ACC 203 | Intermediate Accounting I | 3 |
| ACC 204 | Managerial Accounting | 3 |
| ECO 201 | Principles of Economics I | 3 |
| GVT 201 | American Government | 3 |
| † Electives | | 3-6 |
| | | 15-18 |
| SEMESTER IV | | |
| ACC 238 | Cost Accounting or | 3 |
| ACC 239 | Income Tax Accounting | |
| BUS 234 | Business Law | 3 |
| ECO 202 | Principles of Economics II | 3 |
| OFC 231 | Business Communications | 3 |
| † Electives | | 3-6 |
| | | 15-18 |
| Minimum Hours Required: | | 63 |

† Electives — A minimum of 9 credit hours must be selected from the following:

| | | |
|---|---|---|
| ACC 205 | Business Finance | 3 |
| ACC 207 | Intermediate Accounting II | 3 |
| ACC 238 | Cost Accounting | 3 |
| ACC 239 | Income Tax Accounting | 3 |
| ACC 703-713 803-813 | Cooperative Work Experience | 3 |
| ACC 704-714 804-814 | Cooperative Work Experience | 4 |
| BUS 143 | Personal Finance | 3 |
| BUS 237 | Organizational Behavior | 3 |
| CS 250 | Contemporary Topics in Computer Science | 3 |
| CS 251 | Special Topics in Computer Science and Data Processing | 4 |
| MGT 206 | Principles of Marketing | 3 |
| PSY 105 PSY 131 | Introduction to Psychology or Human Relations | 3 |
| SPE 105 | Fundamentals of Public Speaking | 3 |
| Any CS or DP Programming course | | |

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

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

# Air Conditioning and Refrigeration

## AIR CONDITIONING AND REFRIGERATION

This program is designed to prepare the student for entry level employment in the Air Conditioning and Refrigeration industry. Two options are available in this program: Residential Air Conditioning, and Commercial Refrigeration and Air Conditioning. The student will develop the skills and knowledge necessary to install, repair and maintain equipment related to these options.

Some Air Conditioning 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. Individualized, self-paced instruction also allows the students to take a portion of a course (module) without taking the complete course, if some specific knowledge or skill is desired.

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.

### CERTIFICATE PROGRAM

A Certificate may be obtained in one or both of the options in the Air Conditioning Program. In order to qualify for a Certificate, the student must successfully complete the courses listed for the specific option. The courses may be taken in any order desired after consultation with the instructor.

## RESIDENTIAL AIR CONDITIONING

(Certificate)

The student will develop skills in diagnosing, checking, servicing, installing and 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.

| | | CREDIT HOURS |
|---|---|---|
| SEMESTER I | | |
| AC 150 | Basic Principles of Electricity | 3 |
| AC 160 | Basic Principles of Refrigeration | 3 |
| MTH 195 | Technical Mathematics | 3 |
| PHY 131 | Applied Physics | 4 |
| | | 13 |
| SEMESTER II | | |
| AC 155 | Advanced Electrical Circuits | 3 |
| AC 165 | Vapor Compression Systems | 3 |
| AC 170 | Pipefitting Procedures | 3 |
| AC 175 | Residential Load Calculations | 3 |
| | | 12 |
| SEMESTER III | | |
| AC 180 | Residential Cooling Systems | 3 |
| AC 185 | Residential Heating Systems | 3 |
| AC 240 | Air Distributing Systems | 3 |
| AC 245 | Residential Systems Service | 3 |
| AC 703 | Cooperative Work Experience or | 3 |
| AC 704 | Cooperative Work Experience or | (4) |
| † Elective | | (3) |
| | | 15/16 |
| 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.

| | | CREDIT HOURS |
|---|---|---|
| SEMESTER I | | |
| AC 150 | Basic Principles of Electricity | 3 |
| AC 160 | Basic Principles of Refrigeration | 3 |
| MTH 195 | Technical Mathematics | 3 |
| PHY 131 | Applied Physics | 4 |
| | | 13 |
| SEMESTER II | | |
| AC 155 | Advanced Electrical Circuits | 3 |
| AC 165 | Vapor Compression Systems | 3 |
| AC 170 | Pipefitting Procedures | 3 |
| AC 190 | Commercial Refrigeration Systems | 3 |
| AC195 | Commercial Refrigeration Systems Service | 3 |
| | | 15 |
| SEMESTER III | | |
| AC 260 | Special Commercial Refrigeration Applications | 3 |
| AC 270 | Industrial Air Conditioning Systems | 3 |
| AC 275 | Industrial Air Conditioning Systems Service | 3 |
| AC 280 | Hydronic Systems | 3 |
| ACR 703 | Cooperative Work Experience or | 3 |
| AC 704 | Cooperative Work Experience or | (4) |
| † Elective | | (3) |
| | | 15/16 |
| 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)

| | | CREDIT HOURS |
|---|---|---|
| SEMESTER I | | |
| AC 150 | Basic Principles of Electricity | 3 |
| AC 160 | Basic Principles of Refrigeration | 3 |
| MTH 195 | Technical Mathematics | 3 |
| PHY 131 | Applied Physics | 4 |
| | | 13 |
| SEMESTER II | | |
| AC 155 | Advanced Electrical Circuits | 3 |
| AC 165 | Vapor Compression Systems | 3 |
| AC 170 | Pipefitting Procedures | 3 |
| AC 175 | Residential Load Calculations | 3 |
| SS 131 | American Civilization | 3 |
| | | 15 |
| SEMESTER III | | |
| AC 180 | Residential Cooling Systems | 3 |
| AC 185 | Residential Heating Systems | 3 |
| AC 240 | Air Distribution Systems — Residential | 3 |
| BPR 177 | Blueprint Reading | 2 |
| COM 131 | Applied Composition & Speech | 3 |
| MAR 240 | Professional Service Skills or | 3 |
| PSY 131 | Human Relations | |
| | | 17 |
| SEMESTER IV | | |
| AC 245 | Residential Systems Service | 3 |
| AC 250 | Air Conditioning Equipment Selection | 3 |
| AC 255 | Air Distribution Systems Design | 3 |
| AC 703 | Cooperative Work Experience or | 3 |
| AC 704 | Cooperative Work Experience | (4) |
| † Elective | | 3 |
| | | 15/16 |
| Minimum Hours Required: | | 60 |

Residential Air Conditioning (Certificate), 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.

| | | |
|---|---|---|
| AC 270 | Industrial Air Conditioning Systems | 3 |
| AC 803, | Cooperative Work Experience | 3 |
| AC 804 | Cooperative Work Experience | 4 |
| ACC 131 | Bookkeeping I | 3 |
| BUS 105 | Introduction to Business | 3 |
| COM 132 | Applied Composition & Speech | 3 |
| MAR 240 | Professional Service Skills | 3 |
| MGT 136 | Principles of Management | 3 |
| PSY 131 | Human Relations | 3 |

**COMMERCIAL REFRIGERATION AND INDUSTRIAL AIR CONDITIONING**
(Associate Degree)

| | | CREDIT HOURS |
|---|---|---|
| SEMESTER I | | |
| AC 150 | Basic Principles of Electricity | 3 |
| AC 160 | Basic Principles of Refrigeration | 3 |
| BPR 177 | Blueprint Reading | 2 |
| MTH 195 | Technical Mathematics | 3 |
| PHY 131 | Applied Physics | 4 |
| | | 15 |
| SEMESTER II | | |
| AC 155 | Advanced Electrical Circuits | 3 |
| AC 165 | Vapor Compression Systems | 3 |
| AC 170 | Pipefitting Procedures | 3 |
| AC 190 | Commercial Refrigeration Systems | 3 |
| SS 131 | American Civilization | 3 |
| | | 15 |
| SEMESTER III | | |
| AC 195 | Commercial Refrigeration Systems Service | 3 |
| AC 260 | Special Commercial Refrigeration Applications | 3 |
| AC 265 | Advanced Commercial Refrigeration Systems | 3 |
| AC 270 | Industrial Air Conditioning Systems | 3 |
| COM 131 | Applied Composition & Speech | 3 |
| | | 15 |
| SEMESTER IV | | |
| AC 275, | Industrial Air Conditioning Systems Service | 3 |
| AC 280 | Hydronic Systems | 3 |
| AC 285 | Advanced Industrial Air Conditioning Systems | 3 |
| AC 290 | Industrial Air Conditioning Control Systems | 3 |
| AC 703 | Cooperative Work Experience or | 3 |
| AC 704 | Cooperative Work Experience | (4) |
| MAR 240 | Professional Service Skills or | 3 |
| PSY 131 | Human Relations | |
| | | 18/19 |
| Minimum Hours Required: | | 63 |

# Building Trades— Residential and Commercial Carpentry

**BUILDING TRADES — RESIDENTIAL AND COMMERCIAL CARPENTRY**

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

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

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

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

**RESIDENTIAL CARPENTRY**

(Certificate)

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

| | | CREDIT HOURS |
|---|---|---|
| SEMESTER I | | |
| CAR 101 | Woodworking Tools and Materials | 3 |
| CAR 102 | Site Preparation | 3 |
| CAR 103 | Construction Safety | 1 |
| BPR 177 | Blueprint Reading | 2 |
| MTH 195 | Technical Mathematics | 3 |
| | | 12 |
| SEMESTER II | | |
| CAR 104 | Residential Framing | 3 |
| CAR 105 | Roof Framing I | 3 |
| CAR 106 | Exterior Trim and Finish | 3 |
| CAR 107 | Construction Cost Estimating | 3 |
| | | 12 |

Residential Carpentry (Certificate), cont.

| | | |
|---|---|---|
| SEMESTER III | | |
| CAR 201 | Cabinet Building I | 3 |
| CAR 205 | Roof Framing II | 3 |
| CAR 208 | Interior Finish I | 3 |
| | | 9 |
| SEMESTER IV | | |
| CAR 202 | Cabinet Building II | 3 |
| CAR 203 | Stair Building | 3 |
| CAR 703 | Cooperative Work Experience or | 3 |
| CAR 704 | Cooperative Work Experience | (4) |
| | | 9/10 |
| Minimum Hours Required: | | 42 |

**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.

| | | CREDIT HOURS |
|---|---|---|
| SEMESTER I | | |
| CAR 101 | Woodworking Tools and Materials | 3 |
| CAR 102 | Site Preparation | 3 |
| CAR 103 | Construction Safety | 1 |
| BPR 177 | Blueprint Reading | 2 |
| MTH 195 | Technical Mathematics | 3 |
| | | 12 |
| SEMESTER II | | |
| CAR 107 | Construction Cost Estimating | 3 |
| CAR 108 | Modern Construction Practices | 3 |
| CAR 109 | Concrete Slabs in Commercial Building | 3 |
| CAR 208 | Interior Finish I | 3 |
| | | 12 |
| SEMESTER III | | |
| CAR 204 | Commercial Wall Forms | 3 |
| CAR 206 | Vertical Piers and Columns | 3 |
| CAR 209 | Interior Finish II-Commercial | 3 |
| | | 9 |
| SEMESTER IV | | |
| CAR 203 | Stair Building | 3 |
| CAR 210 | Horizontal Beam Form and Fire Encasement Forms | 3 |
| CAR 211 | Properties of Concrete | 1 |
| CAR 703 | Cooperative Work Experience or | 3 |
| CAR 704 | Cooperative Work Experience | (4) |
| | | 10/11 |
| Minimum Hours Required: | | 43 |

**RESIDENTIAL CARPENTRY**

(Associate Degree)

Students wishing to earn an Associate in Applied Arts and Sciences Degree with a major in Residential Carpentry must complete the following courses:

| | | CREDIT HOURS |
|---|---|---|
| SEMESTER I | | |
| CAR 101 | Woodworking Tools and Materials | 3 |
| CAR 102 | Site Preparation | 3 |
| CAR 103 | Construction Safety | 1 |
| BPR 177 | Blueprint Reading | 2 |
| COM 131 | Applied Composition and Speech | 3 |
| MTH 195 | Technical Mathematics | 3 |
| | | 15 |
| SEMESTER II | | |
| CAR 104 | Residential Framing | 3 |
| CAR 105 | Roof Framing I | 3 |
| CAR 106 | Exterior Trim and Finish | 3 |
| CAR 107 | Construction Cost Estimating | 3 |
| SS 131 | American Civilization | 3 |
| | | 15 |
| SEMESTER III | | |
| CAR 201 | Cabinet Building I | 3 |
| CAR 205 | Roof Framing II | 3 |
| CAR 208 | Interior Finish I | 3 |
| BUS 105 | Introduction to Business | 3 |
| COM 132 | Applied Composition and Speech | 3 |
| | | 15 |
| SEMESTER IV | | |
| CAR 202 | Cabinet Building II | 3 |
| CAR 203 | Stair Building | 3 |
| CAR 703 | Cooperative Work Experience or | 3 |
| CAR 704 | Cooperative Work Experience | (4) |
| ACC 131 | Bookkeeping I | 3 |
| PSY 131 | Human Relations | 3 |
| | | 15/16 |
| Minimum Hours Required: | | 60 |

**COMMERCIAL CARPENTRY**

(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:

| | | CREDIT HOURS |
|---|---|---|
| SEMESTER I | | |
| CAR 101 | Woodworking Tools and Materials | 3 |
| CAR 102 | Site Preparation | 3 |
| CAR 103 | Construction Safety | 1 |
| BPR 177 | Blueprint Reading | 2 |
| COM 131 | Applied Composition and Speech | 3 |
| MTH 195 | Technical Mathematics | 3 |
| | | 15 |
| SEMESTER II | | |
| CAR 107 | Construction Cost Estimating | 3 |
| CAR 108 | Modern Construction Practices | 3 |
| CAR 109 | Concrete Slabs in Commercial Building | 3 |
| CAR 208 | Interior Finish I | 3 |
| SS 131 | American Civilization | 3 |
| | | 15 |
| SEMESTER III | | |
| CAR 204 | Commercial Wall Forms | 3 |
| CAR 206 | Vertical Piers and Columns | 3 |
| CAR 209 | Interior Finish II-Commercial | 3 |
| BUS 105 | Introduction to Business | 3 |
| COM 132 | Applied Composition and Speech | 3 |
| | | 15 |
| SEMESTER IV | | |
| CAR 203 | Stair Building | 3 |
| CAR 210 | Horizontal Beam Form and Fire Encasement Forms | 3 |
| CAR 211 | Properties of Concrete | 1 |
| CAR 703 | Cooperative Work Experience or | 3 |
| CAR 704 | Cooperative Work Experience | (4) |
| ACC 131 | Bookkeeping I | 3 |
| PSY 131 | Human Relations | 3 |
| | | 16/17 |
| Minimum Hours Required | | 61 |

# Building Trades— Electrical

**BUILDING TRADES — ELECTRICAL**

This program is designed to prepare the student for entry or advancement in the Electrical field Major areas of the career field are represented allowing the student to seek employment within a broad job market.

Some Electrical 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 in this program toward an Associate in Applied Arts and Sciences Degree

**ELECTRICAL**

(Certificate)

Completion of all the courses listed below qualifies a student for a Certificate in Electricity The courses may be taken in any order after consultation with the instructor.

| | | CREDIT HOURS |
|---|---|---|
| SEMESTER I | | |
| ELE 100 | Electrical Orientation | 1 |
| ELE 101 | DC Circuits and Measurements | 1 |
| ELE 111 | Residential Codes | 1 |
| ELE 112 | General Wiring Practices | 4 |
| ELE 113 | Appliance Circuits | 3 |
| BPR 177 | Blueprint Reading | 2 |
| MTH 195 | Technical Mathematics | 3 |
| | | 15 |
| SEMESTER II | | |
| ELE 114 | Low Voltage Circuits | 1 |
| ELE 121 | Commercial Codes | 1 |
| ELE 122 | Commercial Wiring | 4 |
| ELE 123 | Power Circuits | 3 |
| ELE 202 | Basic AC Circuits | 2 |
| ELE 231 | Motor Codes | 1 |
| ELE 232 | DC and Single Phase Machines | 1 |
| ELE 233 | Three-Phase Motors | 1 |
| | | 14 |
| SEMESTER III | | |
| ELE 203 | Three-Phase Circuits | 1 |
| ELE 241 | Control Circuit Diagrams | 1 |
| ELE 242 | Magnetic Starting and Overload Protection | 1 |
| ELE 243 | Jogging, Reversing, and Sequencing | 1 |

**Electrical (Certificate), cont.**

| | | |
|---|---|---|
| ELE 244 | Solid State Controls | 1 |
| ELE 251 | Transformer Types and Testing | 1 |
| ELE 252 | Distribution Transformers | 2 |
| ELE 261 | Residential Planning | 2 |
| ELE 262 | Commercial Planning | 2 |
| | | 12 |

Minimum Hours Required: 41

**ELECTRICAL**

(Associate Degree)

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

| | | CREDIT HOURS |
|---|---|---|
| SEMESTER I | | |
| ELE 100 | Electrical Orientation | 1 |
| ELE 101 | DC Circuits and Measurements | 1 |
| ELE 111 | Residential Codes | 1 |
| ELE 202 | Basic AC Circuits | 2 |
| ELE 203 | Three-Phase Circuits | 1 |
| ELE 251 | Transformer Types and Testing | 1 |
| ELE 252 | Distribution Transformers | 2 |
| BPR 177 | Blueprint Reading | 2 |
| MTH 195 | Technical Mathematics | 3 |
| | | 14 |
| SEMESTER II | | |
| ELE 112 | General Wiring Practices | 4 |
| ELE 113 | Appliance Circuits | 3 |
| ELE 114 | Low Voltage Circuits | 1 |
| ELE 121 | Commercial Codes | 1 |
| COM 131 | Applied Composition and Speech | 3 |
| SS 131 | American Civilization | 3 |
| | | 15 |
| SEMESTER III | | |
| ELE 122 | Commercial Wiring | 4 |
| ELE 123 | Power Circuits | 3 |
| ELE 231 | Motor Codes | 1 |
| ELE 232 | DC and Single Phase Machines | 1 |
| ELE 703 | Cooperative Work Experience or | 3 |
| ELE 704 | Cooperative Work Experience | (4) |
| † Elective | | 3 |
| | | 15/16 |
| SEMESTER IV | | |
| ELE 233 | Three-Phase Motors | 1 |
| ELE 241 | Control Circuit Diagrams | 1 |
| ELE 242 | Magnetic Starting and Overload Protection | 1 |
| ELE 243 | Jogging, Reversing, and Sequencing | 1 |
| ELE 244 | Solid State Controls | 1 |
| ELE 261 | Residential Planning | 2 |
| ELE 262 | Commercial Planning | 2 |
| † Electives | | 9 |
| | | 18 |

Minimum Hours Required: 62

† Electives — Must select from the following:

| | | |
|---|---|---|
| ELE 803 | Cooperative Work Experience or | 3 |
| ELE 804 | Cooperative Work Experience | (4) |
| ACC 131 | Bookkeeping I | 3 |
| BUS 105 | Introduction to Business | 3 |
| COM 132 | Applied Composition and Speech | 3 |
| MGT 136 | Principles of Management | 3 |
| MGT 153 | Small Business Management | 3 |
| PHY 131 | Applied Physics | 4 |
| PSY 131 | Human Relations | 3 |

# 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.

| | | CREDIT HOURS |
|---|---|---|
| SEMESTER I | | |
| CS 175 | Introduction to Computer Science | 3 |
| BUS 105 | Introduction to Business or | 3 |
| MGT 136 | Principles of Management | |
| DP 137 | Data Processing Mathematics or any business math* | 3 |
| COM 131 | Applied Composition and Speech or | 3 |
| ENG 101 | Composition and Expository Reading | |
| ACC 201 | Principles of Accounting I** | 3 |
| | | 15 |

**Data Processing Programmer, cont.**

| | | |
|---|---|---|
| SEMESTER II | | |
| DP 133 | Beginning Programming (COBOL) | 4 |
| DP 138 | Systems Analysis and Data Processing Logic | 3 |
| ECO 201 | Principles of Economics I or | 3 |
| ECO 202 | Principles of Economics II | |
| ACC 202 | Principles of Accounting II | 3 |
| COM 132 | Applied Composition and Speech or | 3 |
| ENG 102 | Composition and Literature | |
| | | 16 |
| SEMESTER III | | |
| DP 136 | Intermediate Programming (COBOL) | 4 |
| DP 142 | RPG Programming or | 3 |
| DP 244 | Basic Programming | |
| DP 233 | Operating Systems and Communications | 4 |
| ACC 203 | Intermediate Accounting or | 3 |
| ACC 238 | Cost Accounting | |
| † Elective | | 3-4 |
| | | 17-18 |
| SEMESTER IV | | |
| DP 231 | Advanced Programming (ALC) | 4 |
| DP 232 | Applied Systems | 4 |
| DP 236 | Advanced COBOL Techniques or other 200 level DP or CS course | 3-4 |
| Any approved DP or CS course | | 3-4 |
| | | 14-16 |
| Minimum Hours Required: | | 62 |

† Electives — Must be selected from the following
**Any** DP or CS course (including DP 700-800 Cooperative Work Experience)

| | | |
|---|---|---|
| DP 129 | Data Entry Concepts | 4 |
| MGT 136 | Principles of Management | 3 |
| MGT 206 | Principles of Marketing | 3 |
| BUS 234 | Business Law | 3 |
| BUS 237 | Organizational Behavior | 3 |
| ECO 202 | Principles of Economics II | 3 |
| MTH 202 | Introductory Statistics | 3 |
| ENG 210 | Technical Writing | 3 |
| BUS 105 | Introduction to Business | 3 |
| ECO 201 | Principles of Economics I | 3 |

* 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.
DP 133 or CS 184
DP 231 or CS 186
DP 244 or CS 182
CS 175 or CS 174

# Diesel Mechanics

**DIESEL 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.

| | | CREDIT HOURS |
|---|---|---|
| SEMESTER I | | |
| DME 101 | Caterpillar Diesel Engine* | 4 |
| DME 102 | Cummins Diesel Engine* | 4 |
| DME 103 | Detroit Diesel Engine* | 4 |
| DME 127 | Shop Practices | 2 |
| MTH 195 | Technical Mathematics | 3 |
| | | 13 |
| SEMESTER II | | |
| DME 121 | Standard Transmissions | 3 |
| DME 122 | Heavy Duty Clutches and Torque Convertors | 2 |
| DME 123 | Air Brake Systems | 2 |
| DME 124 | Differentials and Drive Lines | 2 |
| | | 9 |
| SEMESTER III | | |
| DME 141 | Caterpillar Engine Tune-Up and Fuel Systems | 2 |
| DME 142 | Cummins Engine Tune-Up and Fuel Systems | 2 |
| DME 143 | Detroit Diesel Engine Tune-Up and Fuel Systems | 2 |
| DME 144 | Diesel Engine Air Induction, Cooling and Lubrication Systems | 1 |
| DME 145 | Electrical Theory and Basic Automotive Circuitry | 1 |
| DME 146 | Starting, Charging, Lighting, and Accessory Circuitry | 1 |
| DME 703 | Cooperative Work Experience | 3 |
| | | 12 |

**Diesel Mechanics (Certificate), cont.**

| | | |
|---|---|---|
| SEMESTER IV | | |
| DME 101 | Caterpillar Diesel Engine or | 4 |
| DME 102 | Cummins Diesel Engine or | 4 |
| DME 103 | Detroit Diesel Engine | 4 |
| DME 125 | Automatic Transmissions | 2 |
| DME 126 | Heavy Duty Truck Air Conditioning | 2 |
| DME 137 | Fundamentals of Oxygen/Acetylene and Arc Welding | 3 |
| | | 11 |
| 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.

| | | CREDIT HOURS |
|---|---|---|
| SEMESTER I | | |
| DME 101 | Caterpillar Diesel Engine* | 4 |
| DME 102 | Cummins Diesel Engine* | 4 |
| DME 103 | Detroit Diesel Engine* | 4 |
| DME 127 | Shop Practices | 2 |
| BPR 177 | Blueprint Reading or | 2 |
| BUS 105 | Introduction to Business or | 3 |
| ACC 131 | Bookkeeping I or | 3 |
| COM 132 | Applied Composition and Speech | 3 |
| MTH 195 | Technical Mathematics | 3 |
| | | 15/16 |
| SEMESTER II | | |
| DME 121 | Standard Transmissions | 3 |
| DME 122 | Heavy Duty Clutches and Torque Convertors | 2 |
| DME 123 | Air Brake Systems | 2 |
| DME 124 | Differentials and Drive Lines | 2 |
| COM 131 | Applied Composition and Speech | 3 |
| † Elective | | 3 |
| | | 15 |
| SEMESTER III | | |
| DME 141 | Caterpillar Engine Tune-Up and Fuel Systems | 2 |
| DME 142 | Cummins Engine Tune-Up and Fuel Systems | 2 |
| DME 143 | Detroit Diesel Engine Tune-Up and Fuel Systems | 2 |
| DME 144 | Diesel Engine Air Induction, Cooling, and Lubrication Systems | 1 |
| DME 145 | Electrical Theory and Basic Automotive Circuitry | 1 |
| DME 146 | Starting, Charging, Lighting, and Accessory Circuitry | 1 |
| DME 703 | Cooperative Work Experience | 3 |
| PHY 131 | Applied Physics | 4 |
| | | 16 |
| SEMESTER IV | | |
| DME 101 | Caterpillar Diesel Engine or | 4 |
| DME 102 | Cummins Diesel Engine or | 4 |
| DME 103 | Detroit Diesel Engine | 4 |
| DME 125 | Automatic Transmissions | 2 |
| DME 126 | Heavy Truck Air Conditioning | 2 |
| DME 137 | Fundamentals of Oxygen/Acetylene and Arc Welding | 3 |
| SS 131 | American Civilization | 3 |
| † Elective | | 3 |
| | | 17 |
| Minimum Hours Required: | | 63 |

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

† Electives — Must be selected from the following:

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

# 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.

| | | CREDIT HOURS |
|---|---|---|
| SEMESTER I | | |
| DT 130 | Introduction to Distribution | 3 |
| BUS 105 | Introduction to Business | 3 |
| COM 131 | Applied Composition and Speech or | 3 |
| ENG 101 | Composition and Expository Reading | |
| MTH 136 | Principles of Management | 3 |
| MTH 130 | Business Mathematics or | 3 |
| MTH 111 | Mathematics for Business and Economics I | |
| | | 15 |

**Distribution Technology, cont.**

| | | |
|---|---|---|
| SEMESTER II | | |
| ACC 201 | Principles of Accounting I | 3 |
| BUS 234 | Business Law | 3 |
| COM 132 | Applied Composition and Speech or | 3 |
| ENG 102 | Composition and Literature | |
| CS 175 | Introduction to Computer Science | 3 |
| MGT 206 | Principles of Marketing | 3 |
| | | 15 |
| SEMESTER III | | |
| DT 133 | Transportation Management | 3 |
| DT 134 | Wholesale Marketing | 3 |
| ECO 201 | Principles of Economics I | 3 |
| MGT 230 | Salesmanship | 3 |
| ‡ Elective | | 3 |
| | | 15 |
| SEMESTER IV | | |
| DT 231 | Purchasing, Pricing, and Inventory Management | 3 |
| DT 232 | Warehouse Operations | 3 |
| BUS 237 | Organizational Behavior | 3 |
| ‡ Elective | | 6 |
| | | 15 |
| Minimum Hours Required: | | 60 |

‡ Technical Electives — Must be selected from the following.

| | | |
|---|---|---|
| DT 803, 813, 804, 814 | Cooperative Work Experience | 3/4 |
| ACC 202 | Principles of Accounting II | 3 |
| ECO 202 | Principles of Economics II | 3 |
| GPY 102 | Economic Geography | 3 |
| MGT 212 | Special Problems in Business | 1 |
| MGT 233 | Advertising and Sales Promotion | 3 |
| SPE 105 | Fundamentals of Public Speaking | 3 |

# 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.

| | | CREDIT HOURS |
|---|---|---|
| SEMESTER I | | |
| MGT 136 | Principles of Management | 3 |
| BUS 105 | Introduction to Business | 3 |
| COM 131 | Applied Composition and Speech* | 3 |
| HUM 101 | Introduction to the Humanities | 3 |
| † Elective | | 3 |
| | | 15 |
| SEMESTER II | | |
| MGT 206 | Principles of Marketing | 3 |
| ACC 201 | Principles of Accounting I** | 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 | |
| MTH 130 | Business Mathematics | |
| | | 15 |
| 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 |
| | | 15 |
| 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 | | 3 |
| † Elective | | 3 |
| | | 18 |
| 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 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.

Mid-Management Option, cont.

| | | CREDIT HOURS |
|---|---|---|
| SEMESTER I | | |
| MGT 136 | Principles of Management | 3 |
| MGT 150 | Management Training | 4 |
| MGT 154 | Management Seminar: Role of Supervision | 2 |
| BUS 105 | Introduction to Business | 3 |
| COM 131 | Applied Composition and Speech* | 3 |
| | | 15 |
| SEMESTER II | | |
| MGT 151 | Management Training | 4 |
| MGT 155 | Management Seminar: Personnel Management | 2 |
| COM 132 | Applied Composition and Speech* | 3 |
| CS 175 | Introduction to Computer Science | 3 |
| HUM 101 | Introduction to the Humanities | 3 |
| MTH 111 | Mathematics for Business and Economics I or | 3 |
| MTH 112 | Mathematics for Business and Economics II or | |
| MTH 130 | Business Mathematics | |
| | | 18 |
| SEMESTER III | | |
| MGT 250 | Management Training | 4 |
| MGT 254 | Management Seminar: Organizational Development | 2 |
| ACC 201 | Principles of Accounting I** | 3 |
| ECO 201 | Principles of Economics I | 3 |
| PSY 131 | Human Relations | 3 |
| | | 15 |
| SEMESTER IV | | |
| MGT 251 | Management Training | 4 |
| MGT 255 | Management Seminar: Business Strategy, the Decision Process and Problem Solving | 2 |
| ECO 202 | Principles of Economics II | 3 |
| Social Science elective or Humanities elective | | 3 |
| † Elective | | 3 |
| | | 15 |
| Minimum Hours Required: | | 63 |

† Elective — May be selected from the following:

| | | |
|---|---|---|
| MGT 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 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.

| | | CREDIT HOURS |
|---|---|---|
| SEMESTER I | | |
| OFC 160 | Office Machines* | 3 |
| ‡ OFC 172 | Beginning Typing** or | 3 |
| OFC 174 | Intermediate Typing | (2) |
| ǂ COM 131 | Applied Composition and Speech | 3 |
| MTH 130 | Business Mathematics | 3 |
| BUS 105 | Introduction to Business | 3 |
| † Elective | | 3 |
| | | 17-18 |
| SEMESTER II | | |
| ‡ OFC 174 | Intermediate Typing or | 2 |
| OFC 273 | Advanced Typing | |
| OFC 162 | Office Procedures | 3 |
| OFC 165 | Introduction to Word Processing | 3 |
| CS 175 | Introduction to Computer Science | 3 |
| MGT 136 | Principles of Management | 3 |
| ǂ COM 132 | Applied Composition and Speech | 3 |
| | | 17 |
| SEMESTER III | | |
| ‡ OFC 273 | Advanced Typing or | 2 |
| † Elective | | |
| OFC 231 | Business Communications | 3 |
| ACC 131 | Bookkeeping I or | 3 |
| ACC 201 | Principles of Accounting I | |
| PSY 131 | Human Relations or | 3 |
| PSY 105 | Introduction to Psychology | |
| † Electives | | 6 |
| | | 17 |
| SEMESTER IV | | |
| OFC 256 | Office Management or | 3 |
| BUS 237 | Organizational Behavior | |
| HUM 101 | Introduction to Humanities | 3 |
| † Electives | | 9 |
| | | 15 |

**Administrative Assistant Option, cont.**

| | |
|---|---|
| Minimum Hours Required: | 66 |

†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 | 4 |
| ECO 201 | Principles of Economics I | 3 |
| SPE 105 | Fundamentals of Public Speaking | 3 |

‡Students may be placed in typing courses based on proficiency level determined by previous training, experience and/or placement tests

‡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.

| | | CREDIT HOURS |
|---|---|---|
| SEMESTER I | | |
| OFC 160 | Office Machines* | 3 |
| ‡ OFC 172 | Beginning Typing** | 3 |
| COM 131 | Applied Composition and Speech | 3 |
| MTH 130 | Business Mathematics | 3 |
| † Electives | | 7 |
| | | 19 |
| SEMESTER II | | |
| ACC 131 | Bookkeeping I | 3 |
| BUS 105 | Introduction to Business | 3 |
| CS 175 | Introduction to Computer Science | 3 |
| † Electives | | 7 |
| | | 16 |
| Minimum Hours Required | | 35 |

†Electives — Must be taken from the following

| | | |
|---|---|---|
| OFC 103 | Speedwriting Theory | 4 |
| OFC 104 | Speedwriting Dictation | 3 |
| OFC 159 | Beginning Shorthand | 4 |
| OFC 162 | Office Procedures | 3 |
| OFC 165 | Introduction to Word Processing | 3 |
| OFC 166 | Intermediate Shorthand*** | 4 |
| OFC 174 | Intermediate Typing | 2 |
| OFC 231 | Business Communications | 3 |
| ACC 132 | Bookkeeping II | 3 |
| ACC 201 | Principles of Accounting I | 3 |
| COM 132 | Applied Composition and Speech | 3 |
| PSY 105 | Introduction to Psychology or | 3 |
| PSY 131 | Human Relations | |
| MGT 136 | Principles of Management | 3 |
| BUS 234 | Business Law | 3 |
| CS 250 | Contemporary Topics in Computer Science | 3 |
| OFC 273 | Advanced Typing | 2 |
| OFC 275 | Secretarial Procedures | 3 |
| OFC 803 | Cooperative Work Experience or | 3 |
| OFC 804 | Cooperative Work Experience | (4) |

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

*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 — GENERAL OFFICE

(Certificate — Accounting Emphasis)

| | | CREDIT HOURS |
|---|---|---|
| SEMESTER I | | |
| OFC 160 | Office Machines* | 3 |
| ‡ OFC 172 | Beginning Typing** | 3 |
| ACC 131 | Bookkeeping I or | 3 |
| ACC 201 | Principles of Accounting I | |
| COM 131 | Applied Composition and Speech | 3 |
| MTH 130 | Business Mathematics | 3 |
| † Elective | | 3 |
| | | 18 |
| SEMESTER II | | |
| ‡ ACC 132 | Bookkeeping II or | 3 |
| † Elective | | |
| BUS 105 | Introduction to Business | 3 |
| CS 175 | Introduction to Computer Science | 3 |
| † Electives | | 8 |
| | | 17 |
| Minimum Hours Required: | | 35 |

†Electives — Must be taken from the following

| | | |
|---|---|---|
| OFC 103 | Speedwriting Theory | 4 |
| OFC 104 | Speedwriting Dictation | 3 |
| OFC 159 | Beginning Shorthand | 4 |
| OFC 162 | Office Procedures | 3 |
| OFC 165 | Introduction to Word Processing | 3 |
| OFC 166 | Intermediate Shorthand*** | 4 |
| OFC 174 | Intermediate Typing | 2 |
| OFC 231 | Business Communications | 3 |
| ACC 132 | Bookkeeping II | 3 |
| ACC 201 | Principles of Accounting I | 3 |
| COM 132 | Applied Composition and Speech | 3 |

**General Office—Accounting Emphasis, cont.**

| | | |
|---|---|---|
| PSY 105 | Introduction to Psychology or | 3 |
| PSY 131 | Human Relations | |
| MGT 136 | Principles of Management | 3 |
| BUS 234 | Business Law | 3 |
| CS 250 | Contemporary Topics in Computer Science | 3 |
| OFC 273 | Advanced Typing | 2 |
| OFC 275 | Secretarial Procedures | 3 |
| OFC 803 | Cooperative Work Experience or | 3 |
| OFC 804 | Cooperative Work Experience | (4) |

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

ǂ 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 187, OFC 188 and OFC 189 taken cumulatively will be equivalent to OFC 166.

## OFFICE CAREERS — GENERAL OFFICE

(Certificate — Office Clerical Emphasis)

| | | CREDIT HOURS |
|---|---|---|
| SEMESTER I | | |
| OFC 160 | Office Machines* | 3 |
| OFC 162 | Office Procedures | 3 |
| ‡ OFC 172 | Beginning Typing** | 3 |
| COM 131 | Applied Composition and Speech | 3 |
| MTH 130 | Business Mathematics | 3 |
| † Elective | | 3 |
| | | 18 |
| SEMESTER II | | |
| OFC 165 | Introduction to Word Processing | 3 |
| OFC 174 | Intermediate Typing | 2 |
| OFC 231 | Business Communications | 3 |
| ACC 131 | Bookkeeping I | 3 |
| BUS 105 | Introduction to Business | 3 |
| CS 175 | Introduction to Computer Science | 3 |
| | | 17 |
| Minimum Hours Required: | | 35 |

†Electives — Must be taken from the following.

| | | |
|---|---|---|
| OFC 103 | Speedwriting Theory | 4 |
| OFC 104 | Speedwriting Dictation | 3 |
| OFC 159 | Beginning Shorthand | 4 |
| OFC 166 | Intermediate Shorthand*** | 4 |
| OFC 231 | Business Communications | 3 |
| ACC 132 | Bookkeeping II | 3 |
| ACC 201 | Principles of Accounting I | 3 |
| COM 132 | Applied Composition and Speech | 3 |
| PSY 105 | Introduction to Psychology or | 3 |
| PSY 131 | Human Relations | |
| MGT 136 | Principles of Management | 3 |
| BUS 234 | Business Law | 3 |
| CS 250 | Contemporary Topics in Computer Science | 3 |
| OFC 273 | Advanced Typing | 2 |
| OFC 275 | Secretarial Procedures | 3 |
| OFC 803 | Cooperative Work Experience or | 3 |
| OFC 804 | Cooperative Work Experience | (4) |

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

*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 — 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.

| | | CREDIT HOURS |
|---|---|---|
| SEMESTER I | | |
| OFC 159 | Beginning Shorthand or | |
| OFC 103 | Speedwriting | 4 |
| OFC 160 | Office Machines* | 3 |
| ‡ OFC 172 | Beginning Typing** or | 3 |
| OFC 174 | Intermediate Typing | (2) |
| ǂ COM 131 | Applied Composition and Speech | 3 |
| MTH 130 | Business Mathematics | 3 |
| | | 15-16 |
| SEMESTER II | | |
| OFC 166 | Intermediate Shorthand*** or | 4 |
| OFC 104 | Speedwriting Dictation | (3) |
| ‡ OFC 174 | Intermediate Typing or | 2 |
| OFC 273 | Advanced Typing | |
| OFC 162 | Office Procedures | 3 |
| ACC 131 | Bookkeeping I or | 3 |
| ACC 201 | Principles of Accounting I | |
| BUS 105 | Introduction to Business | 3 |
| ǂ COM 132 | Applied Composition and Speech | 3 |
| | | 17-18 |
| SEMESTER III | | |
| OFC 165 | Introduction to Word Processing | 3 |
| OFC 167 | Legal Terminology and Transcription | 3 |
| OFC 231 | Business Correspondence | 3 |
| # OFC 266 | Advanced Shorthand | 4 |
| OFC 273 | Advanced Typing or | 2 |
| † Elective | | (3) |
| CS 175 | Introduction to Computer Science | 3 |
| | | 18-19 |

**Legal Secretary Option, cont.**

SEMESTER IV

| | | |
|---|---|---|
| OFC 265 | Word Processing Practices and Procedures | 3 |
| OFC 274 | Legal Office Procedures | 3 |
| OFC 275 | Secretarial Procedures or | 3 |
| OFC 803 | Cooperative Work Experience or | |
| OFC 804 | Cooperative Work Experience | (4) |
| HUM 101 | Introduction to Humanities | 3 |
| PSY 131 | Human Relations or | 3 |
| PSY 105 | Introduction to Psychology | |
| | | 15-16 |

Minimum Hours Required: 65

†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 & Data Processing | 4 |
| ECO 201 | Principles of Economics I | 3 |
| ‡ SPE 105 | Fundamentals of Public Speaking | 3 |

‡Students may be placed in typing courses based on proficiency level determined by previous training, experience and/or placement tests

‡ 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

| | | CREDIT HOURS |
|---|---|---|
| SEMESTER I | | |
| OFC 160 | Office Machines* | 3 |
| OFC 159 | Beginning Shorthand or | 4 |
| OFC 103 | Speedwriting | |
| ‡ OFC 172 | Beginning Typing** or | 3 |
| OFC 174 | Intermediate Typing | (2) |
| ‡ COM 131 | Applied Composition and Speech | 3 |
| MTH 130 | Business Mathematics | 3 |
| | | 15-16 |
| SEMESTER II | | |
| OFC 166 | Intermediate Shorthand*** or | 4 |
| OFC 104 | Speedwriting Dictation | (3) |
| ‡ OFC 174 | Intermediate Typing or | 2 |
| OFC 273 | Advanced Typing | |
| OFC 162 | Office Procedures | 3 |
| ACC 131 | Bookkeeping I or | 3 |
| ACC 201 | Principles of Accounting I | |
| BUS 105 | Introduction to Business | 3 |
| ‡ COM 132 | Applied Composition and Speech | 3 |
| | | 17-18 |
| SEMESTER III | | |
| OFC 165 | Introduction to Word Processing | 3 |
| OFC 231 | Business Correspondence | 3 |
| CS 175 | Introduction to Computer Science | 3 |
| # OFC 266 | Advanced Shorthand | 4 |
| PSY 131 | Human Relations or | 3 |
| PSY 105 | Introduction to Psychology | |
| OFC 273 | Advanced Typing or | 2 |
| † Elective | | (3) |
| | | 18-19 |
| SEMESTER IV | | |
| OFC 265 | Word Processing Practices and Procedures | 3 |
| OFC 275 | Secretarial Procedures or | 3 |
| OFC 803 | Cooperative Work Experience or | |
| OFC 804 | Cooperative Work Experience | (4) |
| HUM 101 | Introduction to Humanities | 3 |
| † Electives | | 6-7 |
| | | 15-17 |

Minimum Required Hours: 65

†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 & Data Processing | 4 |
| ECO 201 | Principles of Economics I | 3 |
| ‡ SPE 105 | Fundamentals of Public Speaking | 3 |

‡Students may be placed in typing courses based on proficiency level determined by previous training, experience and/or placement tests

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)

| | | CREDIT HOURS |
|---|---|---|
| SEMESTER I | | |
| OPT 101 | Ophthalmic Materials | 3 |
| OPT 102 | Ophthalmic Grinding and Polishing | 3 |
| OPT 103 | Optical Lens Design and Measurements | 3 |
| OPT 104 | Optical Lens and Frame Selection | 3 |
| MTH 195 | Technical Mathematics | 3 |
| | | 15 |
| SEMESTER II | | |
| OPT 205 | Anatomy and Physiology of the Eye | 3 |
| OPT 206 | Introduction to Contact Lenses | 3 |
| OPT 207 | Bifocals and Trifocals Lenses | 3 |
| PHY 131 | Applied Physics | 4 |
| | | 13 |
| SUMMER SEMESTERS I & II (12 Weeks) | | |
| OPT 703 | Cooperative Work Experience | 3 |
| SEMESTER III | | |
| OPT 208 | Ophthalmic Laboratory Equipment | 3 |
| OPT 209 | Ophthalmic Dispensing Ethics | 3 |
| OPT 211 | Optic Principles | 3 |
| OPT 803, 813 | Cooperative Work Experience | 3 |
| | | 12 |
| Minimum Hours Required: | | 43 |

### OPTICAL TECHNOLOGY

(Associate Degree)

| | | CREDIT HOURS |
|---|---|---|
| SEMESTER I | | |
| OPT 101 | Ophthalmic Materials | 3 |
| OPT 102 | Ophthalmic Grinding and Polishing | 3 |
| COM 131 | Applied Composition and Speech or | 3 |
| ENG 101 | Composition and Expository Reading | |
| MTH 195 | Technical Mathematics | 3 |
| PSY 131 | Human Relations | 3 |
| | | 15 |
| SEMESTER II | | |
| OPT 103 | Optical Lens Design and Measurements | 3 |
| OPT 104 | Optical Lens and Frame Selection | 3 |
| BUS 105 | Introduction to Business | 3 |
| GVT 201 | American Government or | 3 |
| HST 101 | History of the United States | |
| PHY 131 | Applied Physics | 4 |
| | | 16 |
| SUMMER SEMESTERS I & II (12 Weeks) | | |
| OPT 703 | Cooperative Work Experience | 3 |
| SEMESTER III | | |
| OPT 205 | Anatomy and Physiology of the Eye | 3 |
| OPT 206 | Introduction to Contact Lenses | 3 |
| OPT 207 | Bifocals and Trifocals Lenses | 3 |
| OPT 208 | Ophthalmic Laboratory Equipment | 3 |
| OPT 803 | Cooperative Work Experience | 3 |
| | | 15 |
| SEMESTER IV | | |
| Lab Majors | | |
| OPT 209 | Ophthalmic Dispensing Ethics | 3 |
| OPT 211 | Optic Principles | 3 |
| OPT 813 | Cooperative Work Experience | 3 |
| Elective | | 3 |
| | | 12 |
| SEMESTER IV | | |
| Dispensing Majors | | |
| OPT 210 | Ophthalmic Fitting | 3 |
| OPT 212 | Measurements | 3 |
| OPT 213 | Dispensing Occupational Eyewear | 3 |
| OPT 813 | Cooperative Work Experience | 3 |
| | | 12 |
| Minimum Hours Required: | | 61 |

# 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.

| | | CREDIT HOURS |
|---|---|---|
| SEMESTER I | | |
| POP 101 | Introduction to Precision Optics Technology | 3 |
| POP 104 | Industrial Shop Safety | 3 |
| BPR 177 | Blueprint Reading | 2 |
| COM 131 | Applied Composition & Speech | 3 |
| MTH 195 | Technical Mathematics | 3 |
| | | 14 |
| SEMESTER II | | |
| POP 102 | Precision Optics Machining I | 3 |
| POP 103 | Precision Optics Machining II | 3 |
| POP 107 | Precision Optics Handling and Cleaning | 2 |
| MTH 196 | Technical Mathematics | 3 |
| PHY 131 | Applied Physics | 4 |
| | | 15 |
| SEMESTER III | | |
| POP 105 | Precision Optics Machining III | 3 |
| POP 106 | Thin Film Optical Coatings | 4 |
| POP 201 | Basic Precision Optics Theory | 3 |
| HST 102 | History of the United States | 3 |
| Elective | | 3 |
| | | 16 |
| SEMESTER IV | | |
| POP 203 | Precision Optics Quality Control | 3 |
| POP 204 | Precision Optics Assembly | 3 |
| POP 205 | Advanced Precision Optics Processes | 3 |
| POP 703 | Cooperative Work Experience | 3 |
| PSY 131 | Human Relations | 3 |
| | | 15 |
| Minimum Hours Required: | | 60 |

# 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 | 3 |
| RE 131 | Real Estate Finance | 3 |
| BUS 105 | Introduction to Business | 3 |
| COM 131 | Applied Composition & Speech or | 3 |
| ENG 101 | Composition & Expository Reading | |
| MTH 130 | Business Mathematics or | 3 |
| MTH 111 | Mathematics for Business and Economics I | |
| | | 15 |
| SEMESTER II | | |
| RE 133 | Real Estate Marketing | 3 |
| RE 135 | Real Estate Appraisal | 3 |
| RE 136 | Real Estate Law | 3 |
| COM 132 | Applied Composition and Speech or | 3 |
| ENG 102 | Composition and Literature | |
| † Elective | | 3 |
| | | 15 |
| SEMESTER III | | |
| RE 230 | Real Estate Office Management | 3 |
| RE 250 | Real Estate Internship I* | 4 |
| RE 254 | Real Estate Seminar I* | 2 |
| ECO 201 | Principles of Economics I | 3 |
| ‡ Elective | | 3 |
| | | 15 |
| SEMESTER IV | | |
| ACC 201 | Principles of Accounting I | 3 |
| GVT 201 | American Government | 3 |
| ‡ Elective | | 9 |
| | | 15 |
| Minimum Hours Required | | 60 |

† Elective — Must be selected from the following
Any Psychology, Sociology, or Human Development Course

‡ Technical Electives — Must be selected from the following

| | | |
|---|---|---|
| RE 233 | Commercial Investment Real Estate | 3 |
| RE 235 | Property Management | 3 |
| RE 240 | Special Problems in Real Estate | 1 |
| RE 251 | Real Estate Internship II* | 4 |
| RE 255 | Real Estate Seminar II* | 2 |
| ACC 202 | Principles of Accounting II | 3 |
| ECO 202 | Principles of Economics II | 3 |
| SPE 105 | Fundamentals of Public Speaking | 3 |

* 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.

# 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

| | | CREDIT HOURS |
|---|---|---|
| SEMESTER I | | |
| ST 106 | Introduction to Solar Energy | 3 |
| ST 107 | Materials and Materials Handling | 3 |
| ST 108 | Fluid Transport Systems | 3 |
| AC 150 | Basic Principles of Electricity | 3 |
| MTH 195 | Technical Mathematics | 3 |
| | | 15 |
| SEMESTER II | | |
| ST 101 | Energy Science I | 4 |
| ST 105 | Collectors and Energy Storage | 4 |
| AC 155 | Advanced Electrical Circuits | 3 |
| DFT 182 | Technical Drafting | 2 |
| MTH 196 | Technical Mathematics | 3 |
| | | 16 |
| SEMESTER III | | |
| ST 104 | Energy Science II | 4 |
| ST 201 | Sizing Design and Retrofit | 4 |
| AC 185 | Residential Heating Systems | 3 |
| COM 131 | Applied Composition and Speech | 3 |
| MTH 107 | Fundamentals of Computing | 3 |
| | | 17 |
| SEMESTER IV | | |
| ST 205 | Operational Diagnosis | 4 |
| ST 206 | Economics, Codes, Legalities, and Consumerism | 3 |
| AC 180 | Residential Cooling Systems | 3 |
| MGT 153 | Small Business Management or | 3 |
| ‡ Elective | | |
| PSY 131 | Human Relations or | 3 |
| ‡ Elective | | |
| | | 16 |
| Minimum Hours Required | | 64 |

‡ Technical Electives — Must select from the following (with instructor approval)

| | | |
|---|---|---|
| ST 110 | Non-Residential and Photovoltaic Applications | 3 |
| ST 208 | Energy Conservation and Passive Design Concepts | 3 |
| ST 803, 813, 804, 814 | Cooperative Work Experience | 3/4 |

# Index

# 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 _____
Full legal name Last First Middle

3 NAME, IF DIFFERENT FROM ABOVE, APPEARING ON TRANSCRIPTS FROM OTHER INSTITUTIONS.

_____

4 ADDRESS _____
Number Street Apt # City County State Zip

5 PHONE _____ _____ 6 BIRTH DATE. _____
(Home) (Work) Month Day 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 _____
Name City State

**Complete reverse side of this form if high school attended was out of Texas*

11 DID YOU GRADUATE FROM HIGH SCHOOL?_____Yes_____No

12 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 |
|---|---|---|---|
| | | | |
| | | | |
| | | | |

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? _____
Have you lived in Texas for past 12 months? _____

IF YOU ARE UNDER 18, COMPLETE THE FOLLOWING

Do your parents live in Dallas County? _____
Have your parents lived in Texas for the past twelve months? _____
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 _____ Release date _____
Are you requesting an EARLY RELEASE from military service? _____

17 MAJOR FIELD OF STUDY _____

18 SEMESTER YOU PLAN TO ENTER _____Fall Semester _____Spring Semester
_____1st Summer Term _____2nd Summer Term

19 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

_____ _____
SIGNATURE DATE

**Please turn page and fill out second side.**

# 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 years 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_____
State_____ Zip_____
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.

| | month | year |
|---|---|---|
| Diphtheria Immunization within 10 years | / | |
| Tetanus Immunization within 10 years | / | |
| Polio Immunization, three doses of oral, with last dose since 4th birthday if under 19 | / | |

## NORTH LAKE COLLEGE
Residency Information

1 List previous address(es) to show residence for the last 3 years

| STREET | CITY | STATE | ZIP CODE | YEARS FROM - TO |
|---|---|---|---|---|
| | | | | |
| | | | | |
| | | | | |

2 List all full time employment for the last 3 years including military service **List your present employer first**

| NAME OF EMPLOYER | CITY | STATE | YEARS FROM - TO |
|---|---|---|---|
| | | | |
| | | | |
| | | | |

**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 the 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

3 Ad Valorem Tax Waiver
- a How long have you lived at your present address (item 3 on reverse side of application)? _____ (years) _____ (months)
- b Do you own your home or other real estate in DALLAS COUNTY? _____

**IMPORTANT** If the answer to question 3a is LESS THAN ONE YEAR and the answer to question 3b is YES or if you live out of DALLAS COUNTY but own real property in DALLAS COUNTY you may qualify for the DALLAS COUNTY tuition rate provided that ownership of real estate in DALLAS COUNTY can be verified This may be done by attaching a copy of one of the following to the application **This information must be presented before each registration In order to qualify for the waiver and must be less than 12 months old**
- a a current ad valorem tax statement or receipt issued by DALLAS COUNTY
- b a current deed showing that you own the property in DALLAS COUNTY
- c a current property closing statement on DALLAS COUNTY 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 a letter from his her employer (on company letterhead) verifying that he she has been employed in Texas for the 12 months prior to registration **AND**
- b if married a photocopy of the marriage license if "dependent a photocopy of the previous year s income tax form of that person to verify your dependency

"A DEPENDENT is defined as an individual who is claimed as a dependent for a 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

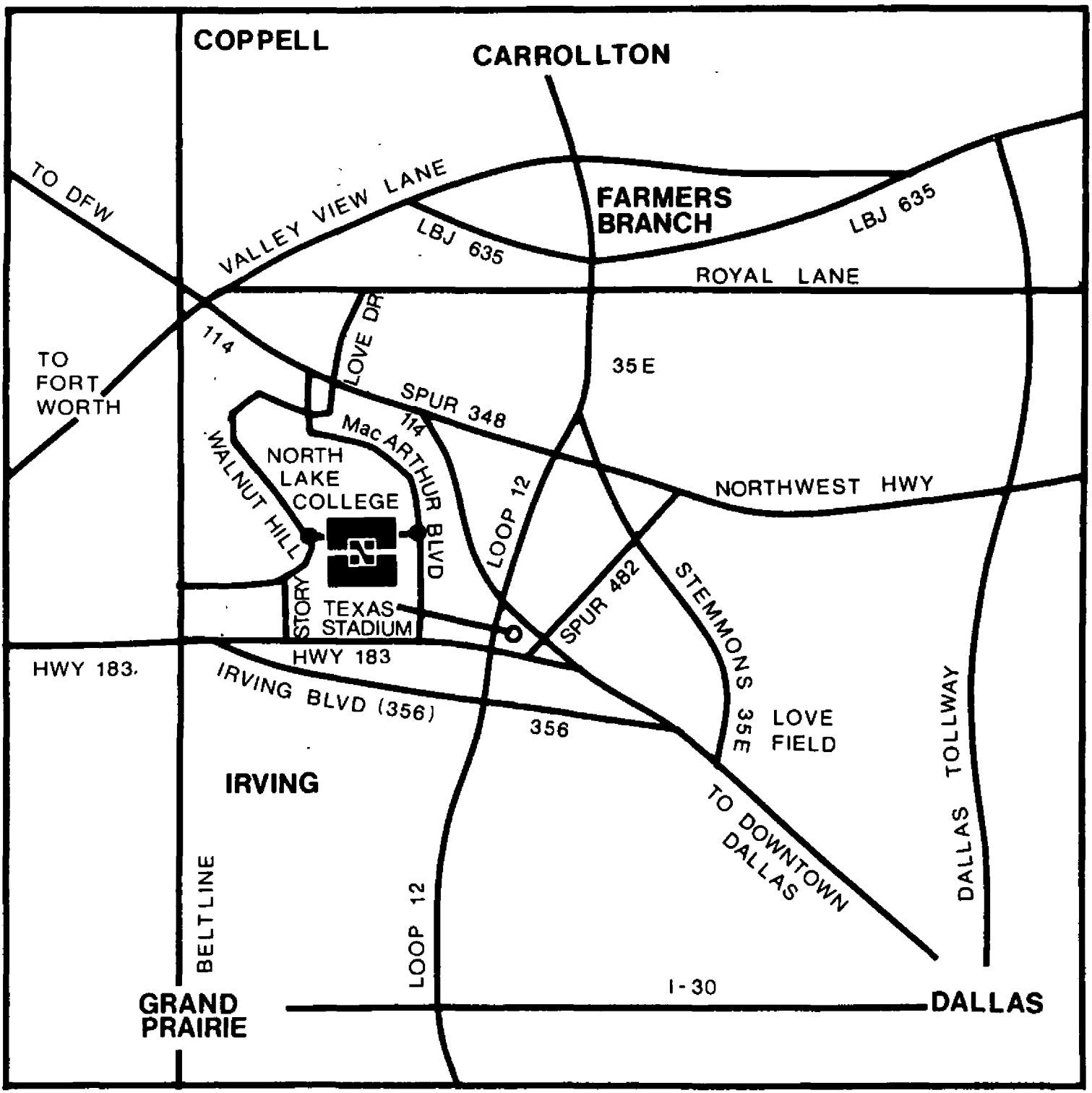
2 A person classified as a nonresident student upon his first enrollment in an institution of higher education is presumed to be a nonresident for the period during which he continue as a student If such nonresident applicant withdraws from school and resides in the state (while gainfully employed) for a period of 12 months upon re-entry into an institution of higher education he will be 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 that applicant 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


COPPELL
CARROLLTON
TO DFW
VALLEY VIEW LANE
LBJ 635
FARMERS BRANCH
LBJ 635
ROYAL LANE
TO FORT WORTH
114
LOVE DR
35E
SPUR 348
114
Mac ARTHUR BLVD
WALNUT HILL
NORTH LAKE COLLEGE
LOOP 12
NORTHWEST HWY
STORY
TEXAS STADIUM
SPUR 482
STEMMONS 35E
LOVE FIELD
HWY 183
HWY 183
IRVING BLVD (356)
356
IRVING
TO DOWNTOWN DALLAS
DALLAS TOLLWAY
BELTLINE
LOOP 12
I-30
GRAND PRAIRIE
DALLAS

**North Lake College**
**5001 MacArthur Blvd.**
**Irving, Texas 75062**

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**Dallas County Community College District**